

Need of Proper Kitchen Lighting in Urban and Rural Area's

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ABSTRACT Women spent their most of the time in the kitchen. Their work efficiency, cooking quality and the stress on women is more important in the kitchen. All these will be going to affect by lighting condition of the kitchen. Compare to bedroom, kitchen rooms, need proper planning of lighting. But unfortunately due importance not given to the kitchen. To study this a study was conducted in both village and urban kitchen in order to have a comparative view of the affect of lighting condition in the kitchen on the house wives of rural and urban area while carrying out kitchen activities. The study indicated that there is a need to create awareness and educate housewives about the necessity of sufficient lighting condition for carrying out cooking activities with ease and comfort and also to impress upon them the unnecessary strain that they under go due to insufficient lighting and improper size and also right fixtures in the kitchen. So village panchayats, town municipalities and corporation as well as state Government should take necessary steps to issue proper planning guidelines for kitchen. This will helps to reduce the stress on women.

INTRODUCTION

Good light in home is essential for visual comfort convenience and effective performance of tasks. Proper lighting arrangement decreases nervous tension, fatigue and there by provides safe working conditions. Light enters the eye and is interpreted by millions of specialized cells in the visual system, making it possible for one to perceive and mentally organize the diverse elements of environment. Nearly 75 per cent of human activities depend on perception through eyes and as such the activities of the brain also depends to the extent of 75 per cent on the information transmitted through eyes. Therefore lighting is more important than the colour scheme, design or pattern in a room. Artificial lighting of home affects the general health of the occupants adversely when it is inadequate or excess. It affects one's eyesight if it is not lighted adequately it is flooded with too much light and the fixtures are not placed at proper places. It also affects one's disposition and mood while performing various activities or tasks. Further there is chance of accidents due to inadequate light. In residential buildings, various rooms like living room, kitchen, bedroom, study room etc., need suitable type of lighting and proper quantity and quality of light. Kitchen is the heart of the residence, where the housewives perform the major activities like cooking, preparatory work etc. Kitchen has been given a secondary consideration. So the present study under taken to investigate existing natural and artificial lighting conditions in the kitchen in rural and urban households and to

suggest action plan required to improve the women living and working environment in kitchen.

METHODOLOGY

The study on natural and artificial lighting in the kitchen of middle class households was carried out in Dharwad taluk of Karnataka state in India. The study was conducted with special reference to middle class families. Data pertaining to socio economic conditions and knowledge and opinions of women on lighting was collected through a structural questionnaire. Personal observation and instruments to measure the quantity of both natural and artificial light used in the study. Considering shadow assessed quality of light. A standard procedure available for this and for data reduction was also adopted.

RESULTS AND DISCUSSION

Results of the study revealed that mean volume of the kitchen in rural area was found to be in agreement with standard volume of kitchen (27 cu.mts) (Rangawala, 1981) but in urban area, it was for below the standard. Doors in urban area were significantly less than the standards (1.65 sq.mts) compared to that of rural area (2.05 sq.mts). More number of kitchens in urban area had doors interior to the house compared to rural area. Both in rural and urban areas the average size of the windows and rooflights were for less compared to standard size. Moreover, more number of kitchens in rural area had windows

Table 1: Average quantity of natural light and shadow in the kitchen at different timings.

Time		Houses	Entire kitchen) area (lux)	Cooking area (lux)	Prepreparatory area (lux)
9 am	Rural	Average quantity	52.53	43.37	74.92
		House with shadow mean lux	-	12.67	10.55
		House without shadow mean lux	-	111.05	181.16
	Urban	Average quantity	74.94	68.74	90.13
		House with shadow mean lux	-	5.73	10.32
		House without shadow mean lux	-	115.29	127.48
12 noon	Rural	Average quantity	69.35	56.73	97.79
		House with shadow mean lux	-	9.15	10.48
		House without shadow mean lux	-	104.30	185.10
	Urban	Average quantity	97.22	93.69	105.34
		House with shadow mean lux	-	5.35	9.50
		House without shadow mean lux	-	131.35	137.29
3 pm	Rural	Average quantity	69.26	52.79	94.18
		House with shadow mean lux	-	9.21	6.38
		House without shadow mean lux	-	96.61	136.47
	Urban	Average quantity	101.17	95.99	126.39
		House with shadow mean lux	-	7.82	13.86
		House without shadow mean lux	-	148.90	175.85

Table 2: Shadow produced and quantity of artificial light at cooking and prepreparatory area in the kitchen.

Areas in kitchen		Quantity of artificial light	
		Houses with shadow	Houses without shadows
<i>Cooking area</i>			
Rural	No	4	36
	Mean (Lux)	3.24	6.76
Urban	No	5	35
	Mean (Lux)	3.55	21.78
<i>Prepreparatory area</i>			
Rural	No	2	38
	Mean (Lux)	2.88	7.93
Urban	No	1	39
	Mean (Lux)	3.13	20.58

covered by neighboring houses with this clearly evidence that kitchen is not receiving much attention by the designers. Though house planning and construction is improving day by day in the urban area with the advancement of technology kitchen is not receiving much attention.

The mean quantity of natural (Table 1) and artificial light (Table 2) was for less than the recommended quantity (i.e., 200 LUX Indian standard Institute 1967) Similar type of observation was made by Thygarajan et al. (1978) and also they analyzed its impact on physiological and psychological responses. Shadow production was more in rural kitchen compared to urban kitchen (Table 1 and 2). The inadequacy and uneven distribution of light led to increase in relative contrast. The insufficiency of both natural

Table 3: Opinion of housewives regarding sufficiency of natural and artificial light in the kitchen.

Source of light	No. of housewives			
	Sufficient		Not-sufficient	
	Rural	Urban	Rural	Urban
Natural light	17(32.5)	13(32.5)	23(57.50)	27(67.50)
Artificial light	10(25)	10(25)	30(75)	30(75)

Figures in parentheses indicate percentages.

and artificial light was felt by the habit of adjusting to available sources of natural and artificial mode of lighting. This increased the fatigue and decreased the work efficiency (Table 3). This adjusting nature probably led to the present attitude of designers i.e. giving less importance to kitchen.

The housewives opinioned that, the unnecessary strain due to insufficient lighting and improper size and also right fixtures in the kitchen (Table 4). This could be avoid by concentrating on the necessity of sufficient lighting condition for carrying out cooking activities with ease and comfort and also to impress upon them.

CONCLUSION

Both in rural and urban areas there is need to create awareness and educate housewives about the necessity of sufficient lighting condition for carrying out cooking activities with ease and comfort and also to impress upon them the

Table 4: Opinion of housewives for suggesting in existing lighting arrangement in the kitchen.

Reasons	Natural light		Artificial light	
	Rural	Urban	Rural	Urban
Strain on eyes	2(5)	4(10)	4(10)	4(10)
Dim light	17(42.5)	27(67.5)	10(25)	10(25)
Small window and roof lights	15(37.5)	7(17.5)	-	-
Improper placement of light source	-	3(7.5)	-	-
Greater distance of source light	-	-	5(7.5)	7(17.5)
Less waltage of lights	-	-	2(5)	8(20)

Figures in parantheses indicate percentages.

unnecessary strain that they undergo due to insufficient lighting and improper size and fixation of doors, windows, roof lights and also light fixtures in the kitchen.

Taking into account local conditions as well as quantity of light needed for carrying out different activities in the rooms of different types of houses, it is necessary for village panchayats, town municipalities and corporations to take initiative in deciding size and location of doors, windows, roof lights and light fixtures etc., and also the size of the rooms while giving permission to construction of living houses. It is also necessary to see that there is no obstruction to the light from neighboring house.

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