AN ANALYSIS OF IMPACT OF CLIMATE CHANGE ON HUMAN'S HEALTH IN MADURAI DISTRICT

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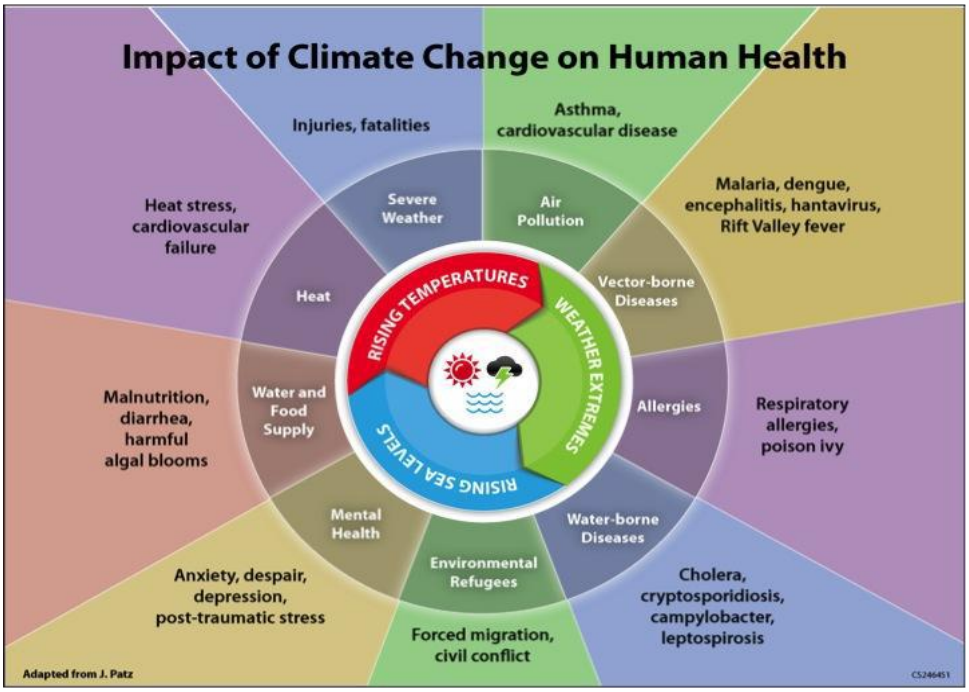
***Abstract*- This related to "An Analysis of Impact of Climate Change on Human's Health in Madurai District" and I analyses the problem faced by people's health. It access the temperature and prevalence rate morbidity. This paper also estimates the rainfall and prevalence rate of illness.**

INTRODUCTION

Human beings are at the interface of physical, geological and biological processes of the earth. Global environmental change, affecting these systems will have a drastic impact on human health. Change in climate parameters will therefore impart a change directly or indirectly on human health. Human health is always influenced by climate and weather. The climate change leads to diseases, stress and death. Some of the diseases are identified due to climate change in human as Asthma, cancer, mental health, stress related disorders, neurological disorders, skin diseases etc. It deals with the climate change especially temperature, rainfall, and Humidity. Over the last 50 years, human activities particularly the burning of fossil fuels - have released sufficient quantities of carbon dioxide and other greenhouse gases to trap additional heat in the lower atmosphere and effect the global climate. In the last 130 years, the world has warmed by approximately 0.85^0 c. Each of the last 3 decades has been successively warmer than any preceding decade. Sea levels are rising, glaciers are melting and precipitation patterns are changing. Extreme weather events are becoming more intense and frequent.

IMPACT ON HEALTH

Although global warming may bring some localized benefits, such as fewer winter deaths in temperate climates and increased food production in certain areas, the overall health effects of a changing climate are overwhelmingly negative. Climate change affects many of the social and environmental determinants of health clean air, safe drinking water, sufficient food and secure shelter Extreme high air temperatures contribute directly to deaths from cardiovascular and respiratory diseases, particularly among elderly people.



Source: https://www.cdc.gov/climateandhealth/effects/default.htm

Objectives

The following are the objective of the study

- To analyze the temperature and prevalence rate morbidity in the study area.
- To estimate the rainfall and prevalence rate of illness in the study area.
- To offer policy suggestion to control morbidity in the study area owing to climate change.

Temperature and Prevalence Rate of Illness –Anemia

Temperature and Prevalence Rate of illness – Anemia the following table includes the Temperature and prevalence rate of illness.

Table 1

Temperature and Prevalence Rate of Illness –Anemia

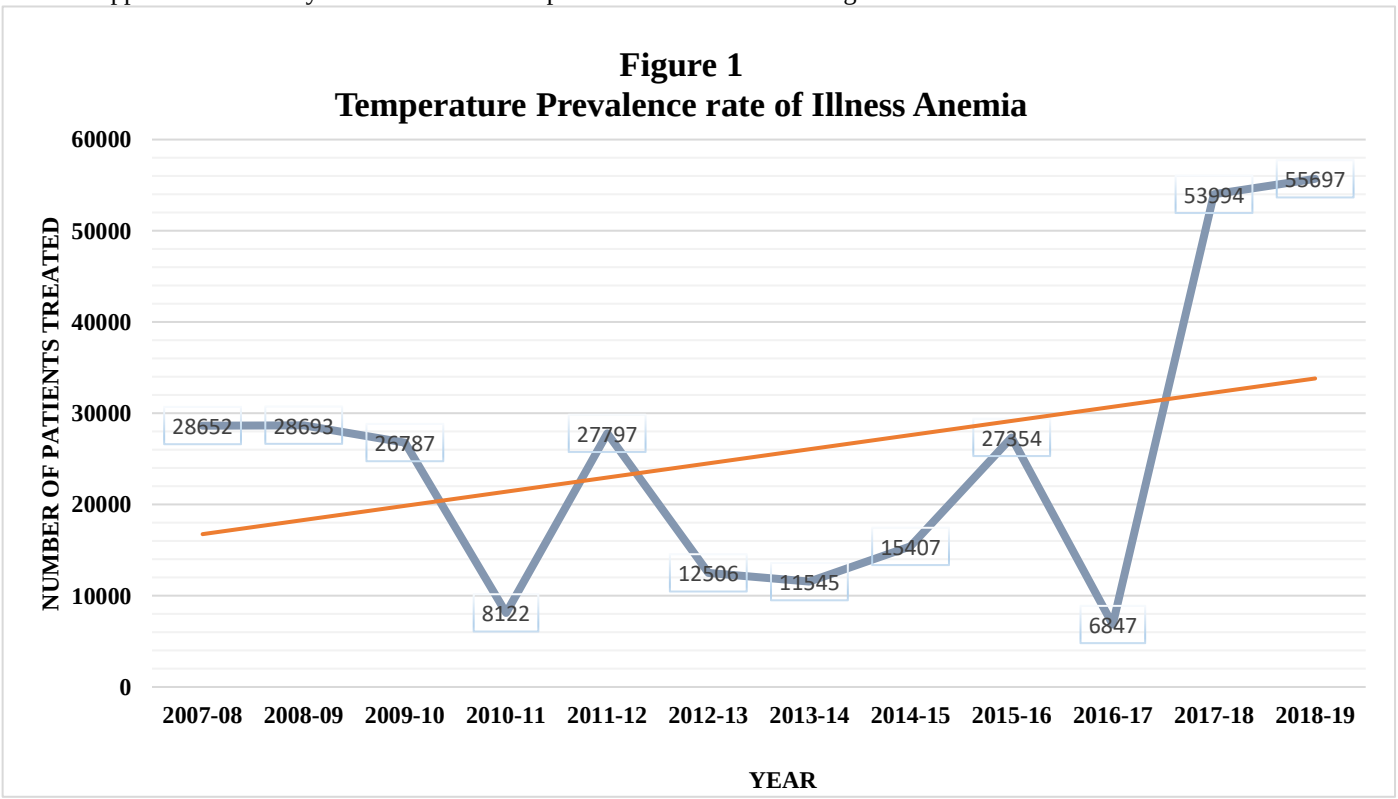
YEAR	MEAN MAXIMUM TEMPERATURE	VARIATION	NUMBER OF PATIENTS TREATED	VARIATION
2007-08	35.1	-	28652	-
2008-09	34.4	-0.7	28693	41
2009-10	36.2	1.8	26787	-1906
2010-11	35.9	-0.3	8122	-18665
2011-12	35.5	-0.4	27797	19675
2012-13	36.2	0.7	12506	-15291
2013-14	35.3	-0.9	11545	-961
2014-15	36.1	0.8	15407	3862
2015-16	36.2	0.1	27354	11947
2016-17	34.2	-2.0	6847	-20507
2017-18	36.2	2.0	53994	47147
2018-19	35.9	-0.3	55697	1703
AVERAGE TOTAL	**35.6**	**0.06**	**25283.4**	**2253.7**

Source: Computed from Secondary Source, Statistical Handbook Madurai District 2019.

Table 1 highlights that the temperature and number of patients are treated in the study areas. The maximum temperature was recorded 36.2^{0}C during the year 2009-10, 2012-13, 2015-16 and 2017-18. The maximum number of patients were treated 27797 in 2007-08 while the temperature was 35.5^{0}C. The minimum number of patients were treated 6847 in 2016-17 while the temperature was 34.20C. Many scientific studies reveal that there is a positive correlation between temperature and illness. But it has not happened in the study areas because of temperature and illness have negative correlation in it.

Figure 1

Temperature Prevalence rate of Illness Anemia



Temperature and Prevalence Rate of Illness - Heart Diseases

Temperature and Prevalence Rate of illness – Heart Diseases the following table-2 depicts the Temperature and prevalence rate of illness particularly Heat – Diseases.

Table 2

Temperature and Prevalence Rate of Illness - Heart Diseases

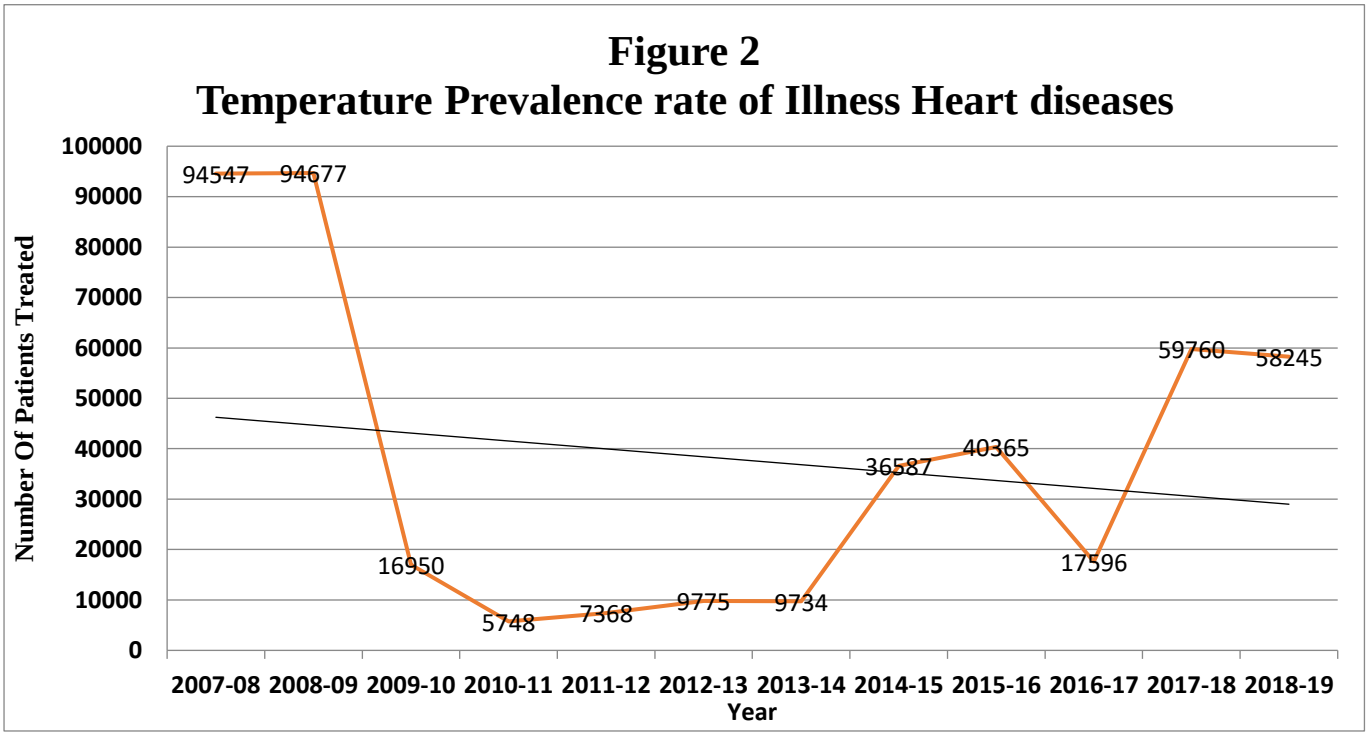
YEAR	MEAN MAXIMUM TEMPERATURE	VARIATION	NUMBER OF PATIENTS TREATED	VARIATION
2007-08	35.10	-	94547	-
2008-09	34.4	-0.7	94677	130
2009-10	36.2	1.8	16950	-77727
2010-11	35.9	-0.3	5748	-11202
2011-12	35.5	-0.4	7368	1620
2012-13	36.2	0.7	9775	2407
2013-14	35.3	-0.9	9734	-41
2014-15	36.1	0.8	36587	26853
2015-16	36.2	0.1	40365	3778
2016-17	34.2	-2.0	17596	-22769
2017-18	36.2	2.0	59760	42164
2018-19	35.9	-0.3	58245	-1515
AVERAGE TOTAL	**35.6**	**0.06**	**37612.7**	**-3025.2**

Source: Computed from Secondary Source, Statistical Handbook Madurai District 2019

Table 2 discloses that the temperature and number of patients are treated in the study areas. The highest temperature was recorded 36.2^{0}C during the year of 2005 -06, 2008 – 09, 2011 – 12 and 2013 – 14. The lowest temperature was 34.2^{0}C in 2012 – 2013. The severe levels of patients were treated 94677 in 2004 –05, while the temperature was 34.4^{0}C. The ordinary level of patients were treated 5748 in 2006 -07 the temperature was 35.9^{0}C. Many scientific studies reveal that there is a positive correlation between temperature and illness. But it has not happened in the study areas because the temperature and illness have a negative correlation.

Figure 2

Temperature Prevalence rate of Illness Heart diseases



Rainfall and Prevalence Rate of Illness – Anemia

Rainfall and Prevalence Rate of Illness Anemia table-3 explains the Rainfall and prevalence rate of illness.

Table 3

Rainfall and Prevalence Rate of Illness – Anemia

YEAR	RAINFALL AVERAGE	VARIATION	NUMBER OF PATIENTS TREATED	VARIATION
2007-08	37.4	-	28652	-
2008-09	68.3	30.9	28693	41
2009-10	82.7	14.4	26787	-1906
2010-11	49.5	-33.2	8122	-18665
2011-12	97.9	48.4	27797	19675
2012-13	69.2	-28.7	12506	-15291
2013-14	67.9	-1.3	11545	-961
2014-15	90.0	22.1	15407	3862
2015-16	81.4	-8.6	27354	11947
2016-17	56.7	-24.7	6847	-20507
2017-18	72.1	15.4	53994	47147
2018-19	92.3	20.2	55697	1703
AVERAGE TOTAL	**72.1**	**4.6**	**25283.4**	**2253.7**

Source: Computed from Secondary Source, Statistical Handbook Madurai District 2019.

Table 3 shows that the rainfall and number of patients are treated in the study areas. The highest rainfall recorded was 97.9 mm. in 2011 -2012. The lowest rainfall recorded was 37.4mm during the year of 2007 -2008. The maximum number of patients were treated 55697 in 2018-19 when the rainfall was 92.3 mm. the minimum number of patients were treated 6847 in 2016-17 while the rainfall recorded was 56.7 mm. Number of patients are treated have a minimum heavy rainfall and the maximum low rainfall also in the study areas.

Rainfall and Prevalence Rate of Illness - Heart Diseases

Rainfall and prevalence rate illness – heart disease table 4 shows the Rainfall and prevalence rate of illness of people

Table 4

Rainfall and Prevalence Rate of Illness - Heart Diseases

YEAR	RAINFALL AVERAGE	VARIATION	NUMBER OF PATIENTS TREATED	VARIATION
2007-08	37.4	-	94547	-
2008-09	68.3	30.9	94677	130
2009-10	82.7	14.4	16950	-77727
2010-11	49.5	-33.2	5748	-11202
2011-12	97.9	48.4	7368	1620
2012-13	69.2	-28.7	9775	2407
2013-14	67.9	-1.3	9734	-41
2014-15	90.0	22.1	36587	26853
2015-16	81.4	-8.6	40365	3778
2016-17	56.7	-24.7	17596	-22769
2017-18	72.1	15.4	59760	42164
2018-19	92.3	20.2	58245	-1515
AVERAGE TOTAL	**72.1**	**4.6**	**37612.7**	**-3025.2**

Source: Computed from Secondary Source, Statistical Handbook Madurai District 2019.

Table 4 reveals that the Rainfall and prevalence rate of illness of Heart diseases treated in the study areas. The maximum rainfall was 97.9 mm in 2011-12. The minimum rainfall was 37.4 mm in 2007 – 08. The maximum number of patients were treated about 94677 while the rainfall was 68.3mm. The minimum number patients were treated 5748 in 2010-11 while the rainfall was 49.5mm. The number of patients were treated have a minimum heavy rainfall and the maximum low rainfall also.

SUGGESTIONS

The following are the main suggestion from the study

- Climate resilient crops must be identified and cultivated in agricultural sector. It is also essential that adequate funds are provided for conducting research to address the impacts of Climate Change on agriculture growth.
- The government and the district administrations to enable the agricultural communities to battle with the risks involved in their chief occupations and livelihoods system.
- Climate change has a direct impact on human health. For example, the farmer the climate the likelihood of its impact on human health becomes worse. Available studies suggest that there will be an increase in health problems.

CONCLUSION

Climate Change is already harming much in human health and these impacts are projected to increase over years, with potentially devastating effects. Higher temperatures, could place further stress on human body. In addition to that changes in climate lead slight negative impact on human health too. There are plenty of factors associated and determine the human health, among the entire factors climate is predominant. As far as human health is concerned people must participate the harmless activities regarding climate degradation. In addition to that people must aware of the diseases which are caused due to climate change.

REFERENCES:

1. Celia M.C Michael, Jon Barnett and Anthony A.MC Michael (2012) “An III wind? Climate Change Migration, and health”, “Environment Health Perspectives”, Vol.120.No.5.
2. Jeffrey D. Sachs, ‘Common Wealth: Economics for a Crowded Planet’,Allen Lane, 2008.
3. Srivastav, A. K. (2007). Indian Meteorological Department, Climate change over India, National Workshop on Climate Change and its Impact on Health, 26-27.
4. Campbell Lendrum D.H., Corvalán C.F. and Prüss–Ustün A. (2003). How much disease could climate change cause? Climate change and human health-risks and responses., published by WHO in collaboration with UNEP and WMO.
5. World Health Organization. (2005. July). Climate and health. Fact sheet, http://www.who.int/globalchange/news/fsclimandhealth/en/index.html.