

Analysis of Households' Willingness and Ability to Participate in Micro- Enterprise in Gambella Town of Western Ethiopia: In Case of Nuer and Agnwaa Community

Alemu Ayele (MSc. in Agricultural Economics)
Lecturer in Mettu University Bedede Agriculture and Forestry College

Abstract

Microenterprises have great role for socio-economic development in developing countries. In spite of these benefits, the role of these businesses in our country is very much insignificant. Moreover, in Gambella especially in Nuer and Agnwa communities are not actively participate in microenterprises. Thus, this research focused on analyzing the determinants of the households' willingness and ability to participate in micro enterprise. The results of the study with nominal logit model revealed seven variables were significant at less than 10 per cent probability level. Age of the household is significant and positively associated with willingness to participate in microenterprise activities. Education level had negative impact on probability of being participant in microenterprise activity, which is significant at less than 5 percent probability level. This means more educated households have negative interest in the involvement of microenterprise activities. Access to factors of productions and households' business ability are significant at less than or equal 5 percent probability level. These variables are positively correlated with the dependent variable. Moreover, dependency ratio and willingness-ability combination are significant that are negatively associated with households' willingness to participate in microenterprise activities. Variables like having willingness, being male family and dependency ratio are positively related with dependant variable business ability. Having land and having willingness-having ability are negatively associated with dependent variable business ability. Therefore, governments, regional state and university should play their role to intervene and to transform the societies to producer and commercial class.

Keywords: microenterprise, logit model, Nuer and Agnwa community, business willingness and business ability

1. Introduction

Microenterprises have a great role in once economy, and a base for transforming traditional economy to strong modern economy. The shift from agrarian to industrial knowledge based societies is not thought the large-scale industry but it is thought small and microenterprises. Because of their contribution in every national economy, emphasis on small and micro-enterprises has been accentuated in the mind of policy makers and planners (Kiggundu 2002 cited in Mulu 2009, Admasu Abera 2012).

Growth and Transformation Plan of Ethiopia considered small and microenterprises to transform the economy and to reduce poverty. They have paramount importance to avoid unemployment and poverty (Fisseha, 2006:43).

In spite of the pivotal role of microenterprise, community participation in microenterprises and their performance is rudimentary in Ethiopia, and particularly infant in Gambella region. Thus, examining root causes of the slow growth in this sector could enable to have insights, motivation and strengthen the residents to have entrepreneurial mind.

2. Statements of the Problem

National survey conducted by Ethiopian Central Statistical Authority (CSA) in 2005 in 48 major towns indicates, nearly 585,000 and 3,000 operators engaged in micro and small scale manufacturing industries respectively, which absorb about 740,000 labour forces. Micro and small enterprise in Ethiopia are confronted with several factors that affect performance of microenterprises (MSEs). Generally, there are external and internal factors which are still affecting the performance of MSEs. Due to these, participation of people in micro enterprise is retarded.

Nowadays Small business enterprises are major source of income for most people in our cities and towns. However, according to the researcher observation the participation of Nuer and Agnwaa communities in micro and small business is low in Gambella town even if they are the major population in the region. So, why these happen in the capital city of the regional state? There are so many Nuer and Angwaa people in the town, but why they participate passively in small business activities?

Thus, the objectives of this research is to investigate major determinants of households' willingness and ability to participate in microenterprises and assessing the level of participation in micro business enterprise in Gambella town with respect to Nuer and Agnwaa community.

3. Significant of the Research

This research has value to government and non-government organizations to avoid/reduce limitations of participation in micro enterprises by Nuer and Agnwa communities of Gambella town. The output is expected to improve the livelihoods of the community by enhancing awareness for Gambella people to utilize all possible opportunities that will bring them satisfaction. It is useful for Trade and Economic development Bureau and microenterprise agencies to intervene in the community development. The research is useful to accomplish the programme of community service.

4. RESEARCH METHODS

Over view of study area: Gambella Regional State located in southwestern part of Ethiopia. The region has borders with Benishangul-Gumuz and Oromiya to the North, the Southern Nations, Nationalities and Peoples' Regional State (SNNPRS) and the Sudan Republic to the South; Oromiya and SNNPRS to the east and the South Sudan Republic to the west. It lies between Baro and Akobo Rivers, the western part of Gambella includes the Baro salient. Most of Gambella's land is flat and its climate is hot and humid. Annual rainfall averages about 600 mm while the minimum and maximum temperatures are approximately 21.1⁰C and 35.9⁰C respectively. Based on 2007 Census conducted by Central Statistical Agency of Ethiopia, Gambella Region has total population of 306,916 urban in-habitants is 25.37% of the population. Gambella town is the capital city of the region.

Sampling Technique and Procedures: A two-stage sampling technique was used to select the sample households. First, three kebeles were purposely selected out of the five kebeles in the study area. This is because large number of Nuer is found in kebele 1 and large number of Agnwa is living in kebele 4 and 5. From the targeted population 122 households were selected based on pen-tossing technique. Secondary data were collected from the reports of small and microenterprise agency of the Gambella town.

Primary data was collected from households using structured and scheduled questionnaire. It was pre-tested by administering it to 30 respondents. Discussions were held with experts in MSE development Agency Bureau for the additional information. Secondary data was collected from relevant sources.

Methods of Data Analysis: The logistic distribution has an advantage over others in the analysis of dichotomous variable. It is extremely flexible and easily used function from mathematical point of view and subjects itself to meaningful interpretation (Adresi, 1990). The dependent variable takes value zero or one depending on whether or not the households are willing to participate in micro business activities. However, the explanatory variables are either continuous or binary. Following Pindyck and Rubinfeld (1981), logistic probability function is:

$$P_i = F(Z_i) = F\left[\alpha + \sum_{i=1}^n \beta_i x_i\right] = \left[\frac{1}{1+e^{-(\alpha+\sum \beta_i x_i)}}\right] \quad (1)$$

e = the base of natural logarithms (2.718...)

$x_i = i^{th}$ explanatory variable

P_i = probability that an individual makes a certain choice

α and β_i are parameters to be estimated.

Odds ratio implies the ratio of the probability that an individual would choose an alternative P_i to the probability that he/she would not choose it ($1 - P_i$) (Gujarati, 2004). The probability that he/she does not choose is defined by:

$$[1 - P_i] = \left[\frac{1}{1+e^{Z_i}}\right] \quad (2)$$

Using equations (1) and (2), the odds ratio becomes

$$\left[\frac{P_i}{1-P_i}\right] = \left[\frac{1+e^{Z_i}}{1+e^{-Z_i}}\right] = e^{Z_i} \quad (3)$$

$$\text{Alternatively, } \left[\frac{P_i}{1-P_i}\right] = \left[\frac{1+e^{Z_i}}{1+e^{-Z_i}}\right] = e^{[\alpha+\sum_{i=1}^n \beta_i x_i]} \quad (4)$$

Taking the natural logarithms of equation (4) will give the logit model as indicated below

$$Z_i = \ln \left[\frac{P_i}{1-P_i}\right] = \alpha + \beta_1 x_{1i} + \beta_2 x_{2i} + \beta_3 x_{3i} + \dots + \beta_m x_{mi} \quad (5)$$

Considering a disturbance term U_i , the logit model becomes

$$Z_i = \alpha + \sum_{i=1}^n \beta_i x_i + U_i \quad (6)$$

5. RESULTS AND DISCUSSION

From the descriptive statistics, most of the respondent are generating their income from agriculture and least of them are generating their income from manufacturing sector. Most of the sampled population's female and children family are working domestic works, and 15% of the children are without work in their family and a few members of females and children are participating in microenterprises. In addition to this, most of the respondent expects lower benefit from microenterprises activities. Based on these most of the businesses persons are retailers. There are few whole sellers and manufacturers but there are no business persons that are participated in

construction activities. The participation of Agnwaa and Nure communities are very much less than the enrollment of other ethnics in both sexes. Therefore, the participation of Agnwaa and Nuer communities in legally registered business is very much low as compared to the other ethnics that are living in the town.

From econometric model, the result is significant at less than 1 percent probability level indicating that the hypothesis that all the coefficients except the intercept are equal to zero is rejected. The goodness-of-fit of the model was found to be 97.87 percent; the log likelihood was 93.34 percent.

By formalizing a way to evaluate null hypotheses for samples of varied sizes, the BIC test of significance for a coefficient provides more information than traditional significance tests. It proves especially helpful to logistic regression, where coefficients measured in terms of logged odds do not offer an easy measure of strength. Hence, BIC value is greater than 10 the model fits very strongly to include the data of variables.

Table1: Model-Fitting Information

Model	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	171.128	173.932	169.128			
Final	146.340	219.245	94.340	74.788	24	.000

Source: Model output

Goodness-of-fit presents two tests of the null hypothesis that the model adequately fits the data. If the null is true, the Pearson and deviance statistics have chi-square distributions with the displayed degrees of freedom. If the significance value is small (less than 0.05), then the model does not adequately fit the data. In this case, its value is greater than 0.05, so the data are consistent with the model assumptions.

Table2: Goodness-of-Fit

	Chi-Square	Sig.
Pearson	114.590	.095
Deviance	94.340	.529

Source: Model output

Table3: Significant Explanatory Variables For willingness to participate in MEs

Variables for Willingness to MEs	β	Std. Error	Wald	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
						Lower Bound	Upper Bound
Intercept	-5.294	2.299	5.304	.021**			
Age (15 to 65)	.100	.046	4.810	.028**	1.105	1.011	1.209
Dependency ratio	-.910	.486	3.513	.061*	.402	.155	1.042
Education level							
[2=basic & primary]	-2.399	1.006	5.692	.017**	.091	.013	.652
[3= secondary]	-4.906	1.706	8.264	.004**	.007	.000	.210
©[4= college]							
[ability=1=yes]	3.231	.965	11.217	0.001**	25.306	3.820	167.651
©[ability=2=no]							
[ethnics kind =1=Nuer]	4.005	1.431	7.832	.005**	54.874	3.321	906.797
©[=2=Angwaa]							
Kinds of resource							
[2=land]	2.189	1.081	4.100	.043**	8.928	1.073	74.299
© [4=others]							
Willingness-ability							
[2=yes-no combination]	-1.665	.922	3.259	.071*	.189	.031	1.153
©[3=no-no combination]							

** Significant at less than 5 percent probability level

* Significant at less than 10 percent probability level Source: Model output

© Reference variable

Age of the household: is significant at less than 5 percent probability level and positively associated with willingness to participate in MEs activities. This means a one-year increase of age increases the odds of participation by a multiple of by 10.5%. This is explained by heavy livelihood pressure and older households need to have enough income to support their livelihood by participating in MEs as compared to younger households. Hence, the older households have to rely on MEs activities to support their livelihood. The other age groups are insignificant for households' willingness to participate in MEs activities.

Education level had negative impact on the probability of being participant in MEs activity in the study area. In other words, the probability that a household would be decreasing its willingness to participate in MEs as the education level increases. It is significant at less than 5 percent probability level. The odd ratio for business willingness are 90.90% lower for having basic and primary education level as compared to college education level. The odds ratio for business willingness persons are 99.3% lower for having secondary education level than college education level. This means skilled and educated households have a depressing interest in the involvement of MEs activities. Because persons with higher level of education desire to be government officers rather than to be business persons. Alternatively, the education system may not incorporate necessary knowledge, skills and attitude about MEs activities. Hence, households with less skill and educational background forced to engage in ME activities than others; even though, Education tends to improve efficiency, rationality and stimulate diversified use of resources.

Kinds of Resources: Availability of land became positive factor for households' willingness to participate in MEs activity. The result shows the variable has a positive impact on the probability of participating in MEs activity. It is significant at less than 5 percent probability level. The odds ratio in favor of willingness to participate in MEs activities increases by a factor of 8.93 for households who have access to land. This is because the availability of land enables the household to perform different MEs activities and to generate their own income.

Ability of the Household: The households' business ability is significant at less than 5 percent probability level. The coefficients show that the logged odds of MEs activity participation are 3.231 higher for business ability than without business ability. The comparison involves with business ability to without business ability persons. The exponentiated logistic regression coefficients for this variables show that the odds are $(25.306 - 1) * 100$ or 2430.6% higher for with business ability than without business ability persons. The odds of willingness for enabled persons as a ratio to the odds for not enabled person equal 25.31; about 2531% enabled persons participate per 100 not enabled persons.

Kinds of Ethnics: Nuer households have positive attitude to participate in MEs activities as compared to Agnwaah households. The logged odds of participation in MEs activities are 54.875 higher for Nuer households than Agnwaah households. This variable is significant at less than or equal 5 percent probability level. Thus being a Nuer households increases the odds ratio by a factor of 54.875 that is $e^{4.005} = 54.875$. This means that being Nuer households increases the odds to 53.88. This is calculated by subtract 1 from $\text{Exp}\beta$ value.

Dependency Ratio: is significant at less than or equal to 10 percent probability level and negatively associated with dependent variable. Coefficient of this variable show that a unit increases in dependency ratio lowers the logged odds of willingness to participate in MEs by 0.910. This means that a unit increases in dependency ratio reduces the odds of participation by a multiple of 0.910 or by 59.8% (since $(0.402 - 1) * 100 = 59.8\%$). Thus higher dependency ratio discourages the households' willingness to participate in MEs activities.

Willingness-ability combination: The three combinations are having willingness and having-ability, having-willingness but have no ability, and have no willingness and no ability. Having willingness and having no ability became determinant factor for households' willingness to participate in MEs. This variable is correlated negatively with the dependent variable and was significant at less than 10 percent probability level. The odds ratio of the households' willingness is 81.10% lower for having willingness and not having ability than without willingness and without ability. As the household having more and more willingness and ability he or she reduce the willingness to participate in MEs activity rather they want to do other big business which is an able to succeed at the end of the day these may lead to quick failure.

Factors influencing households' ability to participate in MEs: willingness, being male family between 15 and 65 years, having land, having willingness-ability and dependency-ratio are significant at less than 5 percent probability level.

From these variables having willingness to participate in MEs, being male family between 15 and 65 years and dependency ratio have positive relation with households' business ability. To express in another word as the age of the household increase the ability to participate in MEs activities also increase. The same is true for dependency ratio. Having land and having willingness-ability are negatively associated with households' business ability. This is the same as having land, having willingness-ability do not encourage the household to participate in MEs activities. These factors do not play the pulling effect to start MEs activities. What they have in their hand do not used to start MEs. Respondents have seeds in the store that are not sowed on the farmland.

A year increase for male family of age between 15 and 65, increase the logged odds of business ability

by 1.55; an increase in dependency ratio improve the logged odds of business ability by 1.68; the logged odds of business ability are 2.73 higher for willingness than non willingness. The logged odds of business ability are 2.59 lower for having land than having no capital and labor. The logged odds of business ability are 7.86 lower for having business willingness and ability than have no business willingness and have no business ability. The differences in logged odds for the marital status and other variables in table4 likely do not differ from zero in the population.

The SPSS output lists each of coefficient as an exponent in the column of Exp(B) in table4.

Subtracting one from each exponentiated coefficient and multiplying by 100 shows the percentage change in the odds of business ability for a one-unit change in independent variables. Likewise, Age of male family in range of 15 to 65 years can be interpreted as; a year increase in male years increases the odds by a multiple of 4.69. An increase in dependency ratio, increase the odds by a multiple of 5.37. The comparison of the odds of business ability in relation to Willingness and non-willingness business participation can be interpret as the odds of business ability are 1438% increase for willing than non-willing business persons.

Table4: Parameter Estimates for ability to participate in MEs

Variables' name	B	S.E.	Wald	df	Sig.	Exp(B)	95.0% C.I.for EXP(B)	
							Lower	Upper
marital			2.000	3	.572			
Marital (1= married)	-.549	.785	.489	1	.485	.578	.124	2.692
(2 = single)	1.449	1.617	.803	1	.370	4.259	.179	101.275
(3=divorce)	26.172	1.011E4	.000	1	.998	2.324E11	.000	
© (4=widowed)								
willingness(1= yes)	2.726	1.087	6.292	1	.012*	15.279	1.815	128.612
© (2= no)								
Male family(15 to 65)years old	1.546	.548	7.959	1	.005*	4.694	1.603	13.745
Kind of Resource			8.215	3	.042			
(1= capital)	-13.938	2.839E4	.000	1	1.000	.000	.000	
(2= land)	-2.584	.979	6.967	1	.008*	.075	.011	.514
(3= labor)	2.722	2.593	1.102	1	.294	15.211	.094	2.453E3
© (4=others)								
Willingness-ability			14.936	2	.001			
(1=yes=yes)	-7.861	2.233	12.389	1	.000*	.000	.000	.031
(2=yes-no)	.626	1.136	.303	1	.582	1.870	.202	17.341
©(3=no-no)								
Dependency ratio	1.680	.745	5.089	1	.024*	5.367	1.247	23.110
Constant	-3.073	2.112	2.118	1	.146	.046		

Variable(s) entered: willingness-ability, willingness, marital, male family between15and65 years, dependency ratio and kind of resource.* Significant at less than 5 percent probability level

©reference variables

6. CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, the following points need to be considered as possible conclusions and policy implications.

1. Education could be an effective instrument in increasing participation in microenterprises activities. This study revealed the opposite. This means participation of educated people in microenterprises activities is low. This is not due to the lack of business ability but it is due to the lack of business willingness. This issue also has direct relation with our education system that it does not prepare the student to create his own job. Conversely, the uneducated one does not participate in business activities as well. This is due to lack of business ability. Therefore, task of upgrading skills, attitude and participating techniques of Agnwa and Nuer communities should be given a special attention. Development programs to promote microenterprises service should focus on the establishment of skill and attitude training centers at every stakeholders level.

2. One of the important results of the study is willingness and ability to participate in MEs is affected by the

active age (15-65 years old) of the household. Therefore, to implement MSEs policy more attention should be given to this age group.

3. The presence of land and business abilities enables the household to purchase equipment, skill acquisition, capital for initial investment and purchase of inputs. Thus, due consideration should be available to own land and to develop business abilities for the households by the stakeholders in the study area.

4. Stake holders are not working integrally. Thus, they are not able to solve the problems of their customers. Thus, these bodies should come together to have common understanding and to develop problem-solving programs for their communities.

In general, the participation of Nuer and Agnwaa communities in microenterprises is infant. In order to promote microenterprises activities as one economic sector in the Agnwaa and Nuer communities in Gambella town and in the region Trade and Business extension should be inaugurated like agricultural extension.

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