Importance of Environmental Education: A Study on Environmental Awareness in Tea Garden Areas of Assam

Bhupen K Baruah[*] and Abani Kumar Misra[1]
*Department of Chemistry, GIMT-Tezpur, Sonitpur, Assam, India
[1]Department of Chemistry, USTM, Meghalaya, India
Email id: akmishra_gu@rediffmail.com

ABSTRACT

The adverse effects of hazardous chemicals used in tea gardens as well as the significant potential risks to the human life and its supporting systems are not properly recognized till now in Assam. Injudicious use of chemical fertilizers, pesticides in the tea gardens have become a cause for serious concern as it has adverse effect on soil and water environment and on its populations. Economics, social studies and environment aspects are integrated into the development processes presently by developed countries. But in India, particularly in Assam practically still there are big gap among them. This study focuses on use of common chemicals in tea gardens with hazardous characteristics and their hazards impact on populations and environmental awareness among tea labors of Assam, India. It evaluates the awareness of a group of 250 tea labors from 8 tea gardens. The 250 respondents were selected based on stratified random sampling method. A set of questionnaire which comprised of 15 questions was applied as instrument for data collection. The study reveals that there a significant difference observed between two gender groups while environmental awareness results indicated that there were significant differences among different levels of education. The study concluded that increase on age and educational level would improve the level of awareness among the masses.

Keywords: *Tea labors, environmental awareness, environmental education*

INTRODUCTION

Large scale anthropogenic activities to natural environment accelerate threats to the human beings through water scarcity, food scarcity and infectious diseases. Deterioration of soil and water quality due to geological conditions and injudicious use of agrochemicals and pesticides in tea gardens is now a serious issue in tea industries of Assam. The adverse effects of hazardous substances as well as the significant potential risks posed by them to the human life and its supporting systems are not properly recognized till now in Assam. Awareness, knowledge, attitudes, skills and participation are the main goal and objectives of environmental education curriculum recommended by UNO [1]. The UNESCO-UNEP International Environmental Education Programme has also emphatically pointed out to improve the effectiveness of environmental education system which has its grips on environmental pedagogy that required at present at all levels of education system [2]. The main aim of environmental educational programme is to provide scientific knowledge and insight into the real nature, scope, importance and conceptual clarification of the issues involved which is inevitable for sustainable development [3]. Environmental education is most effective in creating long lasting behavioural changes that encourages people to explore, investigate issues and seek solutions regarding the environment and related social problems [4].

Assam contributes 55% percent of country's orthodox tea and flavored tea output and more than 24 percent of states total tea production. It is estimates that 40 percent of tea bushes are over 50

years of age and 10 percent are of between 40- 50 years [5].

Relation between tea quality product and the environmental awareness among the tea labors is a matter of serious concerns at present as it is a social issue and increase in environment awareness among tea labors can increase productivity. Environmental awareness towards local environmental issues has not been explored much in tea garden localities. Therefore there is an urgent need to study the environmental awareness among the labors of tea gardens of Assam for better and quality production of tea output.

METHODOLOGY

This is a community based cross sectional study. It was conducted in 8 tea gardens which were randomly selected by lottery method from 35 tea gardens of Assam representing all geographical locations to avoid any biasness of the data. The sample size was chosen based on stratified random sampling method. A total of 250 tea labors (5.4 % of total population) were selected during the year 2012-2015. In this study tea gardens were selected based on the annual production, ownership of the tea gardens and total area of plantation. A questionnaire was designed encompassing 15 questions of were distributed and discussed with them. Stratified random sampling method was applied to evaluate the subpopulations including level of education, gender and age in this work [6]. To measure environmental awareness that is the concern for what is happening in the environment, a series of questions inquiring about the global environment were asked. The acquisition of values, feelings, and motivations towards the environment, questions, regarding the environmental issues were also used.

Out of the total respondents 57% were male labors and 43% female labors. All respondents were of three types of age groups firstly between 15-25 years, 25-40 years and >40 years. A total of 15 marks was computed whereby for 15 questions that were given, each question represents to has 1 score. If the respondent had selected the correct answer they were given 1 score and for wrong answer they will set 0 score. Respondent's awareness on environmental awareness was categorized according to the composite score of responses of fifteen questions. Respondents who score 0 to 5 have a low awareness, 6 to 10 moderate awareness, and 11 to 15 have a high awareness on environment.

Descriptive statistical technique was used to analyze data from the questionnaire. Independent samples t-test was used as a test of statistical significance. The procedure was applied to compare means of the two independent groups of variables (male and female). For three groups of age including 15-25, 26-40, >40 and educational level (below VII standard and above), One Way ANOVA was applied. The collected data were analyzed utilizing the Statistical Package for the Social Sciences (SPSS-Version13.0).

RESULT & DISCUSSION

Analysis of composite scores that computed from individual scores averages shows that majority of respondents (67.82 %) were unknown about environmental awareness, 32.18% were aware about it**.** An independent

sample t-test was conducted to evaluate whether there are any difference between genders groups (male and female respondent) regarding to the environmental awareness level. The statistical t- test in this survey between the male and female groups shows the mean for male is slightly higher than female, 10.29, 9.16 and with ± SD 2.981 and ± SD 2.453 respectively and conclude no significant difference in environmental awareness between the two groups [t =0.385, p=0.600]
This is indicates that male labors has slight higher environmental awareness than female respondents. A One Way ANOVA was conducted to investigate whether there are any differences in environmental awareness scores between different educational levels.

The environmental awareness among the three level of educational levels indicates that higher than "X" standards respondents have more awareness towards environment than the other two other groups. Also results showed that there was a significant difference at the $p<0.05$ level in environmental awareness scores for the three age groups. This is indicates that older age groups respondents have more awareness towards the environment than the two other groups.
In this study it was found that more than 70% tea labors were unaware about the hazardous effects of common chemicals use in tea gardens. The respondents were more concerns about environment when the environmental impacts were more specifically related to their lives i.e. diseases suffered by the respondent's or their relatives [7].

CONCLUSION

Overall, results demonstrated that the majority of tea garden localities in this study had a low level of environmental awareness. Regarding gender, the present study revealed a significant difference between two genders on environmental awareness. The environmental awareness of the labors in this study showed that the increase of age and educational level regardless of gender differences have shown significant differences. Environmental awareness among gender groups showed that there was no significant difference between male and females between ages 15-25 years of age.

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