



## STUDIES ON HEALTH AND HYGIENE IN SLUMS OF KOLHAPUR CITY

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**ABSTRACT** The slums taken for the study purpose are located in Kolhapur municipal corporation land, private land as well as government land. Total slum population is around 11% of total population of the city. Residents in slum areas live in poor living conditions that lack basic amenities like water availability, light, toilets, ration card, schools, etc. Unhygienic conditions in slum areas are responsible for the spread of diseases. For present study purpose four slums in the Kolhapur city namely Rajendranagar, Avchitnagar, Vicharemal and Kanannagar were selected. The information related to environmental health and hygiene of people was collected through questionnaire survey. Among selected sites the target group was residents in slums, officials of Kolhapur Municipal Corporation and resident doctors in the area. This study aims to present a data related to health and hygiene conditions of slums in the Kolhapur city which in future helps to mitigate various environmental health problems in this area.

**KEYWORDS :** Slum, Environmental Health, Hygiene, Kolhapur city

## INTRODUCTION

Slums, which are characterized by imperfect housing and insufficient water and sanitation services, are among the mainly pressing urban environmental problems in developing nations (Takeuchi *et al.*, 2006). Today, the catch all term "slum" is loose and deprecatory. It has numerous connotations and meanings and is not frequently used by the more sensitive, politically correct, and academically rigorous. But in developing nations, the word lacks the pejorative and divisive unique connotation, and simply refers to worse quality or informal housing (UN-HABITAT, 2007). The large concentrations of slums in which inhabitants live in unequal and life-threatening situation impose huge burden on city authorities that are frequently cash-strapped and lack the institutional and technical ability to supply even the most fundamental urban services (Bloom *et al.*, 2008).

The global assessment of slums undertaken by the UN-HABITAT (2010) shows that 828 million or 33% of the urban population of developing nations resides in slums. Slums are the outcome of unsuccessful policies, bad governance, corruption, improper regulation, dysfunctional land markets, unresponsive financial systems, and a fundamental lack of political determination (UN Millennium Project, 2005). Each of these failures adds to the toll on people already deeply burdened by poverty and constrains the enormous opportunity for human development that urban life offers (<http://web.mit.edu/>). Slum upgrading and development programs are essential to overcome diverse environmental problems such as poor housing environment, access to water, sanitation, insecure tenure, hazard risks, missing access to employment opportunities (UNDP, 2003). Kolhapur is one of the well known city in Western Maharashtra. About 11% slum population in Kolhapur is facing the problem of basic amenities and environmental sanitation. The aim of the study is to investigate the different environmental problems in slums.

## MATERIAL AND METHODS

## STUDY AREA.

Kolhapur city is located on the Sahayadri mountain range and south western part of the Maharashtra state. It is situated on the bank of Perennial river Panchaganga. This city has spread in between area of about 6682 hectares in the Southern part of Maharashtra in the Western Ghats 550 m above mean sea level and between 16° 42' N Latitude to 74° 14' E Longitude.

The population density of Kolhapur is 7381 persons/ sq.km. Slums are the informal settlements in the city. There are 54 slums amongst which 44 are declared slums and 10 are undeclared slums out of which 20 slums are in state owned locations, 24 are in ULB own locations, 9 are in private land and one is located on trust land. The land occupied by these slums comes under various zones namely residential, school, PG/RG, CRZ, non residential and other zones. These slums are located in the area of Municipal Corporation, private land as well as government land. These slums covers 7, 84,639 square meter area 15487 families living in that area and there are 14992 declared and 495 undeclared huts in these slums (Kolhapur Municipal Corporation, 2009; 2013 and City Development Plan 2031 Kolhapur).

## Methodology

For present study four slums in the Kolhapur city namely Rajendranagar, Avchitnagar, Vicharemal and Kanannagar were selected. The information was collected about sanitary facilities, health status of residents, solid waste dumping, drainage facilities, in slum areas. A questioner's survey technique was used to collect the data. The questionnaire was prepared for residents living in selected slum areas, officials of Kolhapur Municipal Corporation and Medical Officers in the selected area. Systematic random sampling with sampling interval of 15 hut's that is if 1<sup>st</sup>, hut selected then 15<sup>th</sup>, 30<sup>th</sup>, 45<sup>th</sup> hut were selected for study. About 50 questionnaires were filled from each slum and analyzed to come to specific conclusion.

## RESULTS AND DISCUSSION

The respondent belongs to various categories of government sector, private sector, small business and wages earner labor in Rajendranagar, Kanannagar, Avchitnagar and Vicharemal locations. In the first category included government sector where there are 3%, 6%, 13% and 17% respondent respectively. Respondent having private job were 10%, 30%, 43% and 23% respectively. The small business owner respondents were 6%, 27%, 37% and 30% in respective area. Also daily wage earner respondents were 93%, 88%, 57% and 70% in a respective area. Respondents of housekeeping were 69%, 99%, 57% and 64% in respective area. This shows that large population under study was wage earners more than 75% of total population studied.

The respondents were asked with questions regarding use of energy for cooking and it was found that they were using variety of energy sources. Rajendranagar and Kanannagar people use wood, gas and Kerosene where as Avchitnagar and Vicharemal slum people are using gas for cooking, this may due to the profession of people. Those having good financial conditions are going for Kerosene and cooking gas where as freely available wood is used by others for cooking.

Treated water of Panchganga river supplied by Kolhapur Municipal Corporation is the sole source of drinking water in all slums under study. Nearly 50% to 60% respondents said that they treat drinking water by boiling it when it is observed contaminated specially in the rainy season. About 77% respondents in Rajendranagar, 30% people in Kanannagar and Avchitnagar complained about quality of drinking water.

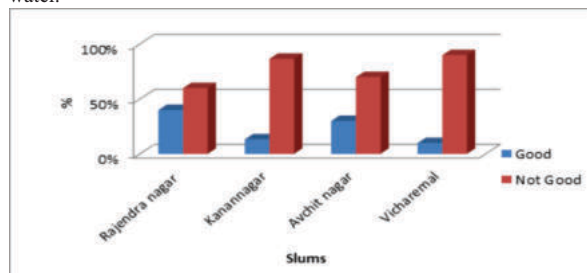


Figure No.1 Drinking Water Quality In Slums In Kolhapur City

About 13% respondents in Rajendranagar, 30%, in Kanannagar, 17% in Avchitnagar and 80% in Vicharemal slum treat the provided drinking water before drinking. The straining of water by cloth and boiling it are the methods usually used as there are no modern purifiers, they are beyond affordable. Following figure shows drinking water treatment in slums.

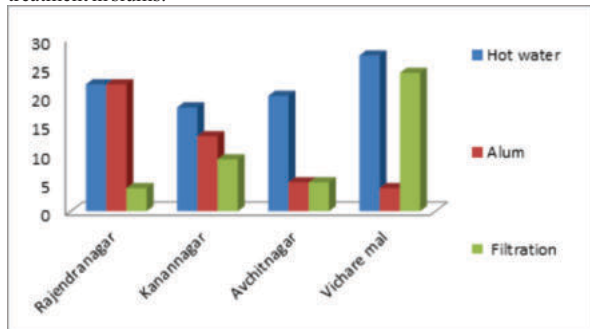


Figure No. 2 Drinking Water Treatment In Slums

Sanitary facilities of the slums were also been studied. 70% respondents of Rajendranagar, 76% of Kanannagar, 57% of Avchitnagar and 57% of Vicharemal are of the opinion that the sanitary facilities provided by the corporation are not enough and not in proportion of the area.

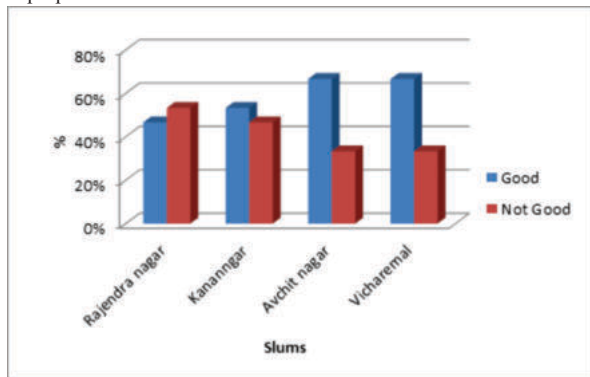


Figure No.3 Road Sweeping And Drainage Facility

According to Vyas *et. al.*, (2013), E. coli and (Salmonella sp.) reported in bore well water of slum region located near public toilet in rainy season. Isolation Hospital record of Kolhapur Municipal Corporation most of the patients were suffered by typhoid and gastrointestinal disorders during rainy season from slum area in the year 2005-06. This suggest that the water which is been supplied to slums may be contaminated. The analysis of the questioner showed that there are more problems in Kanannagar as compared to other slums in case of water, health and sanitation conditions.

There are about 40% to 50% of the respondents who consult to the Corporation hospitals for day to day health problems while remaining consult to private doctors. Rajendranagar 70%, Kanannagar 54%, Avchitnagar 57% and Vicharemal 47% use government health facilities which suggest that there was a large portion of the population depending upon the governmental health facilities.

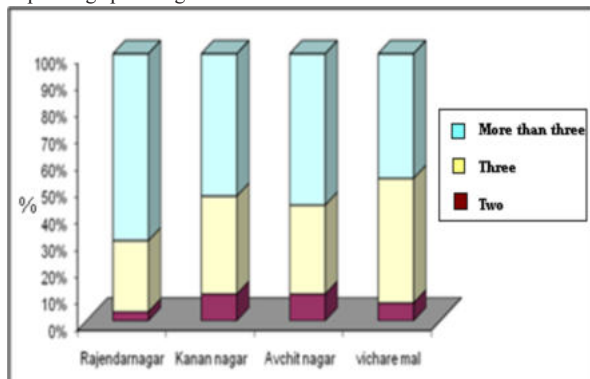


Figure No. 4 Availability Of Medical Officers In Slum Areas

According to the Doctor's and sanitary inspector interview, the diseases common in slums were waterborne diseases namely Fever, Dysentery, Amebiosis, Typhoid and Infective diarrhea. Also, there were vector born diseases namely Malaria, Dengue and Chicken Guinea along with other diseases like Tuberculosis. These diseases occur due to improper sanitation and unhygienic conditions in slum area.

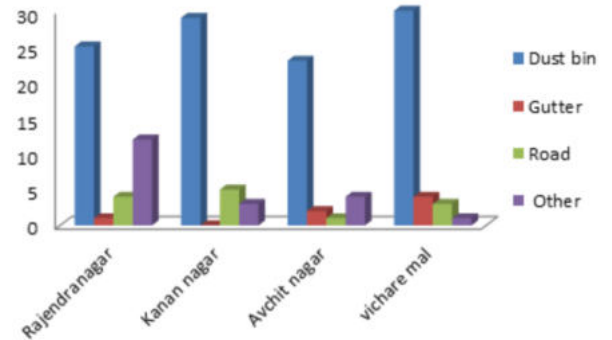


Figure No. 5 Waste Management Practices In Slums

Though questionnaire survey shows positive tendency for dumping of solid waste in dustbins, the actual conditions are different. All slums shows solid waste pollution problem which are responsible for vector borne infections.

During the survey, questions were asked to the people related to expectations of slum residents about adequate and good quality of water supply, Educational facilities for children, Proper sanitation for good health and houses.

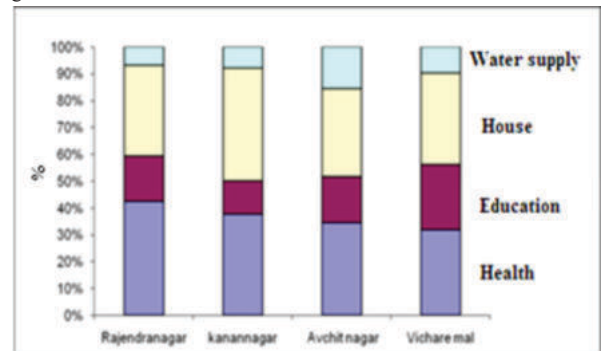


Figure No. 6 Expectations Of The Slum Residents

**CONCLUSION**

Municipal Corporation should take care of different environmental factors like drinking water supply, drainage, sewers and solid waste management etc. Simultaneously, people should be made aware about importance of good environmental health through various training programmes and workshops. Collective measure taken by politician, administrative officers and local people can improve the quality of the environment in the slum area.

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