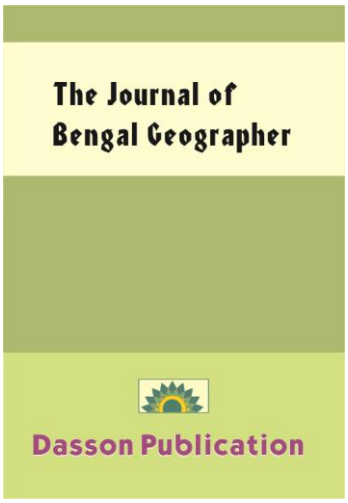
The Journal of Bengal Geographer



Dasson Publication
www.dassonpublication.com

Environmental awareness for sustainable regional planning and development: a study from Amboori, Thiruvananthapuram district of Kerala

Dr. Nishad N[1] & Dr. T.K.Prasad[2]

1. Asst. Professor of Geography, Government college Kariavattom Thiruvananthapuram,Pin;695581
2. Associate Professor, Department of Geography, Kannur University, Kerala,pin: 670327

Corresponding Email: tkprasadgeo@gmail.com

Abstract: *Environmental awareness is to understand the degradation of our environment and the prominence of its existence. Promoting environmental awareness is an important step to become an environmental sustainability and participate in creating a brighter future among us people. Education should be environmental friendly and make citizens to live in tune with nature. Recently environmental awareness among new generation is gradually diminishing. Most of our present generation focuses on profit and business-oriented nature. So, they are mainly engaged in deforestation and environmental destruction. As a result, we all are living in dangerous situations today and going to face the serious impact of the modern life style. Some of the ways to practice environmental awareness include: using safe and non-toxic building supplies, conserving energy and water, recycling, activism, and others. There is urgent need to create positive attitude towards environment particularly among adolescent category. Man should go hand – in – hand with nature. Present study analyses the environmental awareness of local people of Amboori, a fragile hilly region of Thiruvananthapuram, capital city of Kerala*

Key terms*: Environmental Awareness, Ethics, Deforestation, Environmental hazards, Afforestation, Sustainability*

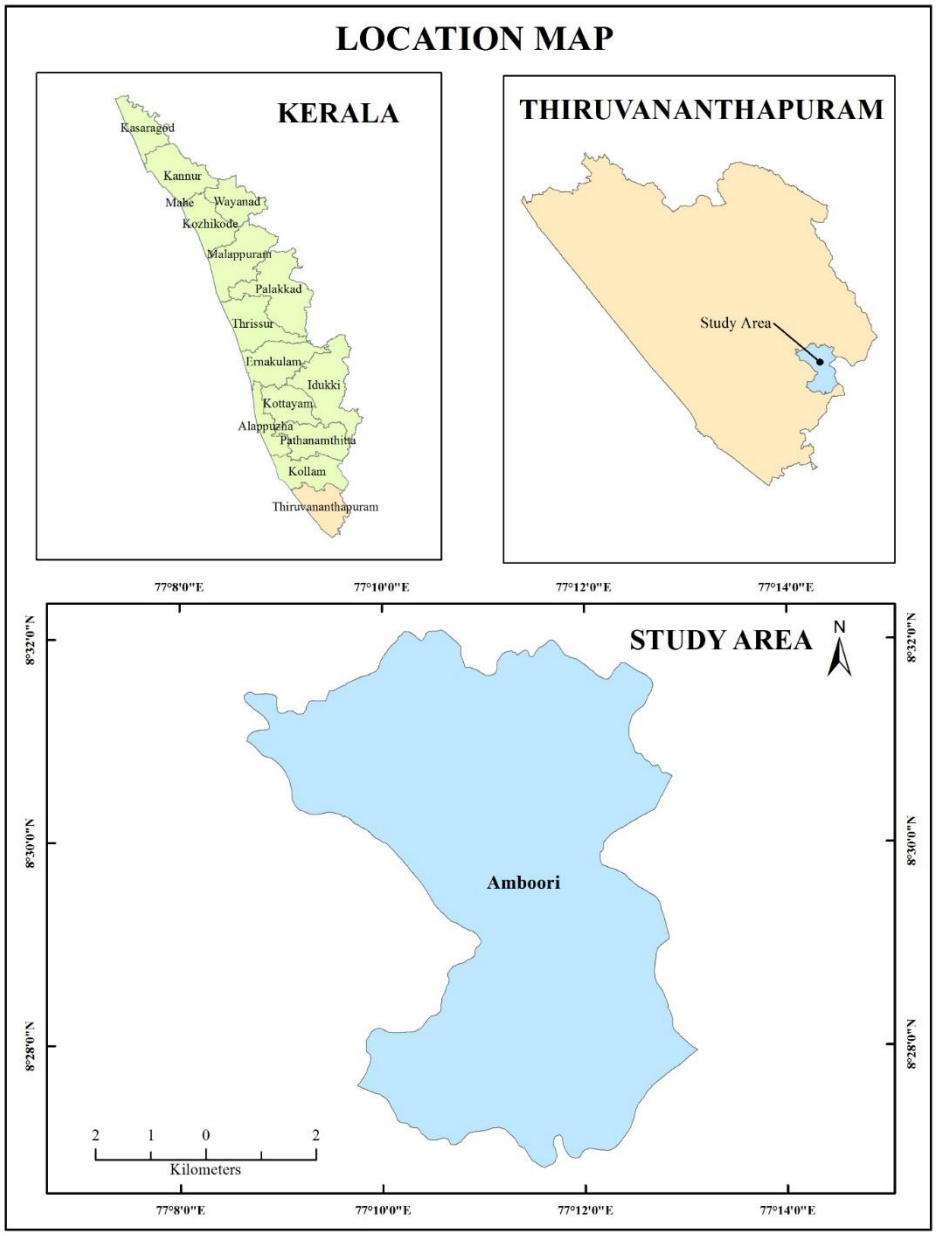
Introduction

Severe floods and associated deterioration occurred in Kerala, in 2018 and 2019, due to unusual high rainfall during the monsoon season. It is one of the worst floods in Kerala after the great flood that happened in 1924. It is difficult to attribute single event to climate change. In recent days, Kerala was caught under the threat of severe floods and associated consequences. This type of flood occurs mainly when overflow river banks. A downward trend of environmental education witnesses for such a natural disaster and necessitates the development of a deep sense of values and ethics with regard to the natural environment for the sustainability of life in Kerala state. It is the high time for the natives to understand their environment through field visit, they should realize drastic climate change from their experiential situation, and to familiarize with agricultural practices according to seasonal changes by keen observation. Our character has to be sharpened and structured as eco-friendly for sustainable development and our development isnatural and progressive. The discipline of geography open a way for deep understanding about ecological changes. The major environmental issues facing us today can only be understood from a geographical perspectives.(Nishad Nazeer,2020) A new beginning must be evolved from our children as eco character and should move simultaneously with health and well-being through sustainable life practices. In the context ofalarmingenvironmental problems, the natives should initiate environmental activities and be ready to form environmental committees in a judicious plan. The existing environmental conditions invites the need for the preservation and conservation of environmental heritage for the future generation.

Study Area

Amboori is a panchayath in Kattakkada taluk of Thiruvananthapuram district in the state of Kerala in India (Fig.1). Amboori panchayath situated 38 km south east of Thiruvananthapuram. The Amboori village has population of 15920 of which 4464 are males while 4785 are females as per Population Census 2011. Latitudinal location of Amboori is from8.1201º to 8.5041º N and longitudinal location is from 77.081º to77.196º E.

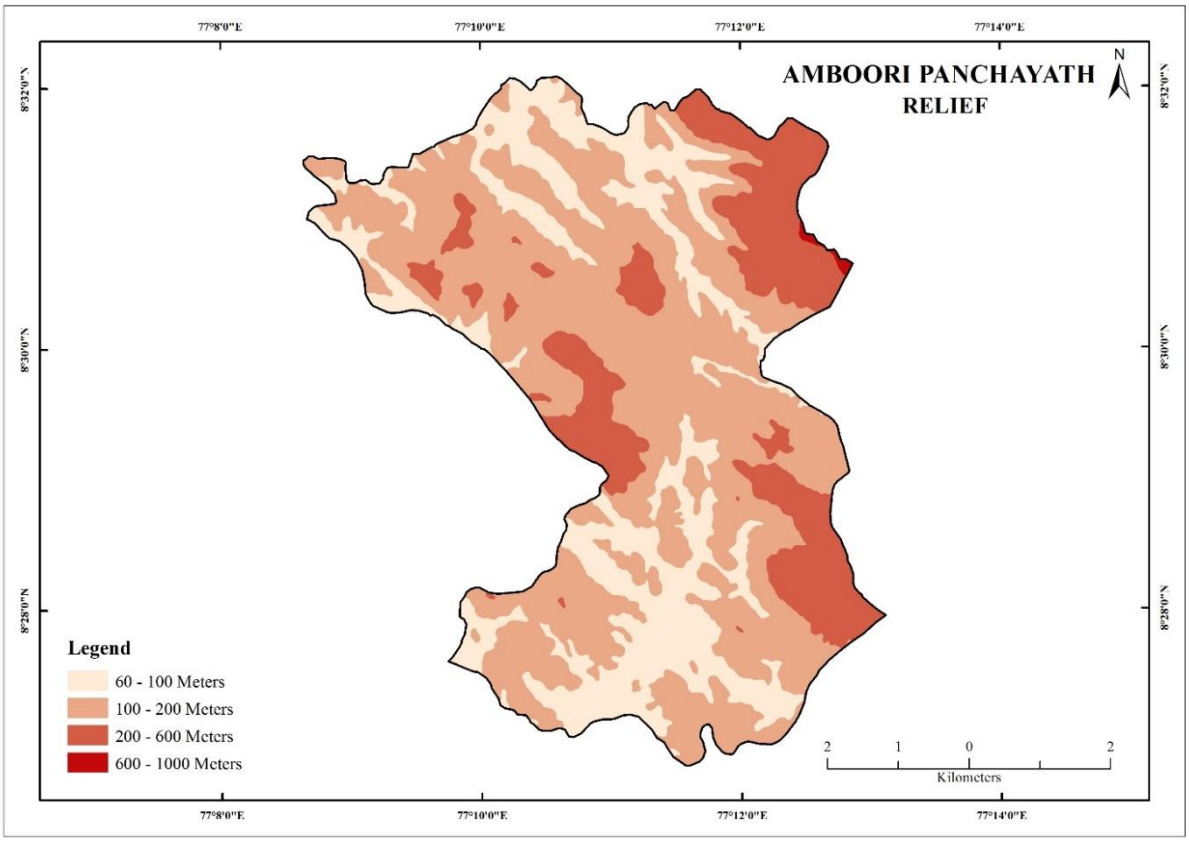
Fig. 1Location Map:Amboori Panchayat



Study area is characterized with diversified local relief. Altitude ranges from 60- 1000 meters (Fig. 2) A higher degree of slope in this region creates conditions for severe soil erosion and mass wasting. The hazards of landslides in this area is mainly determined by the characteristics of the land in the form of weathered geological conditions and rock structures, vary from flat to irregular or rugged topography which subjected to fast deep cut and rapid run off. The area is covered by Archean rocks covered by unconsolidated materials such as boulders, colluvium, laterite etc are susceptible to frequent landslides. It is noted with importance that on the day of the Amboori landslides, the

area experienced an exceptionally high amount of rainfall of 82.4mm, which triggering severe landslides. It is noted that agricultural practices along the slope often blocked the drainage course. Undulating rough and tough topography subjected to lack of proper flow of water resources and lead to water logging consequences. Several settlements in an area also affected seriously due to heavy toll of rainfall.

Fig. 2: Relief: Amboori Panchayat



Amboori landslide, one of the worst natural disasters of Kerala, had taken a heavy toll of life and property, besides exposing the vulnerability of the hilly area. In this context environmental awareness and ethics is essential among the native to maintain our ecological stability. Environmental geography is an emerging area of study through which a more ecologically sound and sustainable environment can be developed and maintained by exploring the relationship between man and nature. (Nishad Nazeer (2020) 'Geography Education, Instructional objectives and curriculum') Since the subject geography has its own relevance in seeking the positiveinteraction with nature, an attempt has been made by the investigator through this study, to develop sustainable eco system in this region. It is mandatory to follow multidimensional way and find the ways and means for the development of a sustainable environment in the most humane manner. Several research studies are undertaken and accomplished year after year. But in most cases very little attention is paid to an important dimension relating to environmental wisdom among local community of Amboori region. Infiltration, leaching and surface runoff depend on availability of rainfall, slope, soil type and land use practices. Western, north eastern and south eastern parts of the area has high relief topography and viable to huge runoff and soil erosion (Fig 2, Fig 3). Due to steep slope and continuous rainfall in the area causes sudden downward movement of the materials rapidly which leads to huge unexpected destruction. Hence the study found to be significant in the relief settings.

Fig. 3 Drainage: Amboori Panchayat

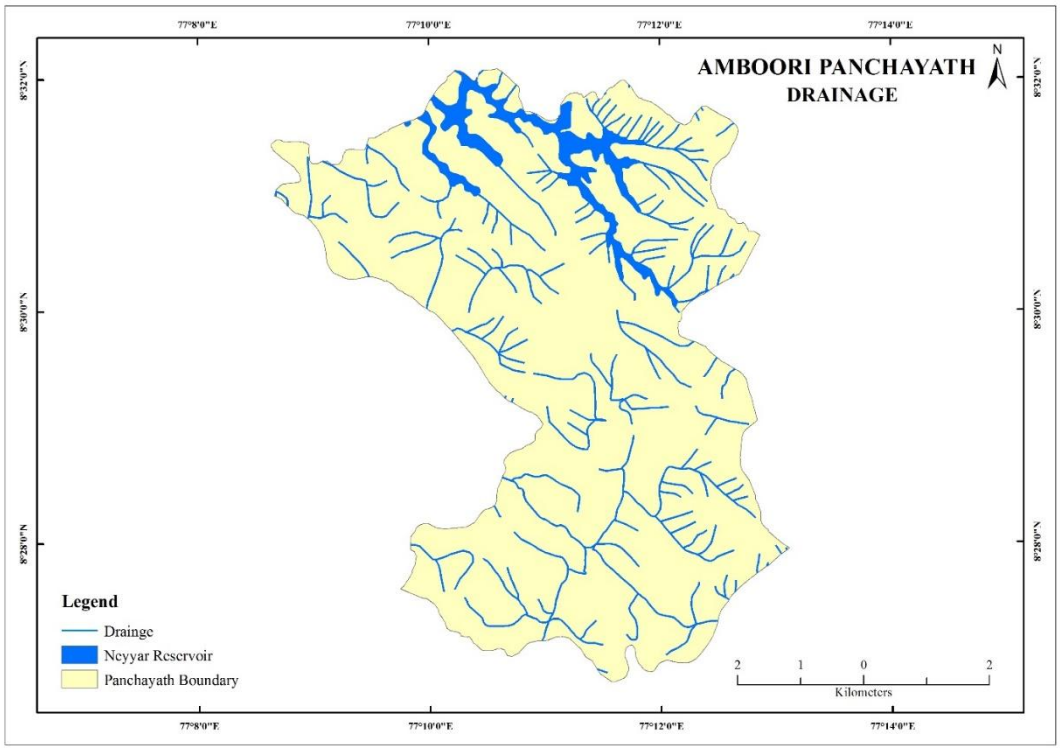
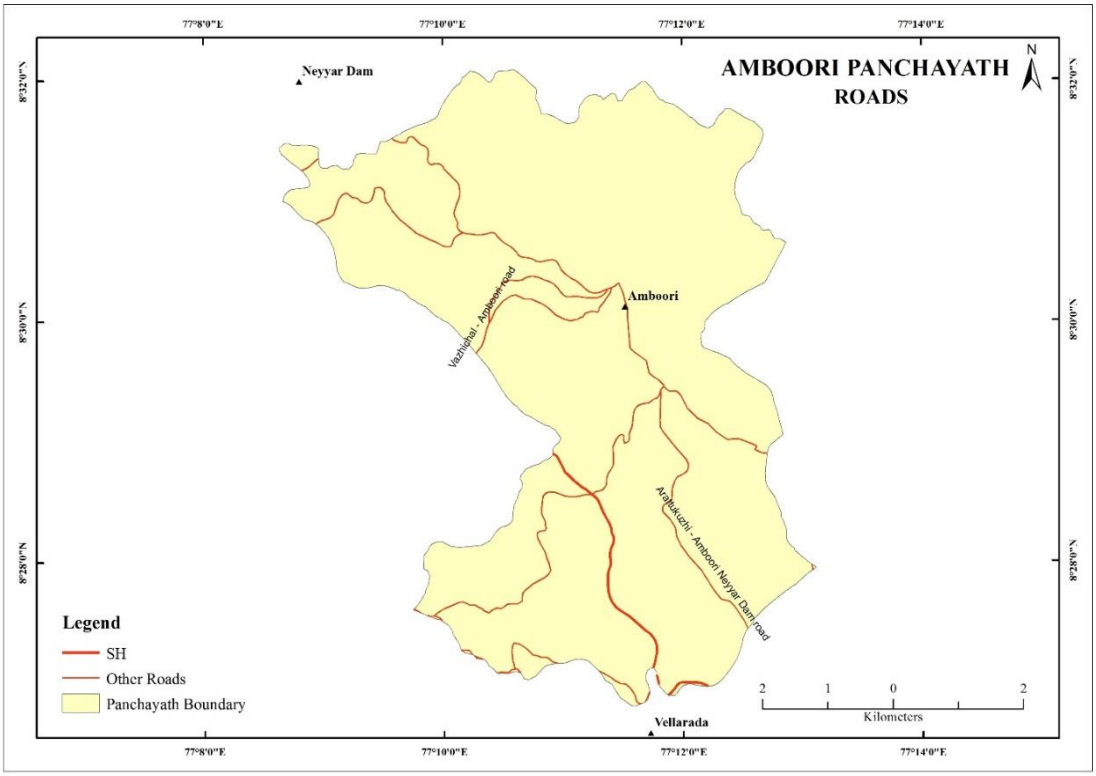


Fig. 4 portrays the distribution of roads in study area. Amboori region is mainly inhabited by the tribal population. Transportation network is not frequent in the area except periodical bus service and some private vehicles. Terrain of the area act as hostile in the development of transportation network in the region. People of the area mainly access towns either by walking or waiting long time to get a travel mode. Several studies and project have carried out every year even though any action from the part of the government has started yet refraining the region from the rest of the part. We have to follow sustainable life management for developing such hilly area of vulnerability in connection with transportation facilities.

Fig. 4 Roads: Amboori Panchayat



Methods and Tools

This is a primary study-oriented research work. Survey, Discussion and Interview with local Community and experts are the methods used. The population for the present study is local community and environmental experts of Kerala State.50 native people from Amboori region and 10 experts of Thiruvananthapuram district of Kerala state were selected as the sample. Tools and Materials used for the study are;

1. Environmental awareness questionnaire for local community.
2. Environmental Ethics scale
3. Interview schedule

Investigators followed review of available literature works and Prepared environmental awareness questionnaire with 30 items and environmental ethics with 25 items. Air, water and soil quality, sustainable development, environmental values, health and well beings are the major study dimensions.

Descriptive statistics used for the present study are Arithmetic Mean, Standard Deviation. Percentage Analysis the Inferential Statistical Techniques used in the study and T-test to test the level of significance of mean scores.

Analysis, Results and Discussion

Environmental Awareness of Local People of Amboori

In order to find the level of environmental Awareness of Amboori native, an environmental awareness questionnaire was conducted to a sample of 50 from local community. Based on the collected scores, the environmental Awareness was calculated with respect to arithmetic mean and Standard Deviation. The details regarding the level of environmental awareness are given in Table 1

Table 1: Environmental Awareness of Total Sample

Category	No. of people	Mean (M)	Standard Deviation (SD)
Total Sample	**50**	**17.61**	**9.6**

The Mean (M) of environmental Awareness of the total sample is 17.61 and Standard deviation (SD) is 9.6. Based on the scores, the whole sample was classified into high, average and low levels of Environmental Awareness. The distribution of scores of Awareness at different levels (M±SD) (Aggarwal, Y. P. (1988) Statistical Methods Concepts, Application and Computation) is given in Table 2

Table : 2Environmental Awareness among Amboori local community.

Sl No	Level of Awareness	Total No	Percentage
1	High	6	12
2	Average	18	36
3	Low	26	52
Total		50	100

From the Table 2, it is clear that majority of local community from Amboori region possess low level of Environmental Awareness (52%), 36 % possess average level and only 12% of people possess high level environmental Awareness. A graphical representation of the level of Environmental Awareness of native people is represented in Fig.5.

Fig: 5Level of Environmental Awareness among Amboori local community.

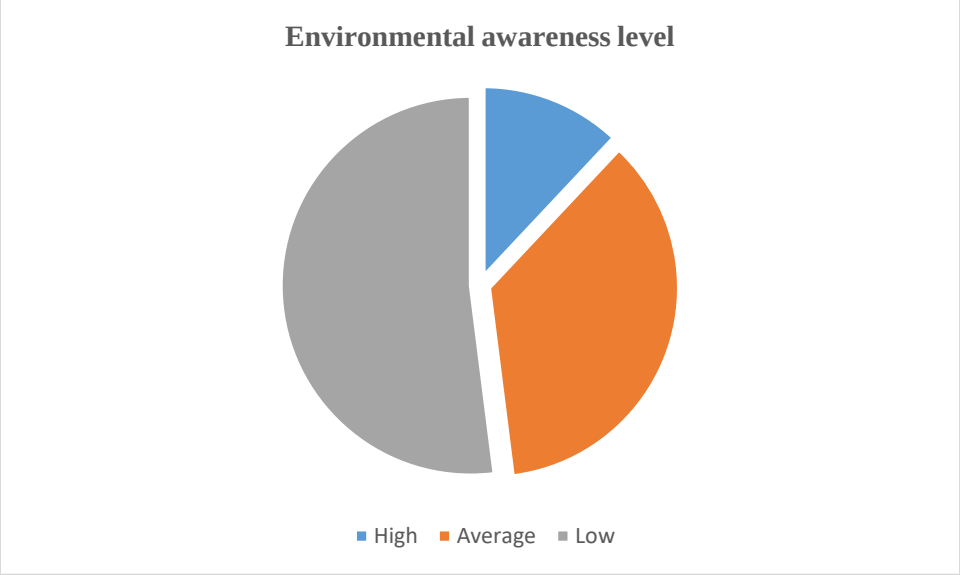


Fig. 5 shows the percentage of three levels of Environmental Awareness of the whole sample. 12% has high level of Awareness, 36% have average level of Awareness, and 52% have low level of Awareness. Thus from the result of the study, it can be revealed that the majority of people of Amboori region are belonging to low level of Environmental awareness.

Environmental Awareness and Gender

Comparison of the environmental awareness was done by categorizing the total sample into sub samples based on gender. To analyze the Environmental Awareness of Amboori people with respect to Gender, the data were collected from 28 women and 22 men. This was done by calculating the mean (M), Standard deviation (SD) and test of significance of difference between two means (t- test). The details of the comparisons of the Environmental Awareness of Amboori native with respect to Gender are shown in Table.

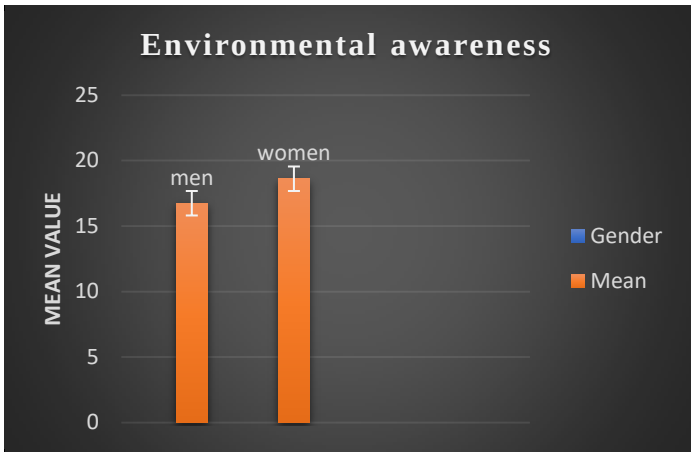
Table: 3Environmental awareness: Genderwise

Variable	Gender	No	Mean	SD	T value	Level of significance
Environmental awareness	Men	22	16.735	9.96	4.39	Significant at 0.01

	women	28	18.605	8.81		level

From the Table 3, it is clear that the Mean (M) of Environmental Awareness of women is 18.605 and Standard deviation (SD) is 8.81. While the mean (M) of Awareness on Environment of men is 16.735 and Standard deviation (SD) is 9.96. The t-value obtained for the main effect of gender on environmental awareness is 4.39. The calculated value is higher than the table value 2.59 at 0.01 level. Hence it is significant at 0.01 level. Mean scores indicate that women are more aware than men. A graphical representation of the mean of environmental awareness of local community based on gender is shown in Fig. 6

Fig. 6:Environmental Awareness and Gender



Thus to conclude, there is significant difference in Environmental Awareness of Amboori native based on gender. From the results of significant difference in the environmental awareness, women have higher environmental awareness compared with men. The study focuses on protection of bio diversity, prevention of human induced climatic change, reduce damage to atmosphere, reduction of pollution and judicial use of resources for the environmental sustainability. Afforestation can be supported without downfall of trees, must follow proper management of stream flow and agricultural practices.

Conclusion

Awareness is formed with observation and direct experiences. Environmental awareness does not advocate a particular viewpoint or course of action. Rather, it helps individuals how to weigh various sides of an issue through critical thinking and it enhances their own problem-solving and decision-making skills. Environmental education cannot be viewed as an area of study. It is a lifelong process that is infused in various other fields of study. Environmental education should be seen through a multidisciplinary perspective. Present study also focus this vein. The major conclusions arrived at on the basis of the statistical analysis of data is presented below under different subheads.

1) **Majority of local community possess low level of Environmental Awareness.** The above conclusion is substantiated by the following findings of the study. It is found that majority of local people from Amboori region possess low and average level of Environmental Awareness 52 and 36 percentage respectively.

2)Environmental awareness is high among women than men. The above conclusion is substantiated by the following findings of the study. It is found that the Mean (M) of Environmental Awareness on Conservation of Environment of women is 18.605 and men 16.375 The t-value obtained for the main effect of gender on Awareness of Conservation of Environment (t=4.39). The calculated value is higher than the table value (2.59) at 0.01 levels. Hence it is significant at 0.01 levels. Hence it can be concluded that women have higher environmental awareness.

The importance of environmental awareness and ethics must be incorporated among natives of Amboori for sustainable future and health of well-being. Women playing supreme role in conservation of natural resources, management of environment, sustainable development, natural hazards, and native environmental issues etc. as women are primary caretakers of environment.it is concluded that women from Amboori region actively involved environmental issues.

A study without proper implication in the environmental setting becomes meaningless. The application of geographical principles based on green concept become fruitful. Environmental awareness classes and campaigns enhances the feeling of go green from their own interest and involvement. Knowledge about various shelter trees and ideal contour agricultural practices become more beneficial to the local community particularly farmers. The human interventions on environment can scientifically controlled and support eco-friendly behavior, environmental knowledge, attitudes, values and interest. Field study and interview with experts marked a prominent changes in the regressive attitude of local people. Discussion and interview regarding Geological and Meteorological elements of Amboori region also favor the updating of knowhow. The opinion and suggestions of local people and environmentalist concerning the topography, soil erosion, surface run off and vegetation cover become crux role in the behavior of people. It is no use even if we have only technological know-how without adequate involvement of local communities to preserve our environment.

The present study address need of environmental awareness among native people from Amboori region. Modification of slopes by construction of buildings and road, some extent of mining and quarrying, excavation or displacement of rocks, prolonged rainfall etc causes unexpected and unpredicted destruction. It is essential to centralize knowledge from many sources such as traditional, scientific and technical know-how to reduce large scale destruction. Both formal and non-formal education need to be present in order to successfully disseminate knowledge about sustainable development. Only in this way can the society change its behaviour towards achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development.

Reference

1. Aggarwal, Y. P. (1988) Statistical Methods Concepts, Application and Computation. Sterling Publishers Private Limited, New Delhi, Second edition, 1988. pp 379.

2. Barai, D. C. and Naganna C. (1979) Criteria for Delimiting Drought Prone Area -A Case study Of Karanataka. Proceedings of the all India, Rayalaseema Geographical Society, Tirupati, ppl 33-146.

3. Census of India (2001) Provisional Population Tables, paper-1 of2001, Census of India 2001, Series -28, Maharashtra.

4. Dixit, Jutta (1983.) Identification of Drought Prone Area and prediction of Crop Expectations in Maharashtra. Geographical Review of India No. 4 p.p 49-81.

5. Mishra, R.P. (1972) Planning for a Drought Prone Area - A Case study of Chitradurga,Karnataka. Part III A&B Institute for Development Studies, Mysore, pp 143 and 173.

6. Pal, M. N(1971): Regional Disparities in Levels of Development in India. Indian Journal of Regional Science Vol. VII No.l, 1971, p 36.

7. Singh, Tapeshwar (1978) Drought Prone Areas in India, People's publishing House, New Delhi, ppl24.

9. Savindra Singh (2005) Enviromental Geography, Pravalika Publications, Allahabad,Fourth edition.

10. S.C Santra (1995) Environmental science, Lambert Publication Second edition, pp 187-189.

11. Subrahmanyam, V. P. (1958) Drought and Aridity in India A climatic study Proceedings of Symposiu7m on MeteorologicalAspects of Floods andDroughts in India, New Delhi. P.P. 171-177*

12. Nishad Nazeer (2020) 'Geography Education, Instructional objectives and curriculum' Lambert Publication.