

An Evaluation of the Threats of a Dusty Environment on the Sustainability of Human Health: A Study of Sammanthurai Divisional Secretariat Division

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Sammanthurai Divisional Secretariat Division (DSD) belongs to the Ampara district and the dry zone low country agro ecological region. It covers a land area of approximately 123.01 km² and is located between [7.36215°N 81.8034°E](#), including 53 Grama Niladhri Divisions (GND). Its annual rainfall is 1,100 mm, received during the months of October to January due to the inter-monsoon and North-East monsoon. The annual average temperature is 25°C-27.5⁰C. The population of Sammanthurai consists of 83,524 people.

Air pollution is an obvious environmental health threat which contributes to a number of illnesses, and has an adverse impact on peoples' respiratory systems. Accordingly, the spectrum of human health has a close relationship with dust exposure. It has been identified that a majority of those who are sick have different types of respiratory diseases which are mainly caused by their dusty environment. The dusty air with bad odour has become a major threat to the daily lives of inhabitants of the area. The post-tsunami and post war development activities and subsequent resettlement programs have contributed to air pollution. In addition, solid waste generation, contamination of water and mosquito breeding, have also caused much damage to peoples' health.

Considering the above, this study was designed with the prime objective of identifying the human health issues caused by the dusty environment and to provide recommendations to mitigate such issues. The data was collected through household questionnaires survey method, using a random sampling technique. In addition, observations, formal interviews and discussions were held with individuals and officials of the area. Secondary data was also used for the study.

The results revealed that 65% of people who are sick have been affected by respiratory diseases due to dusty air and the remaining of 35% are affected by vectors and other forms of environmental contamination. Accordingly, the dusty environment creates illness such as wheezing (10.5%), asthma (9.5%), breathing difficulties (8.5%), cough (8.4%), dizziness (8.4%), nausea (5.2%), headache (7.4%), hypertension (6.3%), skin diseases (6.3%) and sleeping disorders (5.2%).

It is identified that the main causes for a dusty environment are vehicle congestion, frequent transportation using heavy vehicles, population density, animal farming, dispersion of cow dung, quarry and bricks industries, open disposal of solid waste, saw mills, rice mills and utilization of machinery for agricultural activities. These human activities are not at an acceptable standard from an environmental point of view. Physical features, such as sandy and silt land surfaces and dry climatic conditions further contribute to the formation of a dusty atmosphere. Such a scenario has created numerous non-communicable diseases as well.

Considering the above, it is recommended that all economic and infrastructure development activities be implemented in an environmentally sound manner. The general public, industrialists and policy makers should be made aware of and educated on following cleaner production

concepts/and nature friendly practices. In addition, responsible authorities should implement strict compliance of rules, regulations, and existing environment related laws in this regard. This will result in mitigating emissions of the most harmful pollutants, such as particle pollution (acids, organic chemicals, metals, and soil or dust particles) which affect the respiratory system of a human being.

Keywords: health issues, diseases, dusty, contamination, industrialist, sustainability