

RESEARCH ARTICLE


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

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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 environmentally sustainable and participate in creating a brighter future among us people. Education should be environmentally friendly and make citizens live in tune with nature. Recently environmental awareness among the 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 lifestyle. 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 an urgent need to create a positive attitude towards the environment, particularly among the adolescent category. A 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, the capital city of Kerala. In the context of alarming environmental problems, the natives should initiate environmental activities and be ready to form environmental committees in a judicious plan. The existing environmental conditions invite the need for the preservation and conservation of environmental heritage for the future generation.

Keywords: Environmental awareness; ethics; deforestation; environmental hazards; afforestation; sustainability

Introduction

Severe floods and associated deterioration occurred in Kerala, in 2018 and 2019, due to unusually 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 a 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 about 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 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 is natural and progressive. The discipline of geography opens a way for a deep understanding of ecological changes. The major environmental issues facing us today can only be understood from a geographical perspective. In the context of alarming environmental problems, the natives should initiate environmental activities and be ready to form environmental committees in a judicious plan. The existing environmental conditions invite the need for the preservation and conservation of environmental heritage for the future generation.

Study area

Amboori is a panchayath in the Kattakkada taluk of Thiruvananthapuram district in the state of Kerala in India (Figure 1). Amboori panchayath is situated 38 km southeast of Thiruvananthapuram. The Amboori village has a population of 15,920 of which 4,464 are males while 4785 are females as per population census 2011.

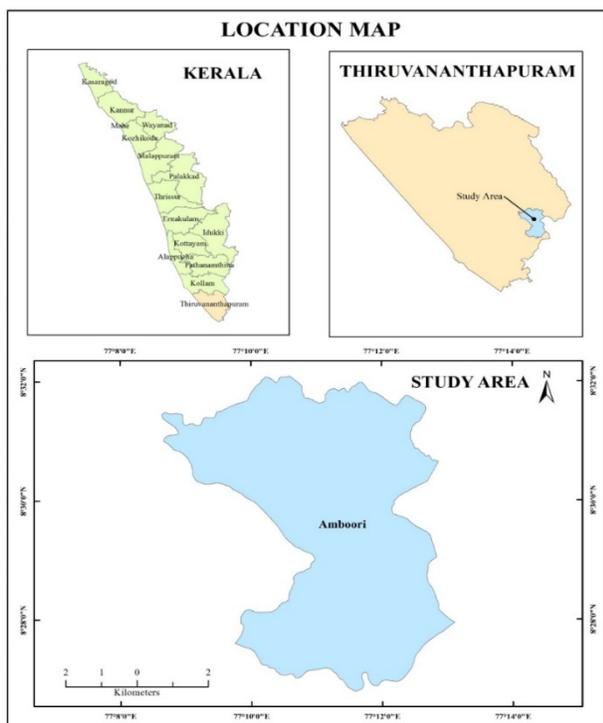


Fig. 1. Study Area

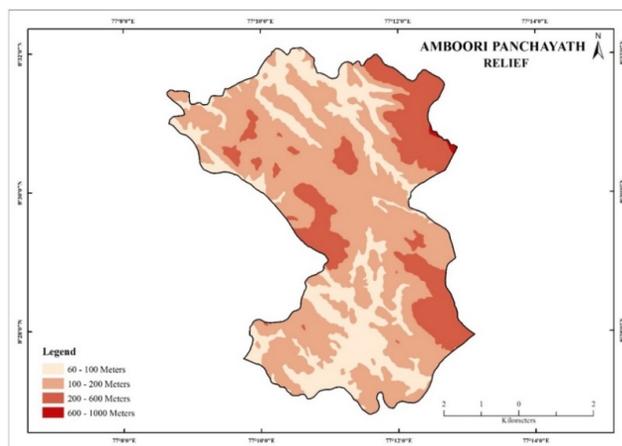


Fig. 2. Relief

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 of geography has its relevance in seeking a positive interaction with nature, an attempt has been made by the investigator through this study, to develop a sustainable ecosystem 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 the local community of the Amboori region. Infiltration, leaching, and surface runoff depend on the availability of rainfall, slope, soil type, and land-use practices. Western, northeastern, and southeastern parts of the area have high relief topography and viable to huge runoff and soil erosion (Figures 2 and 3). The steep slope and continuous rainfall in the area cause sudden downward movement of the materials rapidly which leads to huge unexpected destruction. Hence, the study was found to be significant in the relief settings.

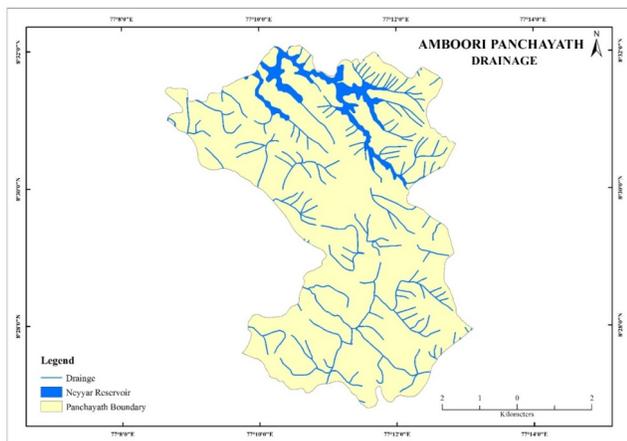


Fig. 3. Drainage

Figure 4 portrays the distribution of roads in the study area. Amboori region is mainly inhabited by the tribal population. The transportation network is not frequent in the area except for periodical bus service and some private vehicles. The terrain of the area act as hostile in the development of the transportation network in the region. People of the area mainly access towns either by walking or waiting a long time to get a travel mode. Several studies and project shave been 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 a hilly area of vulnerability in connection with transportation facilities.

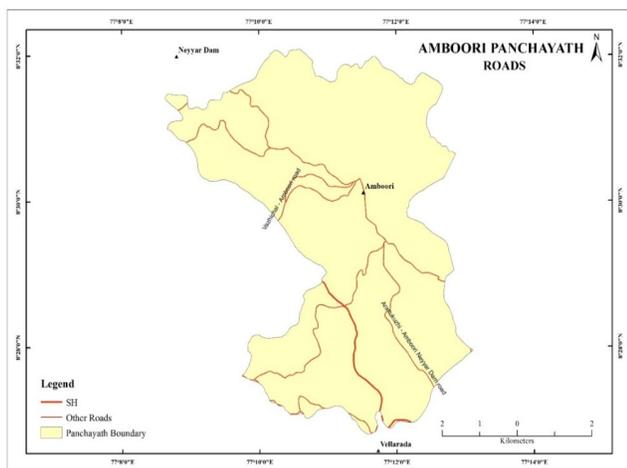


Fig. 4. Roads

Methods and tools

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

Investigators followed a 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 of 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 natives, an environmental awareness questionnaire was conducted on a sample of 50 from the local community. Based on the collected scores, 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

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

The Mean (M) of environmental Awareness of the total sample is 17.61 and the 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 ($M \pm SD$) (Aggarwal, Y. P. (1988) Statistical Methods Concepts, Application and Computation) is given in Table

From the Table, it is clear that the majority of the local community from the Amboori region possess a low level of Environmental Awareness (52%), 36 % possess an average level and only 12% of people possess a high-level of environmental Awareness.



Environmental awareness and gender

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

Table 2. Environmental awareness and variable.

variable	GenderNo	Mean	SD	T value	Level of significance
Environmental awareness	Men 22	16.735	9.96	4.39	Significant at 0.01 level
	women 28	18.605	8.81		

From the Table, it is clear that the Mean (M) of Environmental Awareness of women is 18.605 and the Standard deviation (SD) is 8.81. While the mean (M) of Awareness on Environment of men is 16.735 and the 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.

Thus, to conclude, there is a significant difference in the Environmental Awareness of Amboori natives based on gender. From the results of the significant difference in environmental awareness, women have higher environmental awareness compared with men. The study focuses on the protection of biodiversity, prevention of human-induced climatic change, reduction of damage to the atmosphere, reduction of pollution, and judicious use of resources for environmental sustainability. Afforestation can be supported without the 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. The present study also focuses on this vein. The major conclusions arrived at on the basis of the statistical analysis of data are presented below under different subheads.

1. **Majority of the local community possesses a 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 the Amboori region possess low and average level of Environmental Awareness 52 and 36 percent 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 a sustainable future and health of well-being. Women playing a supreme role in the conservation of natural resources, management of the environment, sustainable development, natural hazards, and native environmental issues, etc. as women are primary caretakers of the environment. It is concluded that women from the Amboori region are actively involved in environmental issues.

A study without proper implication in the environmental setting becomes meaningless. The application of geographical principles based on the green concept become fruitful. Environmental awareness classes and campaigns enhance 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 the environment can scientifically be controlled and support eco-friendly behavior, environmental knowledge, attitudes, values, and interest. Field study and interviews with experts marked prominent changes in the regressive attitude of local people. Discussion and interviews regarding the Geological and Meteorological elements of the Amboori region also favor the updating of know-how. The opinion and suggestions of local people and environmentalists concerning the topography, soil erosion, surface runoff 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 for environmental awareness among native people from the Amboori region. Modification of slopes by the construction of buildings and roads, some extent of mining and quarrying, excavation or displacement of rocks, prolonged rainfall, etc causes unexpected and unpredicted destruction. It is essential to centralize knowl-



edge 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 society change its behavior towards achieving environmental and ethical awareness, values and attitudes, skills, and behavior consistent with sustainable development.

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