

PASSIVE ADAPTATIONS IN THE URBAN SOCIETIES OF BANGLADESH CONSIDERING KITCHEN AREA

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ABSTRACT

Residence carries cultural information through its structure and activity. The kitchen, an indispensable part of a residence is used to cook food and food is the presenter of a country's habit and nature. This study is an attempt to investigate the transformation of the spatial organization of kitchen area considering Dhaka, Bangladesh residences. The study is based on primary data collected from different types of apartments in Dhaka City. Thirty households were surveyed using a structured questionnaire to investigate the kitchen activities, workable space, comfort while working in the kitchen. The study has institute that once upon a time, kitchen was useful for different activities and it was given equal importance while designing the living rooms or bedrooms. But slowly kitchen has become one of the most hazardous space in a residence, in the context of Dhaka and the situation are getting worse. The outcome of the study is expected to raise awareness on setting, design of kitchen area appropriately among architects & planners.

KEYWORDS: Kitchen, Spatial organization, Dhaka, Bangladesh, Hazardous

INTRODUCTION

Kitchen is one of the most important and functional area of an apartment. It is a multifunctional space, regardless of its size, function type, or arrangement. For centuries, the kitchen has evolved in terms of equipment, shape, and location in relation to other rooms in the house. Because the evolution of the domestic kitchen is a continuous process, it should be ergonomically addressed. A well-designed kitchen with proper size, layout can act as a safe workable area for the users of different age. It can act as a place of household members spending time together, tightening the family bonds and developing the social connections. The early 80's kitchens of Dhaka city were something like that. The housing pattern of old Dhaka supported a big kitchen where three to four women can work comfortably because of the extended family culture of Bangladesh. Also, there was a big veranda attached to the kitchen where women used to gossip with their neighbours during their leisure. Gossiping from roof to roof is also a famous culture of Bangladesh which is still alive in the old part of the Dhaka city. Sufficient and lavish area in kitchen can see in typical traditional houses in old Dhaka in figure 1 (Iftekhar Ahmed, 2011).

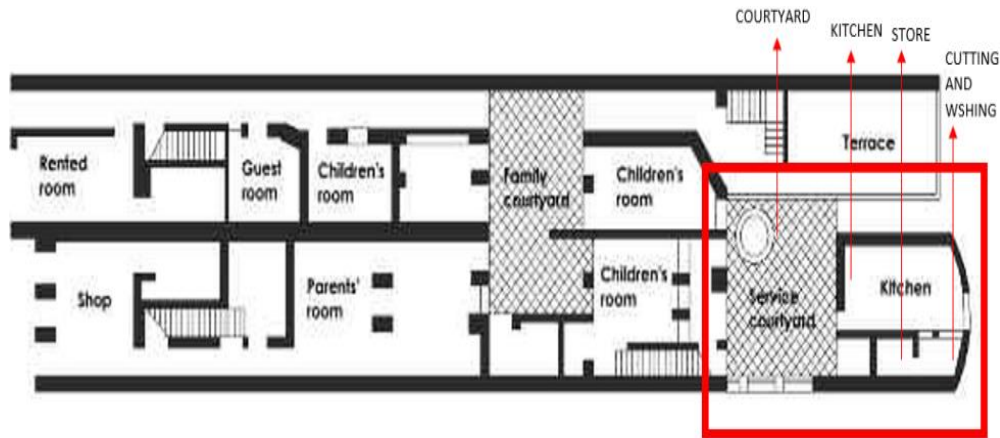


Figure 1: Kitchen of a typical traditional house in old Dhaka

Women used the roof to dry the spices, fruits, clothes and used to become the part of a social gathering with their neighbouring women, who also came to the roof for the same purpose. Most of the women at that time were housewives and these gatherings were the only way they can do social interactions. Later the families were getting smaller and small apartments were being built, for the nuclear families. In early 2000, kitchen got smaller and opportunity for social gatherings from the kitchen reduced. But it was not uncomfortable for the Women of that time because of their outdoor activities. Sooner they adopted in the smaller kitchen well and kitchen started to lose its importance compared to the other functions of a residence. After that, gradually Dhaka has become one of the most densely populated cities on earth and it is increasing every day as people move here from different areas across the country to avail facilities. As a consequent, one of the most significant issues is accommodating a massive community. Dhaka's apartments are becoming increasingly congested, especially for middle- and low-income families. Therefore, the kitchen is also getting congested and remain less importance in initial design layout. Now a days, many designers consider kitchen as a store and not provide it proper ventilation and space. Which can act as unsafe, discomfort workable place for food preparing, cooking and serving. The aim of this study is to investigate the transformation of kitchen area of the apartments of Dhaka city. Thirty household of middle-income group apartments were surveyed for data collection along with questionnaires. The surveyed kitchens are varied in size and shape but in most of the cases the user express dissatisfaction with the layout of their kitchens.

One of the most important locations that influences the socializing process is the home kitchen. Social integration is a critical responsibility in homes where the kitchen is not just a place of work but also a place of socializing. On the other end, it is a possible hazardous workplace, which users and designers often neglect. While planning and positioning the kitchen area of an apartment, ergonomic parameters must be taken into account. A proper layout and sufficient designed kitchen area can contribute to the reduction of accidents and the facilitation of kitchen work.

Transformation of Kitchen location:

Following figure shows, In the Permeability graphs kitchen became in a closer location to the entrance from British to Pakistan and Pakistan to Bangladesh, and Permeability graph gradually became bush to tree like that indicates the gradual segregation in interior-exterior relation of houses (Mohammad, 2006)

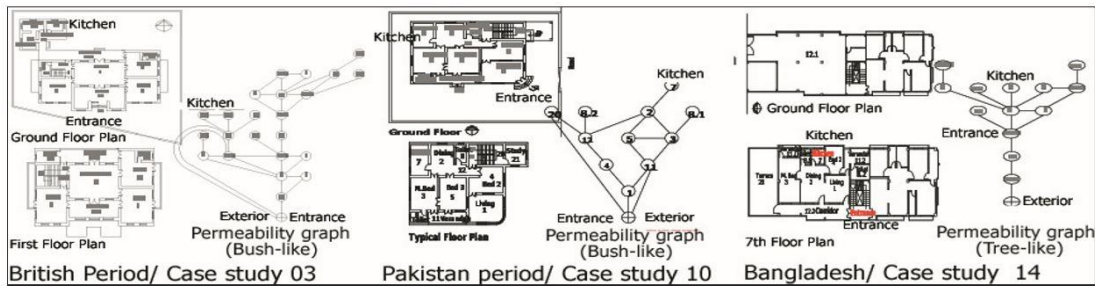


Figure 2: Transformation of kitchen's location across three typical houses of the three periods

Spatial Organization of kitchen area in the Contemporary Residential Apartments in Dhaka

In traditional urban houses of Dhaka, kitchen was used for eating and performing other household activities like child caring, sewing, resting and other domestic activities. In extrovert type houses of colonial period service like kitchen, toilet, store, and servant’s area became a separate wing attached to the main living block. Storage space becomes necessary for storing bulk of non-perishable food items. Service functions (Kitchen, toilet etc.) seem to be located near the entrance in the consolidated houses in service zone. Kitchen along with servant’s room store and veranda form a separate zone and it is attached to the main household space. In contemporary apartments the kitchen is located near the dining space. A veranda is usually attached for performing the food preparation and processing of raw fish and meat. For space economy the servant’s room and store room are disappearing from the apartment layout plan (Catherine,2014)

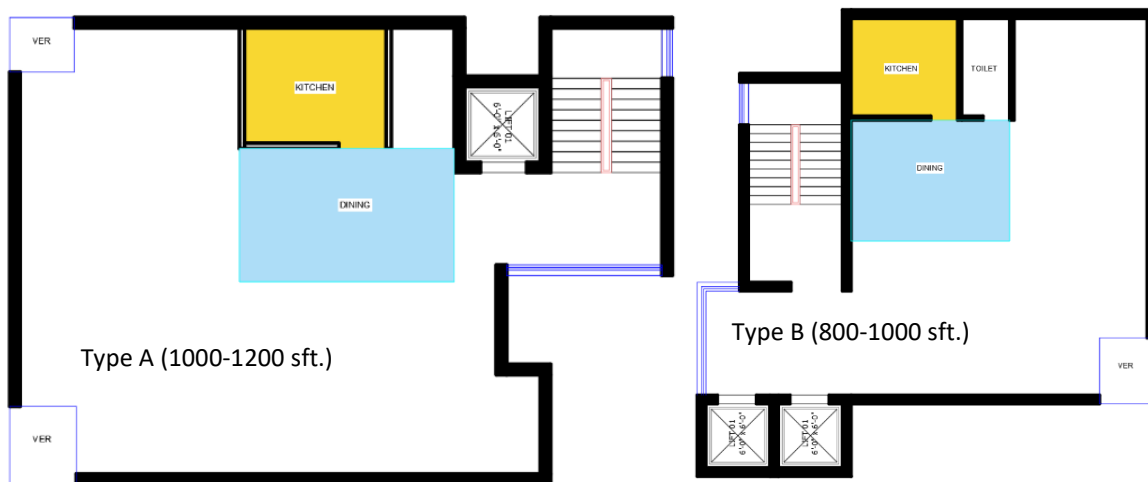


Figure 3: kitchen in typical apartment of Dhaka

METHODOLOGY

The study is based on literature review, field survey, analysis and questionnaires. Field survey included identification and selection of sample houses, detail survey of the houses, structured interviews with the family of the houses, taking photographs A sample which consists of 30 typical apartments have been investigated through physical survey, interviews and analysis. Women’s status also observed.

Selection of the apartment

30 apartments of Mohakhali wireless and Badda area of Dhaka North city corporation have been selected for study. Where most of the middle-income group people lives. Usually, 3 types of apartments can see in Dhaka city: Large apartment (within 1200-1500 sft), Medium apartments (within 1000- 1200 sft) and Small Apartment (within 800-1000 sft). Most middle- and low-income families, as well as nuclear families, live in medium- and small-sized apartments. Type A (1000-1200 sft) and Type

B (00-1000 sft) apartments were studied. 15 units were chosen from the Mohakhali wireless region, while the remaining 15 were chosen from the Badda district of the North City Corporation.

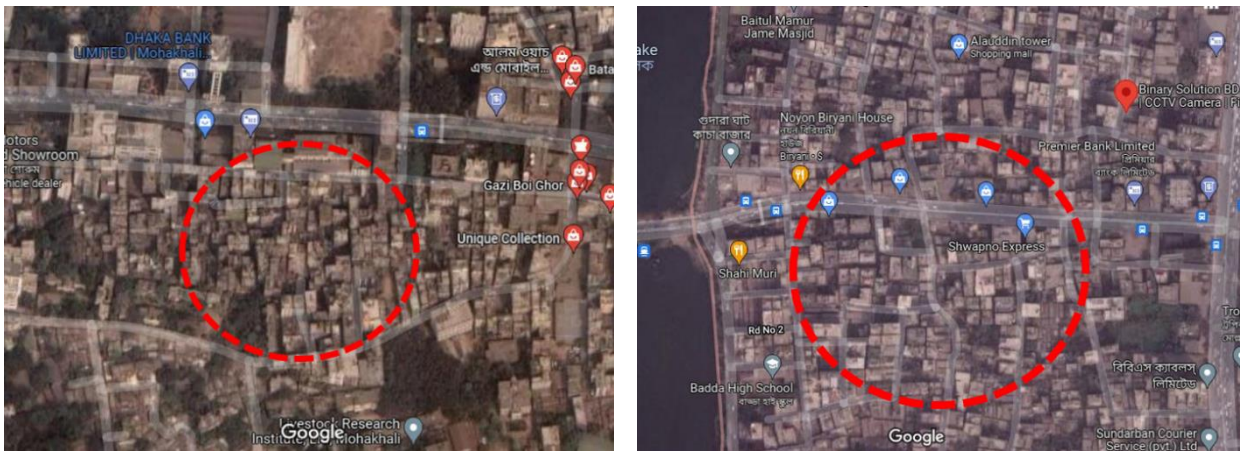


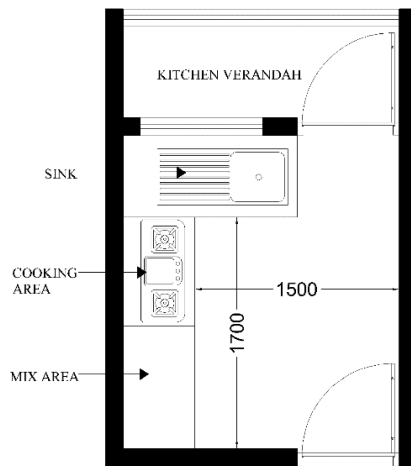
Figure 4: Google satellite image of survey area

Questionnaire Survey

A structured questionnaire survey was performed to investigate the user’s activities, workable space, comfort while working in the kitchen area. A set of questions had been prepared and asked more than 50 people to observe their perception, concern, recommendation about kitchen area. A set of questions which were asked to the users are given below:

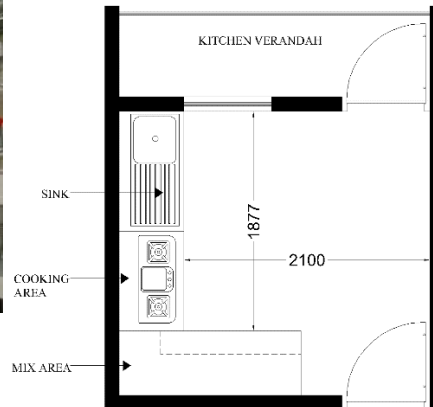
- Question 1: Interviewee’s personal data (age, gender, occupation status)**
- Question 2: What kind of work you perform in the kitchen area?**
- Question 3: How do you define the kitchen area?**
- Question 4: How long do you work in kitchen?**
- Question 5: Is there enough space in the kitchen to do the work?**
- Question 6: Do you have attached veranda/Store room to your kitchen?**
- Question 7: Is the kitchen layout comfortable for work?**
- Question 8: Do you like to cook in kitchen?**
- Question 9: Do you think the kitchen area can be the place of family socializing?**
- Question 10: Do you think kitchen work is just for women/ housewife?**
- Question 11: What kind of recommendation you can give for kitchen designing?**

Question 2 and 3 were asked to understand the user’s impression about kitchen area. Question 5 and 6 were asked to classify the types of kitchen layout of different apartment. Question 7 wanted to identify the user’s judgement about comfort and discomfort. Question 8, 9 were asked to identify people intention about kitchen area. Question 10 wanted to specify personal judgement about the kitchen work in context of social norms. Finally, last question was performed to know the user’s awareness about design practice of kitchen area in residential apartment.



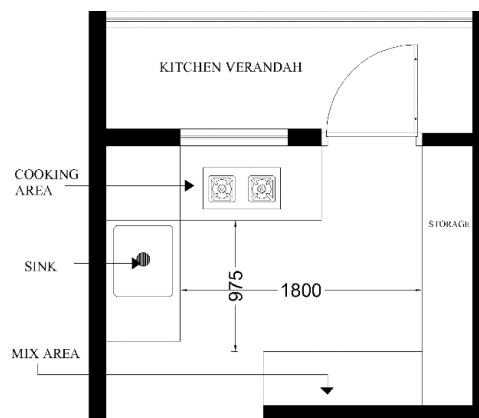
Kitchen type A1 (1000-1200 sft apartment) It has attached veranda but refrigerator and food serving area is missing. Presence of veranda is good for ventilation. Users of this kitchen area prefer storage place.

Figure 5: Kitchen type A1 (1000-1200 sft apartment) Source: Survey; 1st October 2021



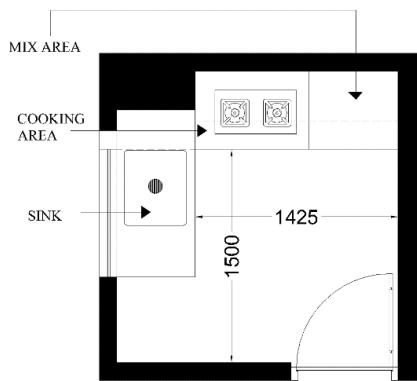
Kitchen type A2 (1000-1200 sft apartment) It has attached veranda but Refrigerator and food serve area is missing. Presence of veranda is good for ventilation. Circulation space is enough and

Figure 6: Kitchen type A2 (1000-1200 sft apartment) Source: Survey; 1st October 2021



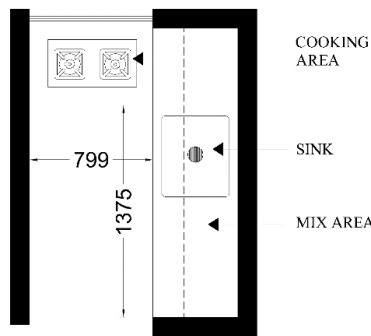
Kitchen type A3 (1000-1200 sft apartment) It has attached veranda but Refrigerator and food serve area is missing. Although it has been tried to keep refrigerator near the dining area. Window is adjacent to the range which won't work as proper ventilation.

Figure 7: Kitchen type A3 (1000-1200 sft apartment) Source: Survey; 1st October 2021



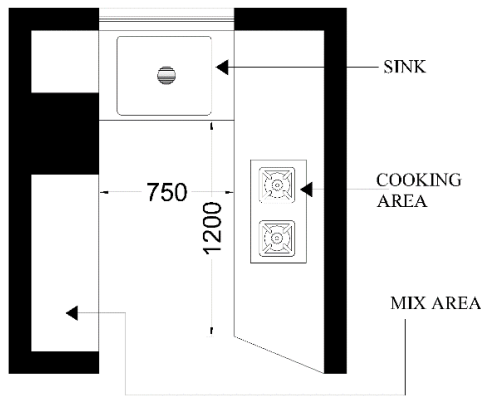
Kitchen type B1 (800-1000 sft apartment) Here, refrigerator and food serve area is missing. Work flow is not maintained properly. Insufficient space for storage as well as work.

Figure 8: Kitchen type B1 (800-1000 sft apartment) Source: Survey; 1st October 2021



Kitchen type B2 (800-1000 sft apartment) It is too congested to work in. Because the window is adjacent to the range/cooking area, it will not provide adequate ventilation. While cooking, the users of this kitchen feel too warm. They advised having ample working space and adequate ventilation.

Figure 9: Kitchen type B2 (800-1000 sft apartment) Source: Survey; 1st October 2021



Kitchen type B3 (800-1000 sft apartment) Here, work flow pattern is quite well and positioning the sink area next to the window helps to keep the wet zone dry. The use of a kitchen hood reduces the temperature in the kitchen while cooking. Despite the fact that the space is too small it is nonetheless

Figure 10: Kitchen type B3 (800-1000 sft apartment) Source: Survey; 1st October 2021

DISCUSSION AND FINDINGS

The surveyed apartments were selected according to the specific size focused on middle income group family. Two types of apartments had been surveyed: Type A (1000-1200 sft) and Type B (800-1000 sft.) Data was collected from 60 respondents. The characteristics of the interviewees are summarized (see Table I), where the percentage in reference to the overall sample is also given. The ratio of interviewer is 50% Female and 50% Male and the maximum age is between 20-30 years.

Table 1 characteristics of the participants

Gender	Number	Percentage	Gender	Age	Percentage
Male	30	50%		20-30	45%

Female	30	50%	Both Male and Female	30-40	38.3%
Total	60	100%		40-50	11.7%
					100%

User’s definition, judgment, perception about kitchen area

Most of the users defined kitchen area as a place of food preparing and cooking. 22% people responded it can also be a place of family socializing. Maximum people like to cook in kitchen occasionally and usually people work in kitchen for 2-3 hours.

Table 2 Participant’s observation about kitchen area

Kinds of works been performed in the kitchen	Number	%	User’s defined kitchen area	Number	%
Food preparing	Nil	Nil	A place of food preparation and cooking	31	52.5%
Cooking	9	15	Hazardous place	Nil	Nil
Eating / Serving	Nil	Nil	A place of family interaction	3	4.1%
Option 1 & 2	25	41.5%	Option 1& 2	7	11.2%
Option 2 & 3	14	23.5%	Option 1& 3	13	22%
All	12	20%	All	6	10.2%

User’s perception about kitchen area

The majority of respondents said there isn't enough working and storage space in the kitchen. While working in the kitchen, many people feel discomfort. Erroneous ergonomics, a lack of kitchen work flow, a lack of sufficient ventilation, and mobbed areas all contribute to discomfort. Most of the kitchen have found that lack of work flow and percentage distribution of tips in food preparation according to “Time Saver building types” [3]

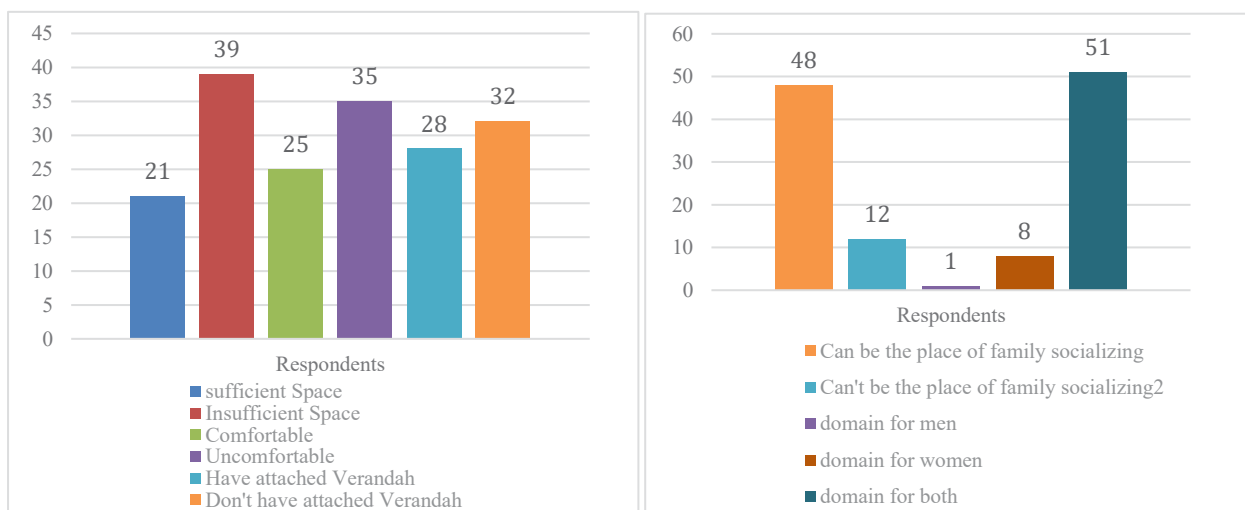


Figure 10: User’s perception about kitchen area

Recommendation from users

Participants in the survey made a variety of recommendations. The majority of people desire adequate working space as well as more storage. Because many individuals feel torrid while working in the kitchen. They prefer appropriate ventilation, good air movement, and a kitchen hood. Male

participants provide the most recommendations for a comfortable working environment and a smooth work flow. People believe the kitchen can be used for family socialization, but driven by economic realities that have resulted in a congested kitchen area, they prefer enough working space and proper ventilation over having serving or eating space. The relative location of work centres should permit a continuity of kitchen activities as follows: (1) Storage; (2) Cleaning and mixing; (3) Cooking; (4) Serving, or storing for future use; and (5) Cleaning up in Figure 11 (Joseph D. C., John C,1983)

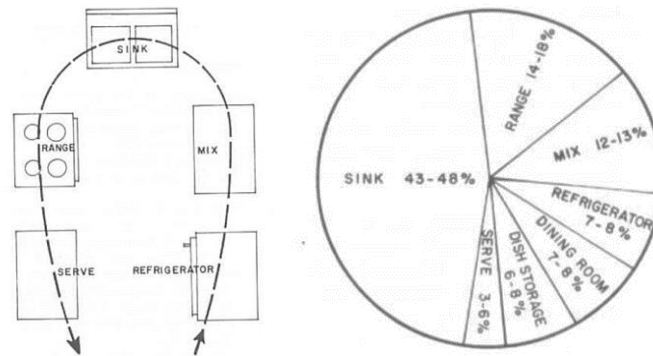


Figure 11: Flow of work in food preparation and Percentage distribution of trips in food preparation

CONCLUSION

Kitchens in Dhaka apartments are becoming extremely competitive. People who live in a medium-sized apartment pay less attention to the kitchen. They would rather have more bedrooms than a sufficient kitchen with adequate storage and a well-designed work flow. There is almost no space for a refrigerator. Food serving and dining areas are neglected. Once upon a time kitchen was an individual functional zone of a residence having different segregation such as storage, veranda and courtyard. With time it has become smaller and people adapted with it. Now a days, People's perceptions about kitchen activities are improving as a result of changing social norms. Kitchens are no longer solely for female members. However, due to a lack of adequate ergonomics, individuals find it difficult to work in the kitchen which our ancients didn't feel because of the lavish space. Though people adapted with the small kitchen but sometimes it hampers their health because of insufficient space and air flow. Whatever, we cannot get back to that kind of grandeur which our ancients enjoyed, but at least we can make the kitchen comfortable for the number of persons perform the activities despite of having challenging economic condition. At the end, we should keep in mind that we do everything to live and food is the main element which keep us alive, so that the place where the food is being prepared needs supreme attention.

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