

THE PERCEPTION OF TEA PLANTATION COMMUNITY ON CLIMATE CHANGE: CASE STUDY AT THAMBALAGALA ESTATE, MATALE

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Introduction

Climate change is a major threat that affects all living beings & natural system of the earth. It is also considered as a major reason for most of the present environmental problems in the world. The Intergovernmental Panel on Climate Change (IPCC) defines climate change as “a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer” (IPCC, 2007).

Climate is changing worldwide and Sri Lanka as a small island in the Indian Ocean is facing serious threat from various effects of climate change such as sea level rise, floods, droughts, and extreme weather conditions (Akiko Yamane, 2004). These threats are considered to have significant negative consequences on various sectors which are highly depending on climatic conditions. Agriculture is one of the most important sectors that extremely vulnerable to climate change (Basnayake and Premala, 2008). Being an agricultural country, Sri Lanka is facing severe risk from impacts of climate change in the recent past. However, majority of the people who are affected or vulnerable to this climate change are still unaware of it. In addition to that, Tea plantation community is more vulnerable to the impacts of climate change due to the fact that their livelihood is mainly depending on tea, which in turn is extremely sensitive to effects of climate change.

Methodology

The main objective of this study is to understand the changes, causes, consequences, mitigations & adaptation measures of climatic change through the perception of tea plantation community. The research problem of the study is to find out how much tea plantation community is aware of climate change. The study was carried out in Thambalagala Estate, Matale district in 2010. Since the study area belongs to Upcountry Intermediate Zone, it receives annual rainfall of about 1600mm and annual average temperature about 18^oC. The total land extent of the study area is about 556.34 ha. While about 80% of the land is devoted for tea cultivation, home gardens, settlements and forest have been distributed over the remaining land. Study area has a population of about 1199 people (GS Report, 2010).

A methodological triangulation for data collection was used in the study and Questionnaire survey, key informant interviews, and focus group discussions were conducted. In this study, tea plantation community comprises estate superintendent, chief clerk, supervisors, field officers, estate workers, retired estate workers, business men and youth. Three key informant interviews were conducted with Estate superintendent and chief clerk. Out of the total population, 30 samples were selected for the questionnaire survey through purposive

sampling method. The collected data from above sources were analyzed using qualitative (ranking and descriptive methods) and quantitative methods.

Discussion and Conclusion

Study revealed that tea, the main economic activity of the study area is directly linked with climatic conditions. Being a most nature dependent livelihood, the community faces several negative impacts and unfavorable conditions to carry out their day to day life in recent past. The changes in weather patterns and climatic conditions have been highly influenced the productivity of tea and livelihood of community. In addition, this study identified that tea pluckers have been suffered a lot from sudden and heavy rainfall, increased temperature, storm, thunder and lightning. The following statement of Senior Estate Superintendent, Chief Clark and Estate worker confirmed the seasonal changes, extreme weather conditions and its impact on tea cultivation

"We cannot use conventional methods to predict the climate conditions. North-East & South-West monsoon seasons have changed at present. Not like other crops, tea is more vulnerable and sensitive crop to the climate change. The continuation of this problem will lead severe impact on the sustainability of the tea cultivation in this area" (Mr.K.H.Wicramasinghe, Senior Superintendent, 2010)

"The climate change has serious threats on tea cultivation. Particularly, during the heavy rainy season tea crops affect by several diseases. Like this, in drought period tea crops dry out or wilt. However we are ready to face the consequences of changing patterns of climate. For example: To protect the tea crops from disease we are using chemicals" (Mr.V.Chandrakumar, Chief Clark, 2010)

"This is not the weather condition we used to be familiar with in the past. Thunder and lightning affect unexpectedly than before. If rainy period starts we are very much in fear to go to the field. We cannot predict the weather conditions before go to the field, but this experience is very new to us" (T.Karuppai, Estate Worker, 2010)

To certain extent climatic changes observed by the community in the study area were comparable with the evidences and experiences of the climatic changes in Sri Lanka. Sudden heavy rainfall with thunder and lightning, day time drought and heavy rainfall in the evening time, long dry period, un- predictable weather conditions, impact on other cultivations and incompatible environment are some of the changes observed by the community in their day to day life. In addition, the community had a clear idea about the changes experienced by them in their environment. However, root causes of these changes and its implications were most likely varied among the community people. Following table shows the ranking of causes of climate change obtained through public perception.

Table: 01. Ranking of Causes of Climate Change through Public Perception

| Rank | Causes | Percentage | |
|------|-----------------------------|------------|-----|
| 01 | God | 56% | 88% |
| 02 | Time | 12% | |
| 03 | Sins of human | 12% | |
| 04 | Dark era age of retribution | 08% | 12% |
| 05 | Natural Changes | 08% | |
| 06 | Cutting down trees | 04% | |

According to the community perception, only 12% consider climate change is a phenomenon which can be explained scientifically. In contrast, 88% of the causes were

relatively deviated from the actual causes of climate change. Among these causes, power of God comes first. Even though the staff (Superintendent, Chief Clark, supervisors, field officers) of the estate aware of fundamental causes of climatic change and its implications, the people who work in the field still unaware of the exact causes. Similarly, adaptation and mitigation measures which were identified through the public perception also deviated from exact measures. Following table shows the summary of the suggestions proposed by the community to fight with the impacts of climate change.

Table 02. Proposed Suggestions by the community on Impact of Climate change

| Acceptable Suggestions (Scientific) | Other suggestions |
|--|---|
| "If we stop cutting down tree, drought can be mitigate" | "If god decides to stop climatic condition will be calm" |
| "It is better to move to a different environment where disasters & other destructions are minimized" | "We have never ever think about this" |
| | "How can we stop natural occurrences" "no one can stop or mitigate" |
| | "Do not know what we will have to do" |
| | "If we do good things this kind of occurrences will not happen" |

These suggestions indicates that majority of the community is unaware of the appropriate suggestion to the climate change impacts. However, few people were aware of the mitigation and adaptation measures of climatic change to certain extent.

The findings of the study can be summarized as follows; the tea plantation community has a fundamental knowledge on the nature of the climate change and its impacts. Most of them were confused with the scientific causes of climate change and adaptation and mitigation measures. Even though the tea plantation community is unaware of scientific knowledge on climate change and its implications, the study noticed that the community had indirect virtual memory on this. Finally in conclusion the study identifies an urgent need of educating the community properly about climate change and its implications, particularly the causes of climate change, mitigation and adaptation measures to fight with the effects of climate changes at present and future in advance.

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