

Constraints Faced Regarding the Design of the Kitchen in Urban Area

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Abstract: the kitchen is the most important room in our home. The kitchen is the heart of every home. The kitchen is often the most frequently used room in the house, so it has to be a well-balanced blend of storage facilities, work surfaces, seating areas, and open spaces. It must be stylish, practical, comfy, and useful. As a result, the kitchen's general design arrangement should be given more consideration. The layout and design of the kitchen would be heavily influenced by the cooking style. The type of materials, ingredients, and media as well as the equipment and workspace necessary for the specific cooking method must be prioritised. The present study was carried out in the Jawahar Nagar, Nehru Nagar and Ram Krishan Nagar of District Kanpur, Uttar Pradesh. The results of the study that majority of respondent cent percent feel stress due to environmental condition followed by ninety five percent have a small kitchen area. Ninety percent respondent required lifting of heels for the top self and eighty percent of respondent unable to clean the whole kitchen area frequently. Mostly seventy five respondents having insufficient natural light in kitchen and seventy percent respondents have in proper ventilation in the kitchen and work area. Majority of respondents 62.5 percent reported tiredness due to improper arrangement in the kitchen and high work counter causing shoulder pain. Majority of respondents 72.5 percent reported insufficient light around the work place. Only fifty percent respondents reported reported sting is due to garbage accumulation.

Key Words: Kitchen, Constraints, Design, Ventilation

1.INTRODUCTION

The kitchen is often referred to as the heart of the house. And the majority of you would concur that the kitchen is the centre of the home. The kitchen is no longer just a room used for food preparation. Instead, the kitchen has evolved into the place where we all experience life's pulse and where many of us like spending time with our families, whether we're cooking or dining together. The kitchen is likely the

room in the house that is used the most, so it has to have a good mix of storage facilities, work surfaces, seating areas, and open spaces. It must be useful, beautiful, and cosy in addition to being utilitarian. Therefore, the kitchen's entire arrangement and design should be given more consideration. The layout and design of the kitchen would be significantly influenced by the type of cooking. The type of materials, ingredients, and media as well as the equipment and workspace needed for the specific cooking technique must all be taken into consideration. The kitchen wasn't always the main hub of the home, but now it is becoming more and more that way. The kitchen is the most likely area for families to congregate, for people to discuss the details of their days with each other, and for guests and friends to spend time and hang out with their loved ones.

The kitchen is not only a space for feeding the body, the communal nature of the room also feeds the soul. The kitchen is the centre of day-to-day living. Many people begin their day with a cup of coffee in the kitchen and finish the day with a cup of tea or a bedtime snack. You deserve to start every day in an environment that you love. A kitchen should be inspiring... an inspiring space can mean the difference between an average and a great day. A kitchen should radiate positivity, making those in the room feel safe, secure, calm, and happy. This can be achieved through many design features such as fresh air, sunlight, and bright colours.

It is crucial to arrange work centres such that there is less walking involved and that work may move freely between centres. To facilitate easy work flow, use full height, full depth items like a refrigerator, wall oven cabinet, or pantry shouldn't divide up primary work centres to allow for easy work flow. Appliance or entry doors shouldn't block work areas.

For most of the 20th century, kitchens were organised around what's known as the work triangle the

geometry determined by sink, range and refrigerator. Since, most kitchen work is a dance among the three appliances, good design will make the distance between them comfortable. The rule of thumb is that the three legs of the triangle should add up to between 12 to 26 feet (Oslon et. al., 1993; Thomas 2005).

The kitchen is a place that requires a lot of maintenance and an excellent daily care to be able to have it in the best possible condition. It is the stay that possibly wears out the most as they have one of the most important functions in our lives: preparing food. Today, kitchens are designed for a functional purpose along with comfortable spaces, aesthetically pleasing and geared to convenience. There should be an emphasis on the most economic use of space (Thomas, 2005). Apart from arrangements of work centres, a good consideration should be given to environmental conditions. Proper lighting and ventilation is essential for the kitchen, as this increases work output, reduce accidents, discomfort and fatigue while working and creates a cheerful environment for the homemaker (Maitra, 2003). A number of studies have been conducted in India and Abroad regarding designing of kitchen areas to increase the efficiency of the homemakers. In India little emphasis is put on improving the conditions of urban kitchens than rural ones, as the urban kitchens are considered more or less properly organised.

The present study is planned with the following objectives: -

1. To study the socio economic profile of the respondents.
2. To study about sanitary facilities in the kitchen.
3. To study constraints faced regarding the design of the kitchen and work pattern.

2.RESEARCH METHODOLOGY

The present study was carried out in the Jawahar Nagar, Nehru Nagar and Ram Krishan Nagar of District Kanpur, Uttar Pradesh. Purposive random sampling was done to select all those respondents who were housewives and having 4-6 members in the family, 15 respondents from each locale i.e., total 45 urban Women respondents were selected randomly for the present study. The data was gathered personally by using interview method. Respondents were interviewed in Hindi to maintain the consistency while

interviewing. The interview method was supported by observation about working patterns and kitchen organisation.

The analysis of data aimed at summarising the findings related to collection data in such a manner that they yielded answers to research questions. The data analysis was planned in terms of categorisation, coding, tabulation, graphs and statistical analysis.

3.RESULTS AND DISCUSSION

The findings of the study are introduced through composite summary table.

Table 1. Distribution of the respondents on basic of age

N = 40

| Age of respondents | Frequency | Percentage |
|--------------------|-----------|------------|
| 20 - 30 | 12 | 30.00 |
| 30 - 40 | 05 | 12.50 |
| 40 - 50 | 10 | 25.00 |
| 50 - 60 | 13 | 32.50 |
| Total | 40 | 100.00 |

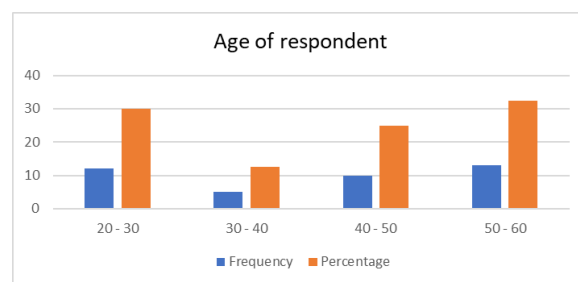


Figure-1

The data presented in Table 1 (Figure-1) revealed that, Thirty two percent respondents were in the age group of 50 - 60 years, whereas thirty percent were in the age group of 20-30 years, and twenty five percent of the respondents were found to be in the age group of 40 - 50 years. Only 12.5 percent were in the age group of 30- 40 years.

Table 2. Distribution of the respondents on basic of education

N = 40

| Education of respondents | Frequency | Percentage |
|--------------------------|-----------|------------|
| High school | 04 | 10.00 |
| Intermediate | 06 | 15.00 |
| Graduate | 20 | 50.00 |
| Post graduate | 10 | 25.00 |
| Total | 40 | 100.00 |

The data presented in Table 2 (Figure-2) depicts that, Majority fifty percent of the respondents were found to be educated up to graduation, twenty five percent up to post graduation and fifteen percent of the respondents were found to be educated up to intermediate Only four percent respondents were educated up to high school. Chaudhary (2004) divided the education level of the respondents in eight categories from illiterate to university's higher degree and found that majority (50.49%) of the respondents were educated up to graduation level.

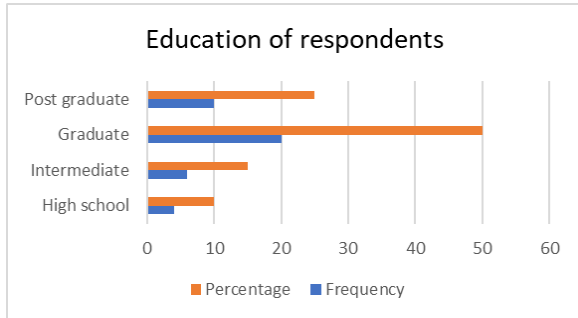


Figure-2

Table 3. Distribution of the respondents on basic of income

N = 40

| Income of respondents | Frequency | Percentage |
|-----------------------|-----------|------------|
| < Rs 20000 | 07 | 17.50 |
| Rs.20000 - 30000 | 14 | 35.00 |
| Rs.30000 – 40000 | 11 | 27.50 |
| >Rs. 40000 | 08 | 20.00 |
| Total | 40 | 100.00 |

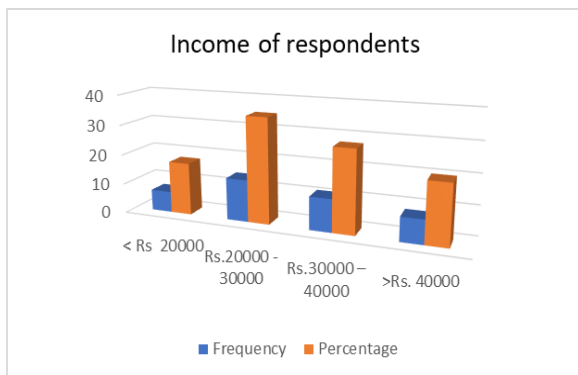


Figure- 3

The data presented in Table 3 (figure-3)revealed that, Family income of the respondents The data showed that the maximum thirty five percent respondents were found to be having their family income between Rs 20,000- 30,000 per month followed by 27. 50 percent

having family income between Rs.30, 000-40,000 and twenty percent Rs 40,000 and above per month. Only 17.50 percent respondents were having monthly income below Rs 20,000.

Table 4. Distribution of the respondents on basic of family size

N = 40

| Family of respondents | Frequency | Percentage |
|-----------------------|-----------|------------|
| 3 - 4 | 18 | 45.00 |
| 5 - 6 | 22 | 55.00 |
| Total | 40 | 100.00 |

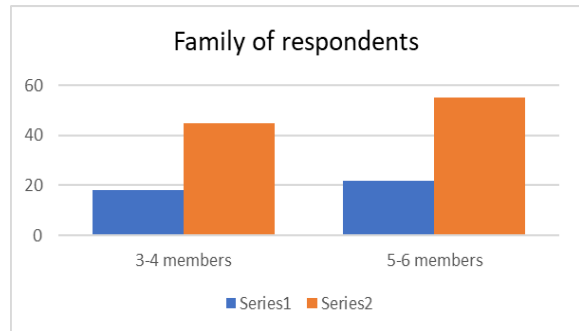


Figure-4

The data pertaining in table 4 (Figure-4) that family size shows that fifty five percent of respondents were having 5-6 members in their family and 45 percent having less than 3 to 4 members in their family.

Table 5. Distribution of the household according to the shape of the kitchen

N=40

| Particulars | Frequency | Percentage |
|------------------|-----------|------------|
| Shape of kitchen | | |
| L – Shape | 27 | 67.50 |
| U – Shape | 13 | 32.50 |
| Total | 40 | 100.00 |

It is clear from the Table 5 (figure-5) that a high percentage of respondents 62.50 percent possessed L-shape kitchen and only 32.50 percent households possessed U-shape working counter in their kitchens. Similar results were obtained by Chaudhary (2004) that majority of the households had L-shape counter (70.29%) followed by 19.80 percent having U-shape and 9.9percent respondents having parallel wall - kitchen whereas Verma (2001) showed that U-shape working counter was more popular (56 percent) than L-shape kitchen (44%) in the urban are of Ludhiyana.

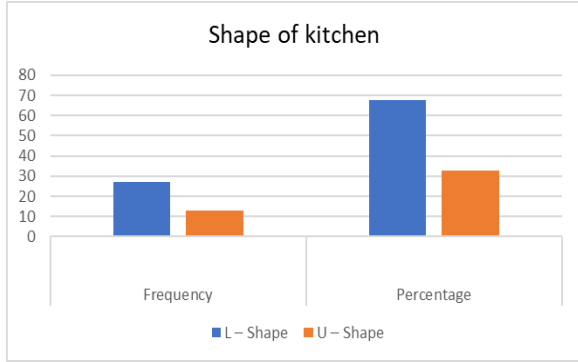


Figure-5

Table 6. Distribution of the households on the basis of sanitary facilities in the kitchen

N- 40

| Particulars | Frequency | Percentage |
|---------------------|-----------|------------|
| Type of garbage bin | | |
| Plastic | 40 | 100.00 |
| Wooden/tin | 0 | 00.00 |

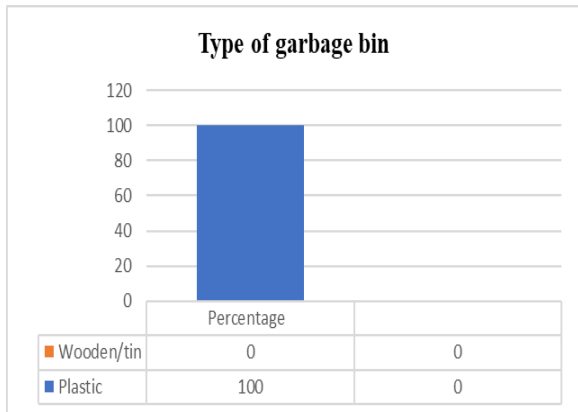


Figure- 6 A

| Particulars | Frequency | Percentage |
|----------------------|-----------|------------|
| Place of garbage | | |
| out side the kitchen | 12 | 30.00 |
| Inside the kitchen | 28 | 70.00 |

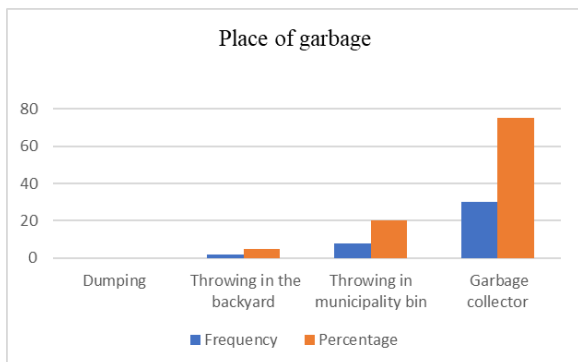


Figure- 6 B

| Particulars | Frequency | Percentage |
|------------------------------|-----------|------------|
| Method of garbage disposal | | |
| Dumping | 00 | 00.00 |
| Throwing in the backyard | 2.00 | 5.00 |
| Throwing in municipality bin | 8.00 | 20.00 |
| Garbage collector | 30.00 | 75.00 |

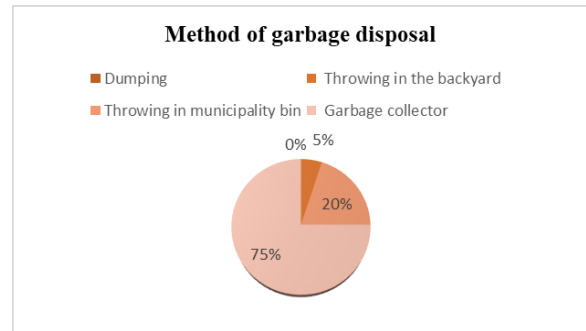


Figure- 6 C

| Particulars | Frequency | Percentage |
|------------------|-----------|------------|
| Type of drainage | | |
| Open / Closed | 00 | 00.00 |
| Underground | 40 | 100.00 |

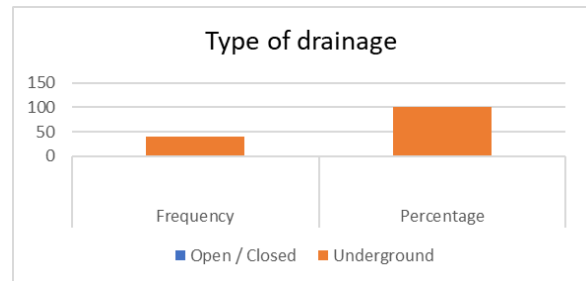


Figure- 6 D

Table 6 Figure A,B,C,D depicts that cent percent of the respondents had under ground water disposal system facility and found to be having plastic garbage bin under the category of type of garbage bin. Majority Seventy percent the respondents were having the garbage bin inside the kitchen while thirty percent of the households placed the garbage bin outside the kitchen. As all the households were purposively selected from the same locality it was observed that in seventy percent house holds, garbage collector used to come to collect the garbage whereas eight percent of the respondents disposed off garbage in the municipality bin. Only five percent respondent disposed off garbage in the backyard of the house.

Table 7. Constraints faced regarding the design of the kitchen and work pattern

N =40 *

| Particular | Frequency | Percentage |
|--|-----------|------------|
| Insufficient natural light | 30 | 75.00 |
| Improper ventilation | 28 | 70.00 |
| Unable to clean the whole kitchen frequently | 32 | 80.00 |
| Tired net due to improper arrangement in the kitchen | 25 | 62.50 |
| Feel stressed due to environmental condition | 40 | 100.00 |
| Small kitchen size | 38 | 95.00 |
| High work counter causing shoulder pain | 25 | 62.50 |
| Top self requires lifting of heel | 36 | 90.00 |
| stinginess due to garbage accumulation | 20 | 50.00 |
| Insufficient light around storage area | 29 | 72.50 |

*Multiple response

From the table number seven it is here that majority of respondents cent percent feel stress due to environmental condition followed by ninety five percent have a small kitchen area. Ninety percent respondents required lifting of heels for the top self and eighty percent of respondent unable to clean the whole kitchen area frequently. Mostly seventy five respondents having insufficient natural light in kitchen and seventy percent respondents have in proper ventilation in the kitchen and work area. Majority of respondents 62.5 percent reported tiredness due to improper arrangement in the kitchen and high work counter causing shoulder pain. Majority of respondents 72.5 percent reported insufficient light around the work place. Only fifty percent respondents reported reported sting is due to garbage accumulation.

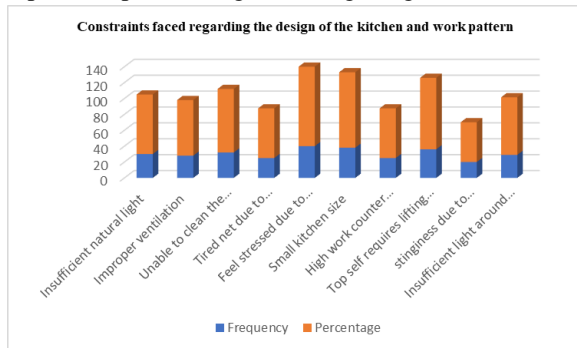


Figure-7

4-CONCLUSION

It was concluded that the urban kitchen layouts are improperly organised in relation to organised in relation to dimensions of different areas, placement of articles and work pattern. The main cause of poor working pattern was found to respondent cent percent feel stress due to environmental condition and have a small kitchen area. Mostly respondents required lifting of heels for the top self so this feels stress on legs in proper ventilation in the kitchen and work area increased stress and tiredness.

5-SUGGESTIONS

- It is critical to arrange additional places in the kitchen sufficiently close to one another in order to minimise travel distance.
- Storage goods, such as food and other supplies, should be placed near the point of usage.
- Mounting multi-level adjustable shelves or racks on the wall next to the work area. Constructing rotating shelves for quick access to goods in the corners above the work surface.
- Ensure good lighting, sanitation and ventilation in the kitchen.
- Use task lighting at cooking and sink centres.
- The size of window should be ten percent of the total floor area to maintain good lighting as well as ventilation.
- Exhaust fan or Chimney over the cooking range should be big enough to provide good ventilation.
- Use of waste bin near the sink area.

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