

**A SOCIO-ECONOMIC ANALYSIS ON ENVIRONMENTAL HEALTH  
ISSUES IN THE HAMBANTOTA DISTRICT OF SRI LANKA****Dr. G. Edirisinghe\*<sup>1</sup> and Upali Pannilage<sup>2</sup>**<sup>1</sup>Senior Lecturer, Department of Geography University of Ruhuna.<sup>2</sup>Senior Lecturer, Department of Sociology University of Ruhuna.

Article Received on 27/04/2018

Article Revised on 17/05/2018

Article Accepted on 06/06/2018

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**ABSTRACT**

This article is based on a study conducted to identify causes and impacts of environmental health issues in the Hambantota district which is situated in the Dry Zone of the southern province of Sri Lanka. The analysis has included both primary and secondary data.

The Tango Divisional Secretariat area was selected to collect primary data. Total number of 50 households has been selected as the sample through simple random method to represent the population of the study location. It has been identified that the lack of clean drinking water as the main causes for environment related diseases in the area. The reasons for non-availability of clean drinking water as identified in the study were vary. Some of those reasons include unplanned commercial activities, poor urban planning and ignorance of the resident to keep their vicinity clean. The area has considerably affected from the frequent draught prevailing in the area. The study has concluded with that the non- availability of a proper drainage system and waste disposal system in the city due to poor urban planning has considerably contributed for the environmental health issues of the people. The impacts of health issues on the lives of local residents have been identified as increased expenditure for treatments, low productivity and increased death rate.

**KEYWORDS:** Environment; Health; Pollution; Urbanization; Water.

## INTRODUCTION

In the past, man used natural resources in a well-balanced manner. However when the population increased human needs became more complex. The natural balance between man and the nature was deteriorated and it began to cause threats to human health. Hence, the concern for nature became so much important and a change for the entire mankind.

It is an established fact that the conditions of health all over the world have improved with the development of knowledge. However the environment has coupled with technological advancements that mental health begins to collapse. Today, the influence of environment on public health is one of the key areas for concern. Thousands of children deaths occur annually due to diarrheal diseases, cholera pneumonia, malaria and measles. Every day almost 131,500 children are estimated to breathing difficulties as a result of polluted air and 300-500 million suffer from malaria and annually one million die (WHO, 2010). Some scientists have identified that "climate change is the biggest global health threat of the 21st century," a team of British scientists and academics wrote in *The Lancet* in 2009. Relations between climate and diseases with various methods of transmission (vector-, water-, food-, soil-, and airborne) have been identified (Colwell & Patz 1998; Epstein 2001), with the strongest relatives being between climate and mosquito-borne diseases (Ebi et al., 2005; Rogers and Randolph 2000; Small et al. 2003). Although widely held as the world's most important arbovirus, only one review of potential climate change effects on dengue virus transmission has been published with a focus on tools presently used to establish climate-disease relations (Thai & Anders 2011). There are serious concerns that global warming will result in an increase in deaths and sickness related to the consequences of heat waves and the spread of diseases like malaria and dengue fever.

Non communicable diseases is an emerging health problem in Sri Lanka (Health Bulletin, 2013) with increasing urbanization and the accompanying life style changes, people are increasingly exposed to risk factors for non-communicable diseases. Meantime, tuberculosis (TB) is an infectious disease caused by bacteria whose scientific name is *Mycobacterium tuberculosis*. Developing countries responsible for around 95% of the global TB burdens as most of the affected people are from developing countries and known as disease of poverty (Health Bulletin, 2013).

## MATERIALS AND METHOD

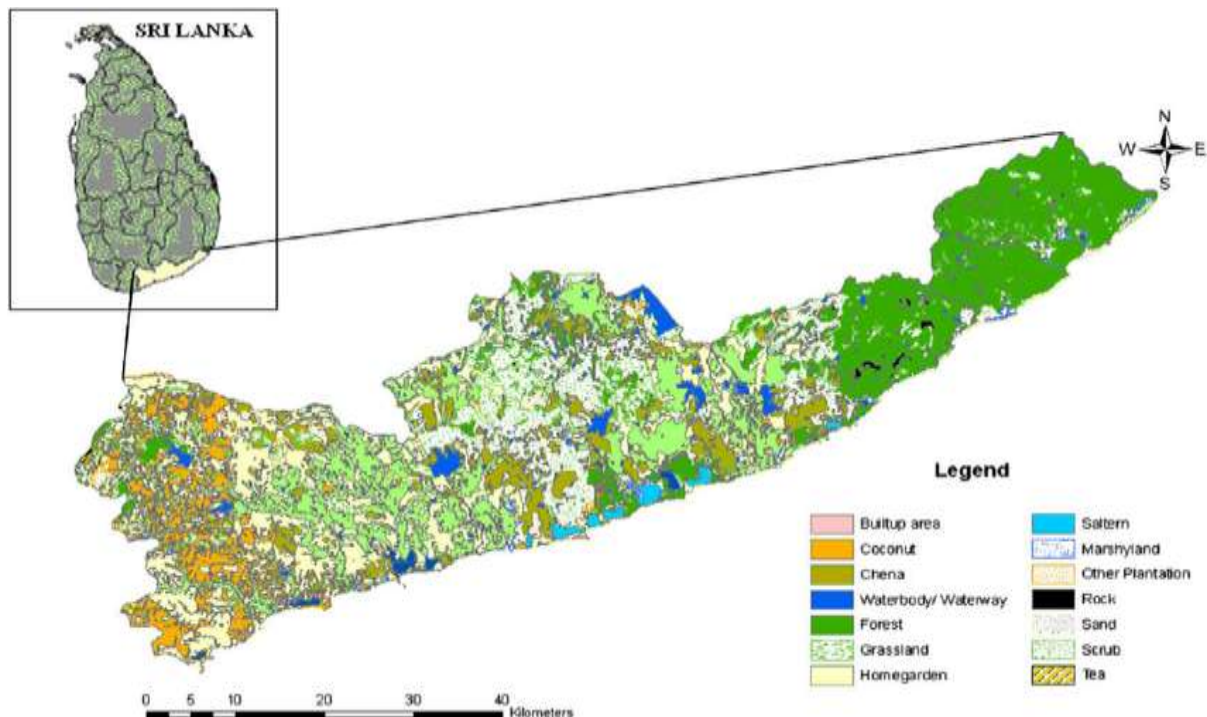
This study is largely based on secondary data reviewed in the subject and analysis of subject related reports of the study area such as the Medical Health Office, the Epidemiology unit, Urban Development Authority. A sample survey conducted in the study area to collect primary data has also included in the analysis whenever necessary to compare the secondary data with the primary data. The sample survey included 50 households selected through simple random sampling method.

The main objective of this study was to identify major environmental health issues in the study area which focuses on two specific problems. They are:

- (1) Causes of environmental health issues in the study area
- (2) Effects of environmental health issues

The location of the study was selected as the Tango Divisional Secretariat area in Hambantota district in southern Sri Lanka.

### Study area



## RESULT AND DISCUSSION

### Problem of the water

Among the factors that caused to create environment health problems, deficiency of water has identified as the main fact. The main reason identified was the lack of sufficient pure water.

Water resources dry up continuously due to the harmful dry climate making it polluted. Further, the demand for sufficient water cannot be supplied and as a result many of the environmental health problems have been created.

The table below has given data on the level of water availability in the study area.

**Table 1: Water sources in the study area.**

<b>Water sources</b>	<b>No of households</b>	<b>%</b>
Protected Tap water	8012	57.0
Well water	3381	24.0
Un Protected water	2319	16.4
Tube well	234	1.6
Other sources	156	1.0
<b>Total</b>	<b>14102</b>	<b>100</b>

**Source:** Tango Divisional Secretarial Office, 2015.

As per the data presented in the table-01, it was found that only 57% of the households in the study location enjoyed protected tap water supplies by the government authorities. The remaining 43% of families in the area use water from various sources including ground water wells.

### **Drought**

There are plenty of water tanks, streams, channels, and rivers even over flowing during the rainy season. However, drought is a condition of lack of sufficient water. There, the water becomes a problem for about three month during the drought period. Therefore people collect water from tanks, ponds and streams where the water does not flow down, and thus not suitable for drinking purposes. Water collected from the outside areas usually distributed to the houses by the authorities during this period. This water supply is by no means sufficient for the demand. This also causes the spread of diseases under such conditions. It is doubt that this water is fresh and pure enough for drinking purposes. Specially, small children drinks water from any sources to quench their thirst. Also small children drink impure water in streams not knowing quality of the water. They become subjected to diseases. In bathing, they unconsciously swallow the water and even drink this water which is not suitable enough for drinking. Small children seem to suffer intensively using such water.

### Water polluted diseases

The water in the study area has been polluted through agriculture, industries and as a result of urbanization and domestic activities. Also it was possible to identify the presence of various chemical wastes in the water. A great deal of solid waste has also contributed for the water pollutions. These interventions have cause fungi and various forms of grow in the water. Table-02 has presented mosquito breeding places as identified by the study sample.

**Table 02: Mosquito breeding places in the study area.**

Mosquito breeding places	Number	%
Vegetation	8	18
Institute of private class	10	23
Government schools	6	15
Commercial areas	14	32
Barren lands Drainage	5	12
<b>Total</b>	<b>43</b>	<b>100</b>

**Source:** Sample study - 2015

Accordingly, 43 places were identified as mosquito breeding places in the study location. Meantime, commercial areas have been identified as the most prone areas for mosquito breeding (32%). Commercialization has direct links with the urbanization as well. Interestingly, the private classes have been identified as one of the high risk areas where mosquito breeding is possible (23%).

Meantime, environmental diseases have also increased considerably in the area during past few years. Table -03 below has presented reported environmental diseases in the district during the period from the year 2017- 2013.

**Table 03: Environmental disease in Hambantota District.**

Diseases	2007	2008	2009	2010	2011	2012	2013
Dengue	102	136	977	809	414	607	344
Dysentery	200	144	111	100	81	59	76
Encephalitis	6	10	8	7	4	4	4
Enteric fever	24	8	9	4	5	12	16
Food poisoning	20	22	17	17	36	30	38
Leptospirosis	57	142	107	116	516	101	181
Typhus fever	74	104	94	92	69	59	72
Viral Hepatitis	29	17	53	20	17	30	96
Human Rabies	3	1	0	0	2	0	2

**Source:** Ministry of Health-2015

These data highlights that polluted water and water related diseases have been one of the main causes for the increased environmental health issues in the study area.

### Urbanization and increased population

While population is one of the important factors in the human civilization, it has created some problems too. As a result of rapid urbanization, industries and other related activities have been influxes without proper planning or designing. In the urban areas there are heaps of litter and garbage everywhere thrown away by the people. Although industries itself responsible for these habits, some residents who do not have enough facilities also contributes to this situation. This has caused a great concentration. When consider about the study location, a large percentage of population has been centralized in the Tango town. Although, Tango is not a major city in Sri Lanka, its level of urbanization during recent past is considerable in terms of population increases, increased number of commercial avenues and sanitary type of houses. Cities are particularly affected due to air pollution and what experts now call "urban heat islands," created as asphalt, pavement, and buildings concentrate heat. Every day, a great number of vehicles enter and depart from the Tango town to many destinations. These vehicles bring considerable level of air pollutions to the area through carbon dioxide. Solid waste in the town has affected the environment at considerable level. These constitute with wastepaper thrown out from households, agriculture sewage, plastics, glasses, cloths etc. They pollute the environment. They cannot be easily destroyed and take long time to decay.

**Table 4: Garbage removal methods in the study area.**

Garbage removal methods	Number	%
Firing	12	24
Digging	10	20
Removal by the Authorities	15	30
No proper system	13	26
<b>Total</b>	<b>50</b>	<b>100</b>

Sample study in the area- 2015

Data presented in the table -04 highlights that there are no proper methods of garbage removal in the study area. Although, it can be assumed that the Local Authorities (Urban Council) collect and properly removed the garbage in the town centers, in the case of Tango town, only 30% households mentioned that they get continuous and reliable removal of their garbage by the Tango Urban Council.

**Poverty**

Urbanization and poverty are inter-related. Many people who settled down in this town either do not have a sufficient income or they are unemployed. A definite factor that helps to create diseases and environment problems are the intense great poverty of the people. Especially they do not enjoy permanent income. They do not have a sufficient income to support either schooling or non-schooling children to obtain health facilities and sanitary facilities. Because most families are poverty stricken, it is impossible for them to have a balanced meal which require for the healthy living. As a result, poor families suffer from severe forms of malnutrition. They pave way them to become victims of other diseases too. A town is a where there are huge heaps centralized garbage. As this garbage does not decay quickly, they remain stagnating in the same spots. Various bacteria fungi harmful germs and insects are found on this garbage.

**Drainage system**

The Tango city has a drainage system which is constructed to get rid of the waste water collected in the town. These drains carry all the water used by the various business, houses, public institutions and windblown sand and garbage that do not decay. But the water stagnates in the drains do not flow down due to the insufficient spaces and construction failures. The waste brought down along the drains from the main roads, get collected in the drains. As a result, water does not flow down properly and cleaning of such drains has become a difficult task. Various items which seems dirty and stingy out of specially by shopping centers, hotels, factories and fish stalls that do not decay and keep floating in the water drains. This has resulted in breeding mosquitoes. As the water in the drains does not flow down, it stagnates and becomes polluted. Such polluted water while mixing with the main water resources creates environment that paves way to the spread of malaria, filariasis and dengue and Japanese encephalitis. This has created not only the growth and progress of mosquitos' fungi and bacteria are dangerous to health conditions of humans. Due to the presence of bacteria virus and rotting leaves, the public health is also at a risk. As the water in vessels evaporates, the density of immature mosquitoes may increase, enhancing opposition and preventing potential egg lying. Barbosa *et al.* (1972) has found that higher densities resulted in slower development, better mortality.



## CONCLUSION

The study revealed that major causes for environmental health issues in the study location were links to key interrelated factors such as the frequent drought experienced by the people in the area which leads to water scarcity and water pollution due to various activities that are related to urbanization and commercialization. Urbanization has contributed for the increased population and vice versa. The ignorant in town planning to cater to the increased population and other commercial activities has contributed considerably for increased environmental related health issues in the area. Non availability of a proper drainage system and waste disposal system in the city were identified as factors contributed as a result of poor urban planning. The impacts of health issues in to the populate in the area were identified as increased expenditure for treatments, low productivity due to being ill for a longer period of time and increased death rate.

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