

Environmental Knowledge, Attitude and Awareness of Farmers in Chencha Woreda, Gamo Gofa Zone, South Ethiopia

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Abstract- In different parts of Ethiopia, even though many studies have been conducted on environment and management of natural resources, the environmental literacy level of farmers is not utterly studied and analyzed. Therefore, this study was designed to assess the environmental knowledge, attitude and awareness of farmers at Chencha Woreda, Southern Ethiopia. Stratified and systematic samplings were applied to select target population. The primary data were gathered from 330 household heads by using standardized questionnaire. The analysis was undertaken by using quantitative methods [ANOVA, Tukey test, eta square, and T-test]. The study revealed that, nearly 50% of the respondents had medium level of environmental knowledge and awareness level. The statistical analysis displayed that educational status, age, & information accessibility had statistically significant influence on environmental knowledge, attitude and awareness of farmers. However, respondents' sex had no influence on their environmental behavior. Insufficient information, lack of organized training centers and poor environmental education provision were some of the constraints in improvement of environmental knowledge and behavior of farmers. Improving farmers' environmental knowledge, attitude and awareness is vital for conservation of Ethiopia's remaining natural resources and biodiversity. Therefore, all stakeholders must work jointly to improve the environmental behavior of farmers.

Index Terms- Environmental knowledge, Environmental awareness, Environmental attitude, Chencha

I. INTRODUCTION

Environmental degradation (ED) has become contested and debatable issue throughout the world. Environment has been highly degraded and deteriorated in many countries around the world. The problem is more severe in developing countries, due to ever growing population coupled with the expansion of ill defined investments and development technologies [1,2]. Natural resource degradation as the result of mismanagement threatens the livelihoods and living strategies of human beings. Soil erosion & forest degradation are major obstacles to improve agricultural productivity in many developing countries like Ethiopia. For example, the World Bank report estimates that, by 2000 up to 1 billion people in the world and 256 million people in developing countries were affected by soil erosion and land degradation due to deforestation, overgrazing, and inappropriate agricultural practices [3].

Currently, ED in Ethiopia has long been severe threat and tribulation that, ranging from very severe in rural areas to severe in urban areas [4]. ED refers to the temporary or permanent loss of natural resources as the result of human activities that impeding the capacity to contribute for food security, climate adaptation, fuel wood consumption, and other ecosystem benefits.

Ethiopian has been facing rapid and exhaustive degradation of forest and soil resources. The rapid population growth; increased crop cultivation in marginal areas and increased livestock grazing pressure; poor agricultural practices have resulted in exhaustive forest and soil degradation [5, 4]. Many studies have shown that deforestation is undoubtedly has increased from time to time and has occurred in the remaining forested areas of the country. The current rate of deforestation is estimated between 160,000 - 200,000 hectares (ha) per year [5]. Similar to this study, the finding of Earth trends show that, in 2003, Ethiopia had lost 400000 ha of forest between 1990 and 2000 corresponding to a deforestation rate of 40000 ha /year. On the other hand, the Ethiopian Forestry Action Plan [4] concluded that deforestation rate in Ethiopia was between 150,000 and 200,000 ha per year. This exhaustive clearing of forest land has been on process and will perpetuate until management plans are put in place which balance the consumption and regeneration capacity of forest land in the country [6].

High level of deforestation jointly with other factors has great impacts on the soil depletion in Ethiopia. Studies have shown that, Ethiopia has lost fertile top soil at an estimated rate of one billion cubic meters per year [5]. The organic content of soils is often low due to the widespread use of dung and crop residues for energy, which result in poor agricultural productivity and production. In 1990 alone, for instance, reduced soil depth caused by erosion resulted in a grain production loss of 57,000 (at 3.5 mm soil loss) to 128,000 tons (at 8 mm soil depth). It has been estimated that the grain production lost due to soil degradation in 1990 would have been sufficient to feed more than four million people. The availability of land suitable for agriculture has been shrinking, and the amount of land required to feed the growing population is steadily increasing [5, 6].

Therefore, in order to leave out from the revenge of ED and for the sustainable use of natural resource, understanding and taking in to consideration the local community's environmental

awareness, attitude and perception¹ play their own substantial roles. Farmers' environmental literacy level and behavior help the local community to actively participate in conservation of environment, to develop sense of ownership, and to make sound policies and strategies for responding the economic and social impacts of forest and land degradation [7]. Again for the application of bottom-approaches in environmental management, the environmental literacy level of local people plays the crucial role especially in developing countries, like Ethiopia. In different parts of the Ethiopia, environment degradation and their causes as well as the possible solutions have been studied indeed, however the community's environmental knowledge, attitude and awareness level as well as perception to environmental degradation and resources management have not yet well studied and documented. Thus, this paper was designed to examine the local community's [farmers] environmental knowledge, attitude, and awareness level in Chencha Woreda², Gamo Gofa zone, Ethiopia. The research was undertaken to answer the following basic questions: what is the environmental knowledge, attitude and awareness level of the farmers in Chencha Woreda?

II. RESEARCH METHODOLOGY

Profile of the study area

This study was conducted in Tegecha, Losha and Mafonazolo purposively selected kebeles³ of Chencha Woreda which is one of the 13 Woredas of Gamo Gofa zone (fig.1). Chencha Woreda is located about 530kms and 303kms far away from Addis Ababa, the capital city of the Ethiopia and Awasa, the capital city of Southern Nations and Nationalities and People Regional State (SNNPR) respectively. It is also located between 6°08'55" to 6°25'30"N and 37°29'57" to 37°39'36"E. Its elevation is found between 1300 and 3250 m above sea level. Currently the Woreda covers an estimated area of 445 km² and divided into 45 rural and 5 urban kebeles.

The Woreda is divided into two agroecological zones, Dega and Woina Dega, accounting for about 82% and 18% of the total area respectively. It has received bimodal rainfall regimes. The first is from March to April and the second round occurs June to August. The annual rainfall of the Woreda is between 900mm to 1200mm. And the minimum and maximum temperature records vary between 11 to 13°C and 18 to 23°C respectively.

Chencha Woreda is one of the most densely populated areas in SNNPR. The crude density is 382 persons/km². The total population of the Woreda was about 111,680 of which 51, 307 were men and 60, 373 were women with urban population of nearly 12 per cent [8]. Mixed high land farming is the farming system which is practiced by the community. Barley and Wheat are the dominant crops cultivated by the local farmers. Framers

¹ Perception is means by which people seek to understand environmental degradation, causes as well as its consequences to take responses.

² Woreda: governmental administration unit next to Kebele in Ethiopian context. Which is equivalent to district

³ Kebele: the lowest administrative unity in Ethiopia context

also have engaged in cultivation of Maize, Peas, Beans, Potatoes, Enset and tree cabbage.

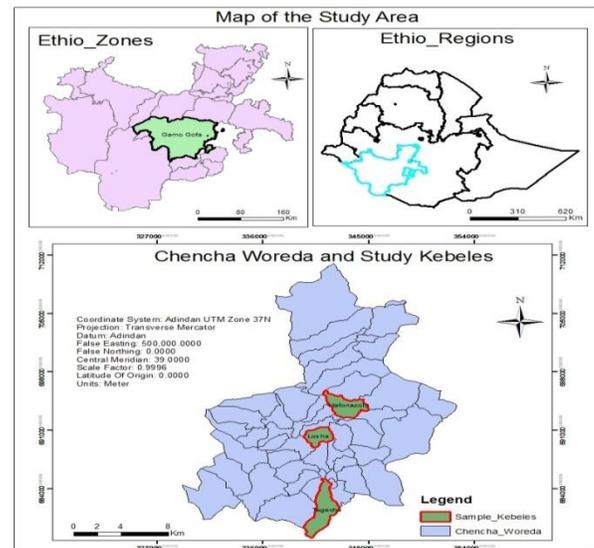


Figure 1. Map of the study area

METHODS

Respondents and Sampling Techniques

The participants of this study included the household heads (male and female) of the selected kebeles of the Woreda. The total household heads number and list were taken from the Woreda Agriculture bureau and the Kebele's administration office. The total number of the household heads was about 1085, of which Losha, Tegecha and Mafonazolo consisted 364, 331 and 390 household heads respectively. In order to determine the sample size from the entire household heads, the researcher used the following statistical formula [9].

$$n = n_0 * N / n_0 + (N - 1)$$

$$n_0 = (z/e)^2 pq$$

Where:-

n= Sample size

N= Total population

n₀ = Sample size of the pilot study

z= Value of the confidence level at **1.96 (95%)**

e= Sampling error at **0.05 (5%)**

p= Estimated value for the proportion of sample that will respond to pilot test

q= Estimated value for the proportion of sample that is not responded to pilot test (q= 1-p)

Based on the above sample size determination formula, 364 sample populations were taken from the three kebeles. Moreover, stratified sampling was applied to get proportional sample size from each kebele and sex of respondents:[111 from Tegecha, 122 from Losha and 131 from Mafonazolo sample population were taken]. Finally systematic sampling was implemented to contact the target population of the study.

Data Collection and Analysis instruments

In order to collect data from selected respondents, questionnaire

was used. The standardized items were adapted from previously conducted research and further revision and modification were made. The questionnaire had four parts; the first part included items about environmental knowledge, the second part items to measure environmental attitude and the third included items used to measure the environmental awareness of respondents. The last part consisted items about environmental information sources and the background information of respondents. The items included both local and global environmental issues. The global issues included pollutions, biodiversity and conservation, and climate change. Majority of the items constructed from local environmental issues: Agricultural activities, soil & soil conservation, deforestation and forest management, population growth and environment, and the roles of community in preservation and sustainable management of natural resources. Apart from statistical measures, the items were further reviewed by knowledgeable and experienced researchers from Geography and Environmental studies and Psychology department of ArbaMinch University. And based on the comments items reconstruction was undertaken for final usage. Furthermore, by using the revised items pretest/pilot study/ was also made. It was vital to evaluate the quality of the items and to include more local environmental issues. Finally, the final version was administered to 364 respondents. However, the analysis was undertaken by using 330 questionnaires which is about 91% of the sample populations. During screening time 28 incomplete and wrongly answered questionnaires removed [7 from Tegecha, 10 from Losha and 11 from Mafonazolo]. And 6 questionnaires were not returned back from respondents: 1 from Tegecha; 3 from Losha and 2 from Mafonazolo.

The respondents' knowledge, attitude and awareness level to environmental issues were measured by using the following adapted standardized items. To measure the respondents' environmental knowledge the researcher used items developed by [10], which was used to determine the environmental knowledge of different community groups in Florida. From the original document some items were modified and additional three items were added to consider the local environmental conditions and nature of respondents. The reliability of items in this study was about 0.76 (KR-21). Fifteen items [nine true/false and six multiple type items] were used to measure the environmental knowledge level. When the respondents selected the right answer they were given 1 and otherwise 0 was given for wrong answer. Based on the total score of fifteen items respondents were categorized into three knowledge levels. Respondents who scored 0- 5 and 6-10 points out of fifteen marks categorized under low and moderate level of knowledge respectively. Respondents scored 11-15; it was considered that, they have high level of environmental knowledge.

The environmental awareness of the respondents [farmers] was measured by using fifteen Likert type (5point) items. The standardized environmental awareness scale adapted from [11]. They found consistency with reliability of 0.72 (KR-21). In this current study, the researcher also found good reliability of Cronbach's alpha, $\alpha=0.78$ for the standardized environmental awareness items. For each statement 1 up to five points were given in scale. The maximum point (5) given for strongly agree and strongly disagree for positively and negatively stated items respectively, where as the minimum, 1 point weighted to strongly

disagree and strongly agree positive and negative statements respectively. When a respondent scored one point for all of all items the minimum point would be 15 and 75 being the maximum point while the respondent scored five for all statements. The researcher, therefore have assigned three levels: low, medium and high for respondents' environmental awareness [11], based on the mean scores. That is, high awareness level being , the mean scores is greater than three, the medium level of awareness represented by the mean score of three (slightly agree) and the low level represented by the mean scores of less than three.

Similarly, it was also attempted to assess the environmental attitude of the farmers by using standardized scale, which adapted from [12, 13]. For the current study, the adapted instrument included fifteen items which rated from 1 (strongly disagree) to 5 point (strongly agree) for positive statements and the vice versa is true for the negatively stated statements. And the reliability was $\alpha=0.85$. To determine the environmental attitude of respondents the mean scores were categorized into three: the mean scores greater than three representing favorable attitude category, undecided (apathetic) attitude described by mean scores of three and unfavorable attitude category comprising mean scores of less than three.

Finally the data were analyzed by using Statistical Package for Social Science: SPSS (version 20). Quantitative techniques: ANOVA, Tukey test/HSD/, eta square, T-test were applied for analyzing data and measuring of significance level. Generally, based on the result of study conclusions and recommendations were made.

III. RESULT AND DISCUSSION

Environmental Knowledge, Awareness and Attitude level of Respondents

As previously stated that the core intent of this study was to determine farmers' environmental behavior specially, attitude, knowledge and awareness level to environmental issues in Chenchaha Woreda, South Ethiopia. In Ethiopia, farmers' environmental literacy⁴ level has played crucial for the sustainable use of natural resources [land, forest, soil...]. Community's environmental knowledge, awareness, attitude and generally environmental behavior are very necessary for the development of community based and bottom-up natural resource management systems and strategies, especially in rural areas of the country. Environmental knowledge is a body of facts, and principles concerning environmental issues that accumulated by individual through study [14]. Meaning that, it is information about environmental problems, causes of the problems and consequences that have been accumulated by individual or group of community through personal observation, study and life experiences. In this study, respondents' environmental knowledge was measured by using

⁴ Environmental Literacy is a set of knowledge, understanding, skills, concerns, attitudes, and habits of mind that empowers people to relate their environment in a positive fashion, and participate in any environmental management activities as well as to establish environmentally sustainable economic and social activities.

standardized items. The result of study [about environmental knowledge] could be displayed in the following table (1). The table depicts that, 69.7% of the respondents categorized under high level of knowledge about environmental issues whereas

13% of them classified under low level of knowledge and the rest at medium level.

Table 1. Frequency of respondents' Environmental knowledge level

Level of category	frequency of respondents	
	No.	percent
High level of knowledge(11-15)	230	69.7%
Medium level of knowledge(6-10)	57	17.3%
Low level of knowledge(0-5)	43	13%
Total	330	100%

Source: field survey, 2016

For this enquiry, environmental awareness refers to: the attention, concern and sensitivity of the respondents to environmental problems, and natural resources conservation issues. The following table (2) presented the environmental awareness level of respondents. The data analysis revealed that nearly half of the respondents (56.1%) had high level of awareness about issues that related environment, environmental problems and conservation activities in the study area. On the

other hand 20% of 330 respondents mean scores showed that, they had low level of environmental awareness. Table (3) also displayed the environmental attitude of respondents. Environmental attitude refers to the acquisition of values, feelings, and motivations towards the environment, environmental problems, socio-economic and political issues that have association with management and conservation of natural resources.

Table 2. Environmental Awareness level of the respondents

Awareness level	Frequency of Respondents	
	No.	percent
High level of awareness (mean scores >3)	185	56.1%
Medium level of awareness(mean scores=3)	79	23.9%
Low level of Awareness (mean score <3)	66	20.0%
Total	330	100%

Source: field survey, 2016

As the survey analysis revealed that, out of the total respondents 238 of them had favorable attitude to environment, pro-environmental actions and conservation activities, whereas 33 respondents had unfavorable attitude. Consequently the

analysis showed that 33 participants had neither favorable nor non-favorable attitude about environmental issues, i.e. they were neutral or apathetic.

Table 3. Environmental Attitude of respondents

Attitude level(type)	Frequency of Respondents	
	No.	percent
Favorable (mean scores >3)	238	72.1%
Undecided (mean scores=3)	59	17.9%
Unfavorable attitude (mean score <3)	33	10.0%

Total 330 100%

Source: field survey, 2016

In general the study has shown that majority of the respondents in the study area had moderate and high level of knowledge, attitude and awareness about environment, environmental problems and pro-environmental activities and actions. Similar to this study some research findings [10, 12, 13, 14, 15, 16] showed that majority of the participants had good attitude, knowledge and awareness about global and local environmental issues as well as management systems & activities.

Comparison of Respondents’ Environmental Knowledge, Awareness and Attitude (KAA)

The difference in Environmental Knowledge, Awareness and Attitude (KAA) between genders

By assuming equal variance, there was no statistically significant difference in environmental knowledge result between male and female participants ($t(328)=-1.480, P=0.140, P>0.05$). The eta square, (η^2) value (0.0066) also reflected that there was very small relationship between the gender of respondents and their environmental knowledge, i.e their being male or female had about 0.66% effect on their score of environmental knowledge. The finding of [10] supported the current study result as gender had no significant impact on environmental knowledge. Regarding the environmental awareness level score of respondents, the two independent sample t-test revealed that, there was no statistically significant difference between female

and male participants ($n(t(328))=-1.492, P=0.137, p>0.05$). Similarly, the eta square (η^2) value showed that the gender of the respondents had very small effect on the awareness level of the respondents ($\eta^2=0.0067, 0.67%$). The study conducted on Iranian Students in Malaysian Universities found that, there was no significant difference observed in environmental awareness level between sex groups [12]. Moreover, [11] in their study concluded that gender is not a significant factor for environmental awareness level.

Also there was no statistically significant difference in environmental attitude scores between the genders ($t(328)=0.301, p=0.764, P>0.05$). Apart from the t-value, the eta square also showed that the effect of gender on respondents’ environmental attitude was very small ($\eta^2 = .0003$), among the total factors that affect the environmental attitudes of respondents. i.e., the gender of the respondents had merely 0.03% impact. In opposite of the result of this study, the research finding of [13] revealed that, girls had significantly favorable environmental attitudes than boys. Generally, from the analysis and t-test value we can conclude that, being male or female had no significant effect on the respondents’ score of knowledge, attitude and awareness level about environment, environmental problems and related issues.

Table 4. Independent sample test for comparing of environmental KAA* among gender group

Dependent variable	Sex	Mean	Std. Deviation	t-value	df	p-value
	F=36 m =294				328	
* Env. Knowledge	male	10.56	3.28			
	female	9.69	3.58	-1.480		0.140
Env. Awareness	male	49.01	11.93			
	female	45.86	12.27	-1.492		0.137
Env. Attitude	male	51.99	9.08			
	female	52.47	9.08	0.301		0.764

Envn. =environmental, KAA=Knowledge, Awareness and Attitude Source: field survey, 2016

Comparison of KAA between age groups

Age is one of the important factors that determine the environmental literacy and behavior of people in a particular area. In table (5) below one way ANOVA was used to determine the difference between age groups of respondents with respect to environmental knowledge, awareness and attitude. The analysis showed that there was statistically significant difference in environmental knowledge and awareness level among different age groups ($F(2,327)=9.132, P=0.000, P<0.01$) and ($F(2,327)=9.229, P=0.000, P<0.01$) respectively. The study undertaken [12] also showed that

there was a significant difference at the $p<0.05$ level in environmental awareness scores of respondents based on their age level [$F(2,491)=7.158, P =0.001$]. Regarding attitude, the study showed that there was no statistically significant difference in total score environmental attitude within the different age groups of respondents ($F(2,327)=0.660, P=0.518, P> 0.05$). This finding is found to be inconsistent with [12]; which showed very small statistical difference between environmental attitude within the different age groups of respondents ($F(2,513)=3.158, p=0.043$).

Table 5. ANOVA for comparing KAA between age group

Dependent Variables		Sum of Squares	Df	Mean Square	F	Sig.
Env. Knowledge	Between Groups	192.1298	2	96.0650	9.132	0.000*
	Within Groups	3440.004	327	10.51990		
	Total	3632.133	329			
Env. Awareness	Between Groups	2524.7960	2	1262.3980	9.229	0.000*
	Within Groups	44730.2009	327	136.7896		
	Total	47254.9969	329			
Env. Attitude	Between Groups	108.7419	2	54.371	0.660	0.518**
	Within Groups	26950.664	327	82.418		
	Total	27059.4060	329			

*P<0.01. **P>0.05 Source: field survey, 2016

The Post-hoc multiple mean comparison by Tukey test (HSD) showed that, there was significant difference in total scores of environmental knowledge between the age groups 20-35(M=11.39, ±SD=3.147) and >55(M=9.18, ±SD=3.643), and 36-55(M=10.46, ±SD=3.127) and >55. Similarly, the HSD test also indicted that, there was significance difference in mean score of environmental awareness level along with different age groups of respondents except the age between 36-55 and >55 at 0.05 significance level. The respondents with in age 20-35(M=52.65) had better environmental awareness mean score than respondents that had age between 36-55 (M=47.85) and the age above 55(M=45.91). Generally, from the analysis one can conclude that the mean score environmental knowledge and level of awareness significantly affected by the age level of respondents. That is, the younger the respondents were better than the aged one in knowledge and awareness about of environmental problems, possible causes and responsibilities in

the conservation of environment/natural resources/ in the study area.

Comparison of KAA between different Educational groups of respondents

As many empirical research and scientific explanations have pointed that educational status plays very crucial and indispensable role on the environmental behaviour of people. Educational status of local community helps to understand and synthesis environmental problems, and associated causes from scientific point of view and to have interest (positive response) for environmental management activities as well as to use the environmental elements in a sustainable manner. The following table (6) displayed the effect of educational status of respondents on environmental knowledge, awareness and attitude.

Table 6. ANOVA for comparing KAA among different educational status of respondents

Dependent Variables		Sum of Squares	df*	Mean Square	F	Sig.
Env. Knowledge	Between Groups	810.464		270.155	31.212	0.000**
	Within Groups	2821.669		8.655		
	Total	3632.133				
Env. Awareness	Between Groups	3364.839		1121.613	8.331	0.002**
	Within Groups	43890.158		134.632		
	Total	4725.597				
Env. Attitude	Between Groups	841.243		280.414	3.487	0.016**
	Within Groups	26218.163		80.424		
	Total	27059.4060				

* df_(3,326) **P<0.05 Source: field survey, 2016

From the one way ANOVA in the above table (6), we could infer that educational status of the participants of this study had statistically significant influence on respondents' level of environmental knowledge ($F_{(3,326)}=31.212, P=0.000, P<0.05$). Also the analysis was resulted in there was statistically significant difference for the total scores environmental awareness level ($F_{(3,326)}=8.331, P=0.002, P<0.05$) and environmental attitude ($F_{(3,326)}=3.487, P=0.016, P<0.05$) for different educational levels of respondents.

In order to determine the effect of each educational category level on respondents' environmental knowledge, attitude and awareness, HSD test was applied. Therefore, from the HSD test result one can conclude that, there was statically significant difference in environmental knowledge among the educational categories: (illiterate ($M=9.05, \pm SD=3.485$) and elementary ($M=11.77, \pm SD=2.355$), illiterate and secondary ($M=13.52, \pm SD=1.662$), elementary and secondary, elementary and adult education ($M=8.41, \pm SD=3.242$). This indicates that, respondents, the higher in educational status were the more knowledgeable in environmental issues. However the analysis showed that, the adult education contribution was very small, even the illiterate individuals had better environmental knowledge than those who had adult education status. This might be due to, lack of integration and incorporation of environmental issues and education in the adult education curriculum and programs. It may be also the shortage of the allocated time and delivery problems. Generally, the analysis showed that environmental knowledge of the community highly affected by the respondents' educational status. The higher educational level of respondent was the better knowledgeable in environment, environmental problems and related issues.

The Post hoc analysis, HSD test pointed that the environmental awareness level of the respondents had significant difference among different educational categories of respondents. For example total mean scores of awareness level of respondents who had secondary school education ($M=59.05, \pm SD=7.645$) was significantly different from respondents who had elementary education ($M=49.76, \pm SD=10.884$) and adult education ($M=44, \pm SD=10.386$). From this we can understand that the respondents that had relatively higher educational status had good concern, interest and they were sensitive to environmental problem and related issues. Unlike knowledge and awareness level, there was no statistically significance difference in environmental attitude expect those who had secondary education with illiterate individuals.

The researcher also attempted to assess the difference in environmental literacy among respondents those had and didn't have access of information about environmental issues. The study revealed that, out of 330 samples, 62% of them had access of information from different sources [like kebeles' leaders, Development Agents, schools, radio and other informal sources], even though it was not sufficient. There was statistically significant difference on score of environmental knowledge among respondents had and had no access of information about environmental issues ($t(328)=4.523, P<0.01$). The mean score of those who had and had no access of information was 12.27 and 8.59 respectively. Similarly, there was significant difference in score of environmental awareness among the respondents who had and had no access of information ($t(328)=3.482, P<0.05$).

The mean score of respondents had access of information was 52.15 and 45.89 was the mean score of respondents that didn't have access. However, the independent T-test showed that, there was no significant difference in score of environmental attitude among respondents who had and didn't have access of environmental information ($t(328)=1.736, P>0.05$). In conclusion, the educational level of respondents and access to information had their own significant contribution on the environment knowledge, awareness in particularly and environmental behavior of respondents in general. Similarly, [14] conducted a survey to measure environmental perception, knowledge, awareness, and attitude of educated and community groups in Jakarta, Indonesia, and they concluded that educated groups demonstrated higher levels of knowledge, awareness, and attitudes regarding global and local environmental issues than the illiterate community.

IV. CONCLUSION AND RECOMMENDATION

Assessment of environmental literacy level of farmers is very crucial for sustainable use of natural resources; conservation of biodiversity and restoring of degraded lands in rural areas of Ethiopia. It can be also basic input to develop and implement participatory sustainable environmental conservation systems and campaigns. In line these; this study was carried out to measure the environmental knowledge attitude and awareness of farmers in Chench Woreda, South Ethiopia. The study revealed that more than half of the surveyed farmers had moderate and high level of knowledge and awareness and favorable attitude for environment and pro-environmental activities. The study also found that the socio-demographic variables had its own influence on respondents' understanding, belief and perception to global and local environmental issues. The younger and the educated respondents had better knowledge, and awareness about environment and related issues. Moreover, the accessibility of education and information had its own contribution to the environmental literacy of respondents. Respondents that had access of environmental information had better score in environmental knowledge and awareness than those who didn't have access. Accessibility and provision of quality environmental information or education has indispensable contribution to improve the environmental literacy of farmers. However, the respondents of this study had no access of sufficient information about environmental issues. It is assumed that, improving environmental literacy level of farmers is an effort for sustainable use of natural resources. Therefore, to improve the community's environmental knowledge, attitude and awareness, the Government, Development Agents, NGOs and others should work together and support the provision of environmental education programs in the study area. In addition, efforts of all stakeholders should focus on improving the community's environmental education through training, conference, extension services, and mass Medias. Finally, environmental literacy level of farmers in Ethiopia has not yet studied and documented. Therefore, researchers are requested to conduct their research on these aforementioned issues in different part of the country.

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