Small Medium Enterprises (SMEs), Environmental Management and Poverty Reduction in Western Uganda

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Abstract:- **The study aimed at assessing the role of SMEs and environment management in poverty reduction in Western Uganda. The study a descriptive and correlation study design. The data was collected by use of structured and closed ended questionnaires. The findings revealed a strong association between (SMES and environmental management) and poverty reduction (r =.644; sig. <.05). The study found out that SMEs lack access to innovative technologies, which are essential in buttressing SME roles in poverty reduction. The study revealed that very little financial resources are directly channeled to SMEs amidst ever increasing interest rates on loans. Government policies on SMEs are deficient in terms of technical, technological, financial, and managerial and infrastructures needed for effective contribution to economic growth and poverty reduction. The study further suggest that SMEs can resolve problems of poverty and unemployment if they can access cheap capital. The study therefore recommends that government should prioritize SME sector in budgets to enhance its contribution to economic growth and poverty reduction.**

Key words:- **SMES, Environment, Poverty Reduction, Western Uganda**

I. INTRODUCTION

The changes brought about by industrialization continues to create significant environmental and livelihood challenges for human beings all over the globe, which requires urgent response by focusing on Small and Medium Enterprises (Nulkar, 2014). Large manufacturing industries contribute to pollution by discharging harmful organic compounds and toxins(Elisa Truant, 2016; Shah, S, Naghi, E. G, & Hasan, S., 2017), which have significant negative effects on biodiversity. These pollutants come from plastics, non-metallic minerals, chemicals and industrial castings. In the now developed and developing countries, eco-innovation in SMEs has been found to contribute to reducing the volume of industrial pollutants thereby contributing to the making of green economies (Spence, Agyemang, & Rinaldi, 2012)

Eco-innovation is about creating business models that are both competitive and good for the environment because it reduces resource intensity of products and services. Rather than focusing on environmental aspects in inventing new products and delivering new services, products are designed, produced, used, reused and recycled in a way that reduces their environmental impacts (EIO and CfSD, 2013). For example, in Europe, the European Commission is helping SMEs to take advantage of the opportunities offered by the transition to a green economy by enhancing their competitiveness, promoting renewable energy, energy efficiency and recycling (Demeti, Rebi, & Demeti, 2016). In response to this initiatives, enterprises are progressively adopting sustainable and cost saving measures which have a positive effect on the environment through pollution prevention and control(Jayeola, 2015).

Although many SMEs consider environmental concerns among their objectives, few of them comply with environmental legislation. While there is evidence of some awareness and good environmental practices among SMEs in Uganda, they have little knowledge and very limited resources to practice environmentally sustainable business models(Turyahikayo, 2015).The Ugandan experience is consistent with environmental practices observed for SMEs elsewhere, where many SMEs find implementing environmentally sustainable strategies an additional cost; do not perceive eco-efficiency as an incentive to improving competitiveness or reducing costs; avoidance of non-compliance sanctions (Fernández-Viñé, Gomez-Navarro, & Capuz-Rizo, 2010; Lewis & Cassells, 2010); and governmental institutions in charge of environmental management are too weak to enforce environmental regulations(Blackman, 2010; Jack, 2017). Research has also established that SMEs are a key factor in alleviating poverty in developing economies (Mnenwa & Maliti, 2008; Asikhia, 2010; Oba & Onuoha, 2013; Sokoto & Zakari, 2013). However, modeling the success of SMEs in poverty eradication with environmental sustainability is still a challenge particularly in Uganda, where SMEs are reluctant to come to the party. The main objective of the paper is to therefore to examine the role of SMEs and environment management in supporting poverty reduction in Western Uganda.

II. LITERATURE REVIEW

SMEs and Environment

Policies designed to promote environmentally-sustainable economic activity have often concentrated on larger firms than SMEs. When focusing on the issue of responsibility, large firms are in most cases considered to be more responsible for driving climate change and resource depletion (Sáez-Martínez, Díaz-García, & González-Moreno, 2016). This approach has paid little attention to SMEs which use resources such as materials and energy, and contribute to pollution significantly. The footprint of individual SMEs may be low but their impact if aggregated may exceed that of large companies (Moldova, 2015). This is common in livestock farming, construction and processing industry. Many tools and approaches have been shown to be environmentally and economically beneficial to businesses, including SMEs (UNEP, 2003). However, despite many SMEs considering environmental concerns among their objectives, few of them comply with environmental legislation. Regardless of such contrast, SMEs are considered as a strong engine in economic growth and development.

SMEs are less likely to engage in environmental management practices than large firms because SMEs owners believe there is a cost associated to environmental management practices whose economic benefits and flow back to the business are high in the long run (Walker, Redmond, Sheridan, & Goeft, 2008). Providing information and knowledge to small and medium enterprises has a great contribution to offer in their participation in environmental management practices. Parker, Redmond, & Simpson(2011) observed that SMEs often have major problems with limited resources, limited knowledge and limited technical capabilities to deal with their own negative environmental impacts. They widely differ in as far as commitments to environmental issues are concerned, yet with such variations, they are expected to engage in environmental protection.

As a way of implementing the ideas of ecological modernization theory, which emphasize the relationship between economic and environmental goals, developed economies are encouraging industry to embrace environmental management practice (Revell & Blackburn, 2004). A lot seems to have been written on environmental management, performance and innovation, however, more attention in this regard has been given to larger firms than SMEs (Labonne, 2006). In cases where attention has focused on SMEs, a comparison of response has been difficult due to their differing characteristics and non-formal operations. Small businesses frequently adopt innovations and apply them to different contexts and locations that are not large enough to attract big companies(Green Win, 2018). SMEs are also receptive towards green innovations and often act as initiators in the eco-industry and clean-tech markets.

Business responses on environmental requirements by SMEs are rather optional and not regulatory, and follow structures that provide minimum standards for corporate social responsibility. Willamson, Lynch-Wood, & Ramsey (2006) noted that such voluntary practices are not strong enough to change the practices of SMEs in ways that enable them to address environment issues more effectively. This is notwithstanding the fact that SMEs contend that development of regulatory structures and providing minimum standards for many activities covered by corporate social responsibility remains the most effective means for monitoring behavior of SMEs. While there is evidence of some awareness and good environmental practices among SMEs, they have very limited resources, lack knowledge of environmental protection measures and lack the skills to address environmental issues(Spence, Agyrmang, & Rinaldi, 2012).Additionally, government institutions in charge of environmental management are also too weak to enforce environmental regulations. This therefore calls for the creation of simple auditable environmental action plans that allow SMEs to engage in environmentally friendly behavior, which could provide short term, medium and long term behavioral change(Murnaghan, 2009). Diffusion of information and sharing implementation costs; technical, organizational and managerial support by local actors; and training of SME managers and technicians are some of the effective ways of deepening environmental awareness among SME companies(Iraldo, Testa, & Frey, 2010).

SMEs and Poverty

Mohammad, Bhuiyanb, & Jamaliah (2015) ascertained that the contribution of SMEs in eradicating poverty depend on individuals' or a group of people that have certain factors. These factors include innovativeness, family background, government support programs, and training or education. Additionally, others factors are individual entrepreneurial characteristics, an increase in women participation in entrepreneurship, youth empowerment and robust policies. Robust policies and collaborations, especially among government-university-industry stimulate employment and job creation that can results into reduction in poverty. Although governments in developing economies recognize the potential of SMEs in economic growth and poverty reduction, enabling policies and programmes have not been provided for their effective performance. Most government policies on SMEs are deficient in terms of technical, technological, financial, and managerial and infrastructure supported needed to optimally harness the potentials of SMEs in poverty reduction (Oba & Onuoha, 2013).A number of studies have established a linkage between small business, economic growth and the incidence of poverty (Gebremeskel, Tesfa, & Randall, 2004).This is because SMEs use more indigenous technology than large corporations. Thus governments should take a practical approach to poverty alleviation that

emphasizes the strength of the poor and their productive capacity.

SMEs have been identified as a high potential for employment generation and provision of livelihood in several countries. However, poverty reduction requires multiple strategies and actions involving both micro and macro policy initiatives (Korshy & Prasad, 2007). The solution to poverty lies in empowering and enabling the poor in taking action to address their problems. The core approach to poverty remains creating opportunities for people to be part of the market. In this regard, policies and programmes that enable SMEs to generate jobs through value addition are important channels for inclusion and poverty reduction especially in low-income economies (OECD, 2017). Creating job opportunities across geographic areas and employing low-skilled workers provide opportunities for skills development which are important for the effective operation of SMEs.

Another area for enhancing the capacity of SMEs is access to capital through low interest rates on loans. Access to capital can contribute to increased employment, reduced poverty rates and improvement in standard of living(Pafunso & Adepoju, 2014).However, in most developing countries, SMEs access to capital is highly restricted by unfavorable lending conditions, which impede their growth; banks also lack lender information and regulatory support to engage in SME lending (Dalberg, 2011); and low levels of human capital and difficulty in accessing markets are major bottlenecks to the success of SMEs (Innovation for Poverty Action, 2017). This implies that if adequate financial resources are channeled to the sector, SMEs can grow and reduce poverty significantly by creating jobs (Edom, Inah, & Emori, 2015). In this regard, simplification of lending procedures, enforcement of credit rights and reduction in cost of capital can greatly contribute to establishing a robust SME sector (Ali, Rashid, & Khan, 2014). Additionally, establishing a partnership strategy between suppliers of raw materials and capital can elevate SME performance and reduce poverty (Yasa, Sukaatmadja, & Jawas, 2013).

The role of SMEs in poverty reduction therefore call for policies that support rural SMEs and focus on local self-employed SMEs or joint venture companies (Straka, Birciakova, & Stavkova, 2015). Using SMEs to target poverty alleviation requires a diverse strategy that involves the very poor, who lack skills and formal education in business management. Promoting women led SMEs and cooperative societies can also pool resources needed to finance their businesses (Audu& Okpe, 2018). Despite several development programmes, marketing resources and capabilities are a missing link between SMEs and profitable exchanges that contribute to wealth creation (Asikhia, 2010). As a result, most SMEs in developing countries such as Uganda are survivalist enterprises, which threaten the ability of SMEs to be an effective poverty alleviation strategy.

III. METHODOLOGY

The study used a cross sectional-descriptive design which collected point data on the role of SMEs, Environmental Management and poverty reduction in Western Uganda. Ngechu (2004) noted that descriptive studies are used to examine phenomena or characteristics associated with a subject population, estimate proportions of a population that have these characteristics and discover associations between a set of independent variables and a dependent variable.

Data from 340 respondents sampled from the municipalities of Mbarara, Kabale, Kasese and Rukungiri was used. A stratified random sampling technique, in which municipalities were treated as strata, was used to select SMEs in the sample. Accordingly, the following sample sizes were selected in each municipality: Mbarara (120), Kabale (100), Kasese (80) and Rukungiri 40. The variability in the samples sizes was a result of the differences in the number of SMEs in each municipality. The choices of these districts were prompted by the fact that they are major business hubs in Western Uganda. A structured questionnaire designed in a Likert format with responses ranging from strongly agree (5) to strongly disagree (1) was used. The questionnaires was administered and delivered by face to face interview by trained research assistants. Data was analyzed by the use of SPSS. The analysis of the data was performed by the use of correlation and regression analyses.

IV. RESULTS

The profile of the study participants is presented in Table 1 by gender, age, level of education, annual income, number of employees, qualification of employees, and attendance of environmental management training. The gender composition indicates that 66% were male while 34% were female. The number of male participants was almost twice that of female participants. Since participants were SMEs owners, the statistics indicate that there are more men than women in the SMEs business, perhaps because of the requirements for starting and operating a small scale business. The age distribution indicates that majority of the participants were in their 40s and 50s. Specifically,35.6% belonged to the 40–49 years age bracket while 33.3% were older than 50 years of age. Of the participants who were below 40 years of age, 12.2% were in their 20s and 18.9% were in their 30s.. In respect to the level of education, the majority of the participants indicated their highest level of education to be secondary (31.1%) flowed by tertiary (29.8%) and primary (23.1%). Participants with tertiary education comprised of only 16.0%.

The success in business by those with low education is an indication of other factors responsible for business success other than education (family background, personal enthusiasm, innovativeness, access to cheap sources of raw material, market etc.). Most of the businesses investigated indicated their annual turnover to range from 50 to 200

million Ugandan shillings. In particular, 34.6% indicated their annual turnover to range from 100 but below 200 million Ugandan shillings; 33.3% indicated their turnover as below 100 million shillings but over 50 million Ugandan shillings; 22.1% indicated a turnover of less than 50 million Ugandan shilling; while only 9.9% indicated their annual turnover to be above 200 million Ugandan shillings. Most of the participants (74.4%) employed no more than 10 employees; 13.5% employed over 50 employees; while 12.2% employed over 10 but not exceeding 50 employees. Evidence from their annual turnover supports the claim on the number of employees. Since the majority of these business owners were not highly educated, their ability to manage their employees suggests they hired talented and skillful people. The majority of the businesses hired skilled labor (39.1%) followed by semi-skilled labor (34.6%) and a few, unskilled labor (26.3%). However the majority (49.0%) of the participants had never taken part in any environmental management training; 34.0%have ever participated in a training related to environmental management; and only 17.0% could not ascertain whether or not they had ever attained such training.

Table 1: Background characteristics

Variables	**Categories**	**Frequency**	**Valid Percent**
Gender	Male	206	66
	Female	106	34
	Total	312	100
Age incomplete years	20-29	38	12.2
	30-39	59	18.9
	40-49	111	35.6
	50 and above	104	33.3
	Total	312	100
Highest level of education	Primary	72	23.1
	Secondary	97	31.1
	Tertiary	93	29.8
	University	50	16
	Total	312	100
Annual turnover	Below 50	69	22.1
	50 - < 100	104	33.3
	100 - < 200	108	34.6
	200 and above	31	9.9
	Total	312	100
Number of employees	Below 10	232	74.4
	10-49	38	12.2
	50 and above	42	13.5
	Total	312	100
Nature of employees	Unskilled	82	26.3
	Semi-skilled	108	34.6
	Skilled	122	39.1
	Total	312	100
Training in environment management	Yes	106	34
	No	153	49
	Not Sure	53	17
	Total	312	100

The study sought to examine the role of SMEs in poverty reduction in the districts investigated and the findings are as indicated in Table 2. The assumptions that SMEs contribute to poverty reduction was assessed by using the contribution of SMEs to human capital, cooperation between businesses, infrastructure support and market access. The results in Table 2 show a high level of human capital (mean = 4.090, std. = .903), cooperation among business operators(mean = 3.900, std. =.807) and infrastructure support (mean = 3.760, std. =.1.077). Government support and easy access to markets for their products (mean = 3.720, std. =1.041) was also found to be high. On the other hand, the results revealed that SMEs would fail to contribute to poverty reduction due to lack of access to innovative technologies (mean = 3.080, std. =.1.162), failure by government to channel resources to SMEs (mean = 3.100, std. =.1.284), lack of opportunities for acquiring market knowledge (mean = 3.300, std. =.1.245) and high interest rates on loans (mean = 3.300, std. =.1.265).

Table 2: Descriptive statistics - SMEs

Variable List	Mean	Std. Deviation	Coefficient of Variation
1. Human capital	4.090	0.903	22.1
2. Business cooperation	3.900	0.807	20.7
3. Infrastructure support	3.760	1.077	28.6
4. Market	3.720	1.041	28.0
5. Involvement of the very poor in business	3.640	0.969	26.6
6. Bank lending procedure	3.620	1.020	28.2
7. Financial management assistance	3.600	0.996	27.7
8. Capital funding	3.580	1.242	34.7
9. Productive income opportunities	3.550	1.089	30.7
10. Technical assistance	3.520	1.195	33.9
11. Customer needs	3.360	1.131	33.7
12. Technological assistance	3.330	1.233	37.0
13. Interest rates	3.300	1.265	38.3
14. Market knowledge	3.300	1.245	37.7
15. Government resources	3.100	1.284	41.4
16. Innovative technologies	3.080	1.162	37.7
Average	**3.528**	**1.104**	**31.7**

The study adopted a Coefficient of Variation (COV) to examine the level of variation in participants' consistence/inconsistency in their views on the contribution of SMEs to poverty reduction (Table 2). Although the mean statistics point to possession of high level of human capital as the greatest enabling factor of SMEs in poverty reduction aCOV = 20.7indicates a 20.7% level of consistency in participants' views on government's effort to promote cooperation among business operators than possession of high level of human capital (COV = 22.1). Correspondingly, a COV = 41.4 indicates a 41.4% level of inconsistence in participants' claims that their failure to contribute to poverty reduction is highly attributed to lack of access to innovative technologies than government support to SMEs (COV = 37.7) which has about 38% level of inconsistency.

Table 3: Descriptive statistics – environmental management

Variable List		Mean	Std. Deviation	Coefficient of Variation
1.	Negative environmental impacts	4.130	0.750	18.2
2.	Training on deepening environmental awareness	4.070	0.776	19.1
3.	Environmental regulatory structures	4.040	0.764	18.9
4.	Minimal environmental impacts	4.030	0.827	20.5
5.	Strong environmental management institutions	3.970	0.880	22.2
6.	Sustainable innovation techniques	3.680	1.117	30.4
7.	Drivers of climate change	3.630	1.169	32.2
8.	Environmental management awareness	3.580	1.176	32.8
9.	Environmental impact reduction products	3.500	1.105	31.6
10.	Government leads in environmental issues	3.500	1.168	33.4
11.	Renewable energy	3.470	1.192	34.4
12.	Sustainable innovation activities	3.420	1.099	32.1
13.	Corporate social responsibility participation	3.260	1.164	35.7
14.	Environmental policy implementation	3.220	1.114	34.6
15.	Environmental impacts budget	3.100	1.159	37.4
16.	Environmental sustainability knowledge	2.980	1.251	42.0
Average		**3.599**	**1.044**	**29.7**

In Table 3, the effect of environmental management by SMEs on poverty reduction was examined. The table shows that SMEs demonstrated a commitment to reducing negative environmental impacts (mean = 4.130, std. =.750); training and deepening environmental awareness (mean = 4.070, std. =.776); paying attention to environmental regulatory frameworks (mean = 4.030, std. =.764); and personal consciousness that their businesses bear minimal impacts on the environment (mean = 4.030, std. =.827). However, a reasonable number of the SMEs reported inadequate knowledge on environmental sustainability (mean = 2.980, std. =.1.251); lack separate budgets to deal with the negative impacts of SMEs on the environment (mean = 3.100, std. =1.159); lack structures for implementing environment policies (mean = 3.220, std. =1.114); and find it difficult to participate in corporate social responsibility (mean = 3.260, std. =1.164). The study further indicates that participants were highly consistent in their claims on commitment to reducing the negative environmental impacts (COV = 18.2) and highly inconsistent in their claims on having inadequate knowledge on environmental sustainability (COV =42.0).

The study indicated a strong association between SMEs and environmental management and poverty reduction (r =.644; sig. <.05), which suggests that varying the level of SMEs and their roles in environmental management is likely to vary poverty reduction by about 64%. In isolation, β = .147 indicates that SMEs are capable of contributing about 14% to efforts in poverty reduction and a β = .527 indicates that environmental management reduced poverty by about 52%. This suggests that the role played by environmental management in poverty reduction in Western Uganda is greater than that of SMEs. It is evident from the Adjusted R Square (= .411) that a combination of SMEs and environmental management can contribute about 41% to of the current efforts to reduce poverty in Western Uganda. However, the above statistics suggest that there are other factors responsible for poverty reduction in Western Uganda which have not been examined by the present study.

Table 4: Regression coefficients

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta	B	Std. Error
(Constant)	1.655	0.147		11.290	0.000
Small and Medium Enterprises	0.124	0.055	0.147	2.266	0.024
Environmental Management	0.470	0.058	0.527	8.121	0.000
R	0.644				
R Square	0.415				
Adjusted R Square	0.411				
Std. Error of the Estimate	0.396				

a. Predictors: (Constant), Environmental Management, Small and Medium Enterprises Dependent Variable: Poverty Reduction

V. DISCUSSION

The current study indicated that SMEs' contribution to poverty reduction is associated with possession of high level of human capital. This is likely in Uganda, where the level of unemployment is high. The finding is consistent with a report by Innovation for Poverty Action (2017) which indicated that SMEs in developing countries are faced with low levels of human capital. In addition, participants indicated possessions of those employed were of low human capital. In view of this, the study seems to suggest that SMEs contribute to poverty reduction by employing many unskilled and semi-skilled labour. Participants could have indicated to possession of high human capital perhaps because most of them employ rudimentary knowledge and technologies in their businesses, which is contradictory to Sokoto and Zakari's arguments which suggest that the use of low level technologies by SMEs hampers their capacity to reduce poverty. This therefore implies that while our participants were possessing high level human capital, their contribution to poverty reduction is impeded by low levels of technology.

The study further indicates that SMEs role in poverty reduction is associated with government intervention in promoting cooperation among business operators. This finding supports Yasa et al, who found that implementation of partnership strategy through cooperation with suppliers, sources of capital and customers can elevate SME role in poverty reduction(Yasa, Sukaatmadja, & Jawas, 2013). In practice, cooperation among users of raw material and suppliers of raw materials is a good strategy for growing SMEs and consequently poverty reduction if suppliers of raw materials are not monopolists. However, in the situations where monopoly thrives, such cooperation may be hard to propagate.

The study also revealed that SMEs contribute to poverty reduction amidst technological, resource, market knowledge, and interest rate related improvements. These findings are consistent with literature on the role of SMEs in economic growth and poverty reduction in developing economies. According to Oba and Onuoha, most government policies on SMEs are deficient in terms of technical, technological, financial, and managerial and infrastructures support needed to enhance the contribution of SMEs to economic growth and poverty reduction(Oba & Onuoha, 2013). In a related study, Pafunso and Adepoju (Pafunso & Adepoju, 2014) found that SMEs can reduce poverty and unemployment if they can access capital at reduced interest rates. The conclusion on government intervention in respect to reducing interest rate on loans has been recommended by several scholars. The findings on government's failure to channel financial resources to SMEs was reported by Edom et al who found that channeling adequate financial resources towards SMEs can reduce poverty significantly by reducing unemployment(Edom, Inah, & Emori, 2015).

The findings on the role of environmental management indicated that SME business owner's commitment to reduce negative environmental impacts is important in poverty reduction. The findings disagrees with that by Parket at al. who observed that SMEs often have major problems with limited resources, limited knowledge and limited technical capabilities to deal with their own environmental impacts(Parker, Redmond, & Simpson, 2011). There is also evidence of training managers and technicians on deepening environmental awareness. The findings support the findings of Iraldo et al who found that training managers and technicians are effective in deepening environmental awareness among companies(Iraldo, Testa, & Frey, 2010). Though our participants indicated paying attention to environmental regulatory frameworks, the results contradict that by Williamson et al who found that developing environmental management regulatory frameworks remain the most effective means of monitoring the behavior of SMEs (Willamson, Lynch-Wood, & Ramsey, 2006).The study further revealed that a combination of SMEs and environmental management

can reduce poverty significantly. The findings are consistent with the modernization theory, which emphasizes the relationship between economic and environmental goals and encourage industry to embrace environmental management practice (Revell & Blackburn, 2004).

VI. CONCLUSION

The study aimed at establishing the role of SMEs and environmental management in poverty reduction in selected districts in Western Uganda. We can conclude that SMEs' contribution to poverty reduction is associated with possession of high level of human capital, but this remains impeded due to the lack of access to innovative technologies. There is a strong indication that government promotes cooperation among business operators and provides infrastructure support to SMEs for them to become effective agents in poverty reduction. However, the high cost of capital and very little financial support impede the role of SMEs in poverty reduction. This is notwithstanding, the availability of infrastructure for SMEs to access market for their products. Additionally, commitment to reduce the negative environmental impacts through training programmes for operators of SMEs is important for poverty reduction. This study therefore contributes to the existing body of knowledge on poverty reduction in developing countries by acknowledging the harmonious role of SMEs and environmental management.

VII. RECOMMENDATION

Enabling SMEs get access to innovative technologies to support their growth. This can be done by identifying business model and inculcating skills in the area of cash and inventory management systems so that SMEs can truck their daily sales and purchases. Promoting policies that increase SMEs access to cheap capital by reducing interest rates on loans provided by financial institutions. This will enable SMEs to contribute effectively to economic growth and poverty reduction. Additionally, SMEs should be sensitized to appreciate their negative impacts on the environment and biodiversity in their areas of operation.

One of the major challenges faced by SMEs is the problem of survivability in a competitive business environment. This is partly attributed to low uptake of innovative technologies in SMEs operations. We suggest that further applied research on the use of innovative technologies and assessing their impacts on sustainability of SMEs should be conducted.

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