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A Correlative Study of Income Level and Environmental Hygiene in Chhaygaon Revenue Circle, Kamrup District, Assam

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Abstract

A correlative investigation of income level and some environmental hygienic parameters among the people inhabiting in Chhaygaon Revenue Circle, Kamrup district, Assam has been incorporated in this study. Economic status influences the environmental hygienic condition which then directly or indirectly influences health condition within the different communities living in the selected zones of the study area. An attempt has been made to establish relationship between income level and some environmental hygienic parameters such as types of house, types of toilet, sources of drinking water, types of fuel, waste disposal system, food hygiene and livestock hygiene. Results of the present study reveal the fact that the hygienic status is not very conducive to health in the study area and the environmental hygienic status of people with the higher income level is satisfactory in comparison to the people with lowest income level. However, if their standard of living can be improved there would be major benefits for their health, hygiene and welfare.

Keywords: Economic status, Environmental hygiene, Income level

1. Introduction

Economic status of a region is the economic base of the region and on national income as a whole. The employed and non-employed people constitute the economic base of the region. In India, the productive work is divided into three categories viz. - main workers, marginal workers and non-workers. The main worker is a person who is engaged in any economically productive work for at least 183 days in a year; a marginal worker is one who is engaged for less than 183 days; and a non-worker is one who does not work for earning his/her livelihood at any time during the year. 'Environmental Hygiene' can be defined as the activities aimed at improving or maintaining the standard of basic environmental conditions affecting the well-being of people. These conditions include clean and safe water supply, clean and safe ambient air, efficient and safe animal, human, and industrial waste disposal, protection of food from biological and chemical contaminants and adequate housing in clean and safe surroundings. According to the Committee of Experts appointed by the WHO the term 'Environmental Hygiene' means the control of all those factors in man's physical environment, which exercise or may exercise a deleterious effect on his physical, mental or social well-being. The influence of economic status on environmental hygiene is widely known, but there is still poor understanding of the precise relationship between area-based economic conditions and neighborhood hygienic status. The present study has been carried out in the southern part of Kamrup district of Assam, popularly known as 'South Kamrup'. The south Kamrup is situated between 25º45′ and 26º12′ North Latitude and between 90º55′ and 92º10′ East Longitude with an elevation of 40-744m MSL. The study aimed to investigate the environmental hygienic condition in relation to the economic level of Chhaygaon Revenue Circle (geographical area- 309601B-1K -14L) under Guwahati Sub-Division of Kamrup District of Assam where people of different communities and castes inhabit together under different socioeconomic conditions. The living conditions of people vary from one household to that of the other depending on their economic status. The socio-economic development among the underprivileged sections of the study area is very slow. People having the lowest income level cannot provide education, proper facilities in terms of

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hygiene and sanitation to their family. Due to the lack of proper education and awareness, people of the rural areas are not concerned about the neighborhood environmental hygiene.

Methodology
A total of ten villages of the Circle have been selected. In terms of its quality and content, the selected villages may be considered as representative micro-units of the entire Revenue Circle. For the primary data an intensive field survey has to be undertaken using questionnaire administered through personal interviews. The method of two stage stratified random sampling is used for the selection of households. The first stage consists of the selection of villages and second stage of sampling comprises of the selection of households from each representative village. All selected villages are classified according to the social groups inhabiting in this area as General Caste (Zone 1), Other Backward Class (Zone 2), Scheduled Caste (Zone 3), Scheduled Tribe (Zone 4), and Muslims (Zone 5). Households were considered randomly for the collection of basic data in the present study. We have established some relationship between the economic levels with that of the environmental hygienic parameters. Some common statistical methods are used for comparing the value. The database is partly analyzed through computer-based techniques.
A total of 132 households which constitute 10 percent of 1318 households inhabited in the selected 10 villages were covered under the survey.

Results and Discussion
The general economic condition of the people of the study area is not very assuring. Majority of the people are involved in agriculture. Only a small fraction of the people is moderately well-to-do, while the vast majority belonging to low income groups. A few numbers of businessmen who belong to high income groups are also found in the study area. The sampled households in the study area have been classified into the following income groups. The percentages of various annual income groups of the five selected zones of the study area have been presented in the **Fig 1.**
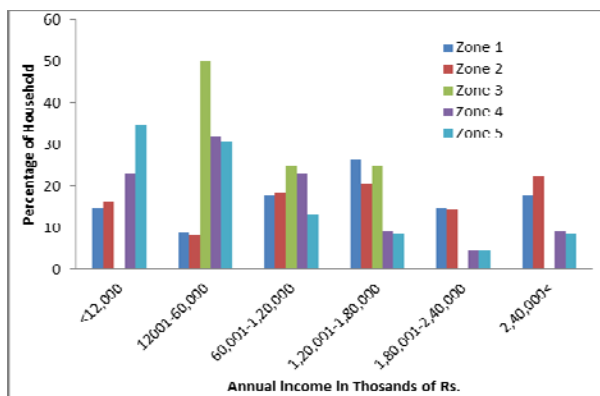

Fig 1: Income groups in the selected zones of the study area

Different types of hygienic parameters such as types of house, types of toilet, sources of drinking water, types of fuel, waste disposal system, food hygiene and livestock hygiene with respect to the annual income level in Thousands of Rs. are taken into consideration in the present study.
There is a large number of katcha houses i.e. 21 houses belongs to the people having income level less than Rs.12,000.There is no any pucca houses of the people having income level less than Rs.60,000 and the people having income level starts from Rs.1,20,000 to greater than Rs.2,40,000 obtain no any katcha and semi-katcha houses except 7 semi katcha houses from people having income level between Rs. 1,20,000 to 1,80,000 and they mainly have pucca houses.
There are mainly three types of toilet which is being used by the people of the study area. They are service, septic and flush types. The 24 families having income level less than Rs.12, 000 and 22 families having income level between Rs.12, 000 to 60,000 only uses the service type of toilets. The septic types of toilet are mostly used by the people belongs to the income level starting from Rs.60,000 to 2,40,000. The people having income level greater than Rs.2,40,00 have no any service toilets and they mainly have higher number of flush type of toilets as shown in **Table 1**.

Table 1: Relationship between income level with types of house and toilet

Income level in Rs.X10³	No. of HH	Types of house				Types of Toilet			
		Katcha	Semi-Katcha	Pucca	Total	Service	Septic	Flush	Total
< 12	26	21	5	0	26	24	2	0	26
12-60	23	20	3	0	23	22	1	0	23
60-1,20	24	0	22	2	24	7	17	0	24
1,20-1,80	24	0	7	17	24	3	21	0	24
1,80-2,40	14	0	0	14	14	0	14	0	14
> 2,40	21	0	0	21	21	0	7	14	21
Total	132	41	37	54	132	56	62	14	132

The source for the drinking water is one of the important measures which directly deal with the hygienic parameters of an area. In the study area there are four types of drinking water sources i.e. dug well, tube well, piped water and river or stream. The sources of drinking water used by households of different income group are presented in Table 2.The dug wells are the main source of drinking water for the peoples having income level starts from less than Rs.12,000 to 12,000-60,000. Again, 23 families belongs to income level less than Rs.12,000 are dependent on the stream or river for

their drinking water and they are devoid of the piped water which is the only source of drinking water for the people having income level greater than Rs.2,40,000.The piped water is not available for the people having income less than Rs. 1,80,000.
The types of fuel mainly used in cooking purposes in the study area are of two types, one is LPG and the other is the fuel obtain by burning wood or simply wood. The people having income level less than Rs.12,000 and 12,000-60,000 abundantly uses wood as a type of fuel whereas the amount

of LPG users is very negligible **(Table 2)**. The LPG is the only fuel being used by the people having income level that starts from Rs.1,20,000 to more than 2,40,000 whereas the wood as a type of fuel is very minor used by the people having income level of Rs.60,000-1,20,000.

Table 2: Relationship between income level with drinking water source and types of fuel

Income level in Rs.X10³	No. of HH	Drinking Water Source					Types of Fuel		
		Dug well	Tube well	Piped Water	River/ Stream	Total	LPG	Wood	Total
< 12	26	21	1	0	4	26	0	26	26
12-60	23	21	1	0	1	23	2	21	23
60-1,20	24	12	12	0	0	24	17	7	24
1,20-1,80	24	4	20	0	0	24	24	0	24
1,80-2,40	14	0	12	2	0	14	14	0	14
> 2,40	21	0	6	15	0	21	21	0	21
Total	132	58	52	17	5	132	78	54	132

The relationship of income level with hygiene related to waste disposal system, food and livestock is presented in **Figure 2**. From the figure it is clear that hygiene related to waste disposal system, food and livestock is satisfactory in the people having higher income. But the satisfaction level among the people having low income level as per the hygiene is concerned is comparatively not conducive to health in the study area.
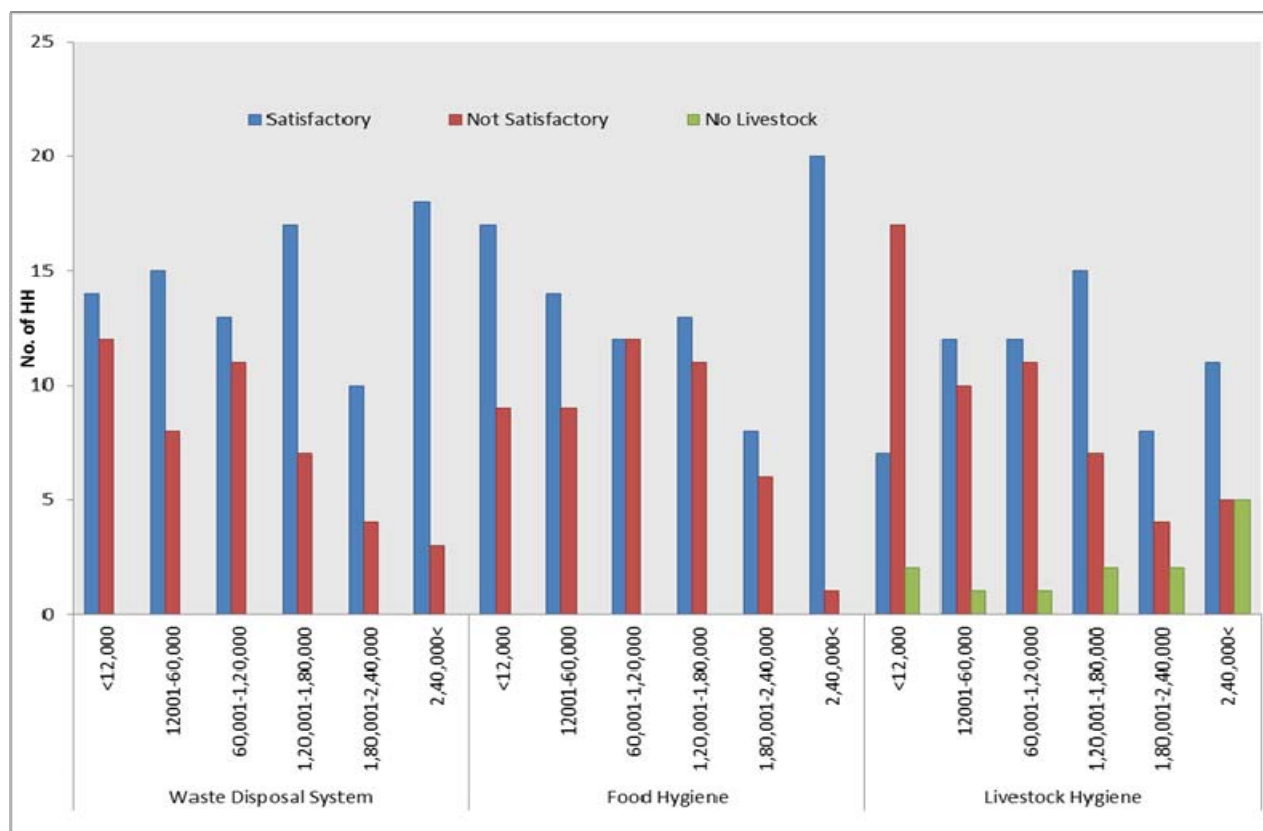

Fig 2: Relationship between income level and waste disposal system, food and livestock hygiene

Conclusion
Environmental hygiene is directly related to economic condition of the households to which they belong. The present study and observations done in the field have made it clear that economic conditions and environmental hygienic status is not adequate in the study area. The hygienic condition is found satisfactory among people having the high income level whereas vice versa. It would be a blunder mistake in our part if we consider that environmental hygiene will grow without improving socioeconomic condition of the rural people. It is high time, for both Govt. and individuals, for taking a 'giant leap' together forever in forming a suitable hygienic environment by surmounting all possible barriers in front of it so that everyone could able take a breath without hesitation in near future.

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