

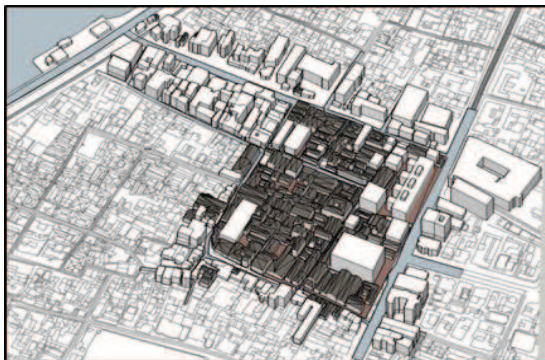
HOUSING TYPOLOGY, NEEDS AND REQUIREMENTS IN A SLUM SETTLEMENT - CASE STUDY: KUMARTULI, KOLKATA

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Abstract: The word slum brings about countless questions, issues and factors in our minds that include property rights, land use, system of construction and so on. Many of these problems have primarily to do with the socio-economic and political structure of the region. Yet, the people, their socio-economic status and cultural background are some of the driving forces determining the living patterns, nature of spaces and therefore the architecture of this place. In spite of this, the issues that such kind of settlements face, overshadows any architectural aspect that is worth valuing. Also, with time, it has been quite evident that such type of settlements that mainly situate themselves on the periphery or outskirts of major towns, are increasingly spreading and getting denser. As architects, it is not in our scope that we encourage the opposite or make this process reversible in any way, especially since today the 'big city' or township is getting more and more dependent on the services of the people living here. There have been approaches to redesign in these areas that seem to actually cause more problems than those existing previously. This paper will document and study the existing housing and workshop typologies in the settlement of Kumartuli. It will highlight factors affecting the habitat and identify architectural qualities of the site that are worth retaining. The paper will show why a documentation and analysis of the existing conditions of such a settlement is important prior to any intervention.

Keywords: *Architectural features, Habitat, Housing typology, Slum settlement, Socio-economic structure*

Background: KUMARTULI (*kumar - tuli*) or the potters' colony nestled in the banks of the Hooghly river in Kolkata is a traditional centre of clay image making (idols) housing of more than five hundred families of potters and sculptors. The potters who make these images are called *kumars* but they often take the surname *Pal*. Their work is seasonal and they have workshops where they create the idols using clay from local rivers such as the Hooghly. Their patrons are wealthy families, individuals, clubs and businesses and they work to commission as well as selling images on the open market. Clay idols are made for the annual Hindu festivals of West Bengal, such as *Durga Puja* which ends with the immersion of clay images in rivers. The tradition of clay idol making in West Bengal probably has its origins in a medieval village tradition but it was during the 18th and 19th centuries that clay idol making became established as the distinctive feature of Bengali culture today.



Kumartuli is linked with the city network by major aerial nodes like Rabindra Sarani, Strand Bank Road, Circular Railway Network, Shovabazaar Station and Ahiritolla Station. The nearest Metro Station is Shovabazaar. North-South arterial connection: Rabindra Sarani - from Bagbazaar canal(north) to Bentick St.(south) Strand Bank Road (35ft wide), railway track runs to the east, Shovabazaar and Ahiritolla railway stations are close. East-West: Durga Charan Banerjee St. connects Strand Bank Rd and Rabindra Sarani. Banomali Sarkar St. is considered as the main street of the image makers of Kumartuli. Owing to commercial activity and early transport facilities offered by the river, warehouses and residential buildings of well-to-do Bengali families were built on the bank of the river. Thus the area was connected with early British Commercial Enterprises.



Fig. Housing clusters in the study area showing the ratio of housing to toilet facilities.



Fig. Hierarchy of access routes in the vicinity of the study area.

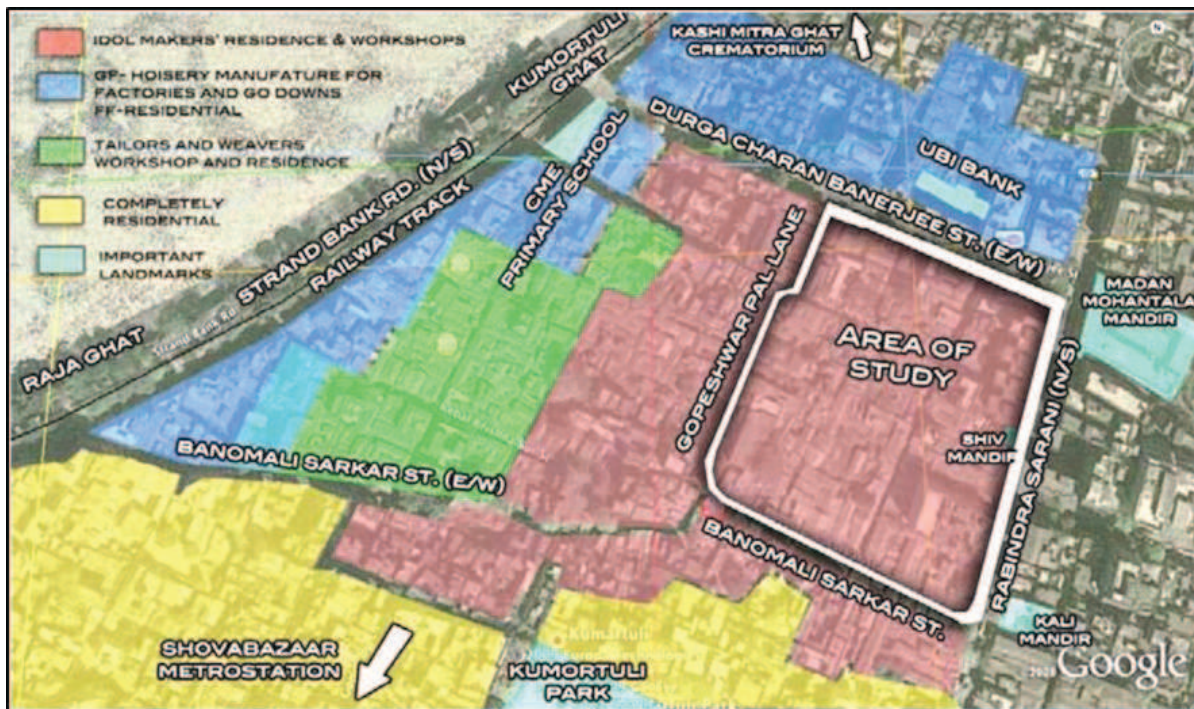


Fig. The area of study - land use, routes and connections with the river and immediate context.

The workshops and residence of the Kumars are inter-linked in such a manner that one cannot be separated from another. During the Festival time work goes on all day and all night therefore it would be inconvenient for the Kumars to live elsewhere.

Documentation of Housing and Workshop Typology:

Type 1 -

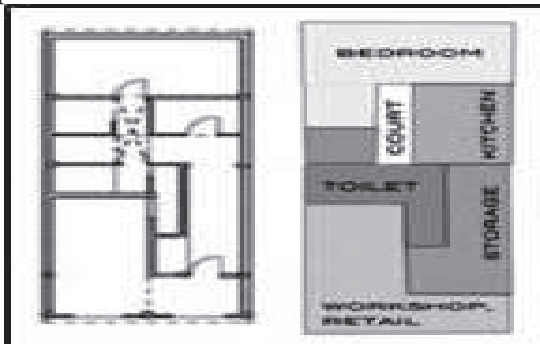


Fig. Housing and workshop type 1.

Includes one workshop and residence for its workers all under one roof (one storied), the two separated by a courtyard. Toilet and bath are attached.

Type 2 -

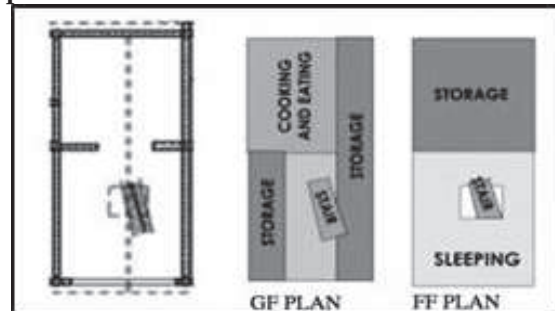


Fig. Housing and workshop type 2.

Two storied - The ground floor holds a workshop where the residents cook and eat. This is the public domain. The first floor is mainly used for a storage and sleeping area for workers. Occupants use the common toilet of the lane.

Type 3A -

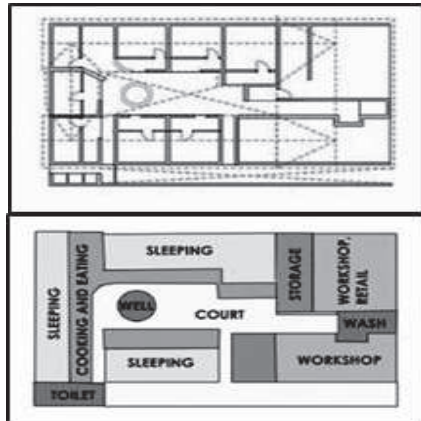


Fig. Housing and workshop type 3a.

Displays a cluster of dwellings, including two family residences. The courtyard acts as threshold between the workshop and residence. Workshop - Public-Exterior, Residence- Private- Interior. A separate toilet and bath is provided for this cluster.

Type 3B

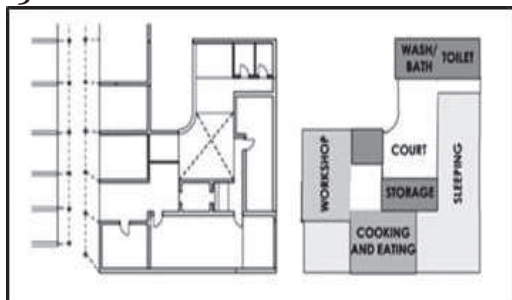


Fig. Housing and workshop type 3b.

A cluster is formed by two workshops connected with residences of 6 families. Rooms are arranged around a courtyard with a well in the centre. The well acts as a meeting point. There is an existing separate toilet and bath for this cluster. The Cooking area is separated from the other activities.

Type 4A -



Fig. Housing and Workshop type 4A.

Includes a cluster of workshops with residences adjacent to them accessible through the court or lane. The workshops have working space on the ground floor and storage area on the first floor.

A separate block of housing has rooms with attached kitchenettes and common toilet facilities that are shared. The occupants of the housing block do not necessarily work at the workshops near them.

TYPE 4B

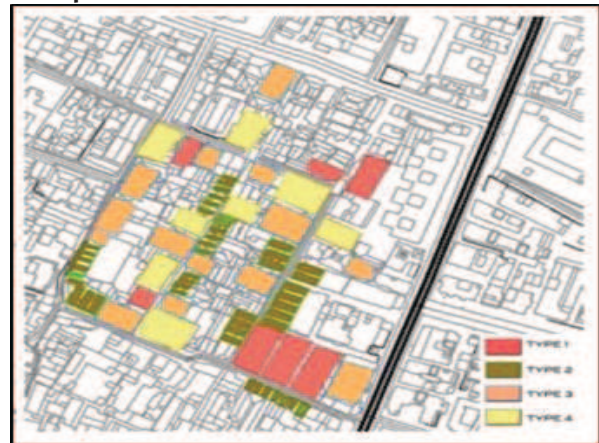


Fig. Location of the different housing types.

Comprises of a housing block that holding 5 families living in 7 rooms. Common toilet and bath facilities are shared.

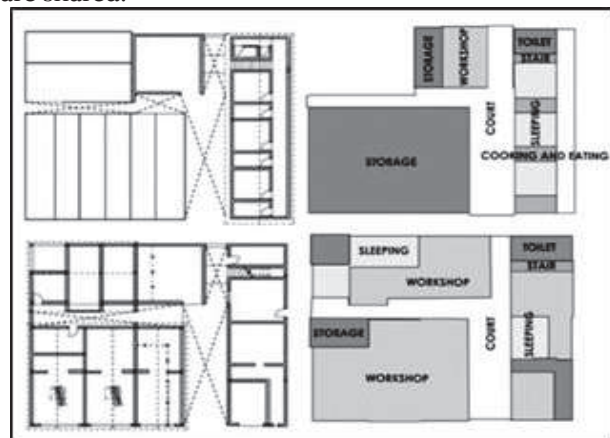
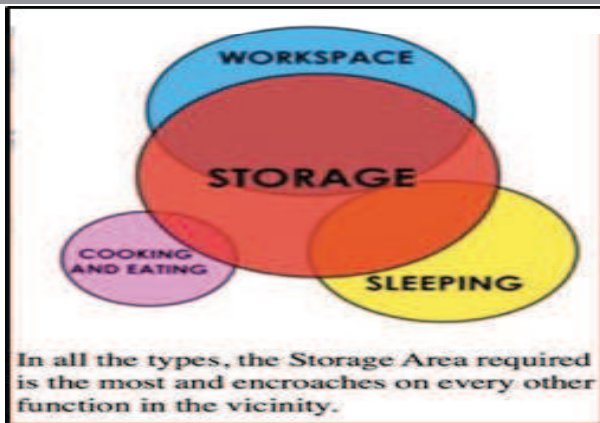


Fig. Housing and Workshop type 4B.

The residents are not potters or *kumars* and instead are, mostly involved in some sort of service. Nearby workshops open out into the court from the back and use this space for storage.

Observations and inferences: 1. In most of the house and cluster types, the primary observation is that that a considerably large area is reserved for storage purposes.



Therefore, future interventions by architects, designers government or non- government agencies should incorporate the idea of including a large area primarily for the storage of idols in the process of their making. Idols need to be dried from time to time in between processes and it is both beneficial for the residents as well as for their product if this area receives ample amount of sunlight in order to expedite the process and help maintain sanitary conditions in the neighbourhood.

OCCUPATION

EARNING POPULATION - 2037

People engaged in Idol Making - 247 The rest of the Kumars live outside the Study Area.

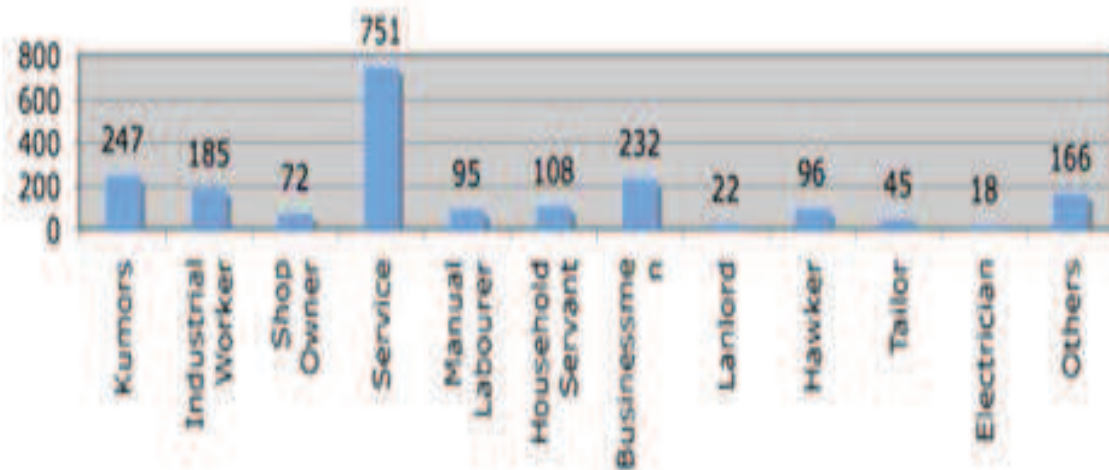


Fig. Occupation of the residential population.

The second largest and most utilized area as per the documentation and findings is the workspace where the idols are created from scratch. This is followed by area allotted for leisure or sleep and that used for cooking and eating.

It can be concluded that this particular settlement is unlike other slum settlements to the respect that it holds numerous workshops of a particular work type. However, it has also been recorded that a large section of the potters and idol makers live elsewhere and come to work in this area. Also, a large portion of the residential population in this area work elsewhere. Most of these dwellings are not privately owned. Thika tenants or middlemen in charge of

these primitive structures and the land, charge the residents for rent. The residents are therefore not permitted to make additions or changes in the primary dwelling units themselves.

Results from on site surveys: Surveys conducted of 1335 families and their residences, determine that 18% of the families occupy in less than 60 sq. ft and 76% of them live in one-room tenements. One can reach a conclusion that these type of settlements are hostel-like holding families. A cluster of tenements or housing units forming 'chalis' or group housing clusters have been generated over a period of time which is the preferred accommodation type.

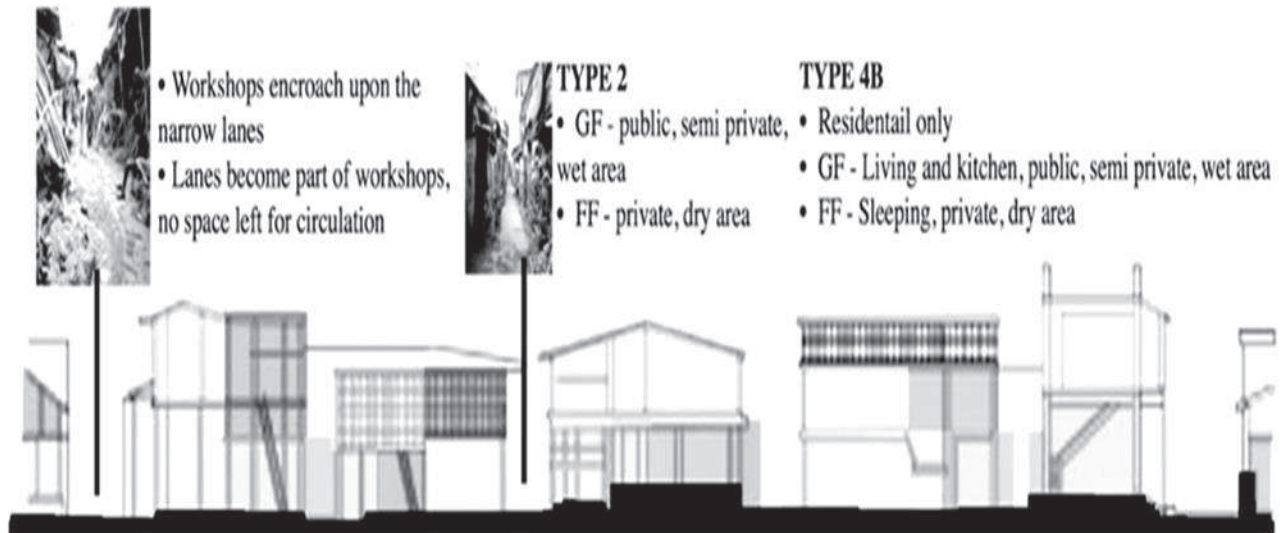


Fig. Sanitation facilities in the study area.

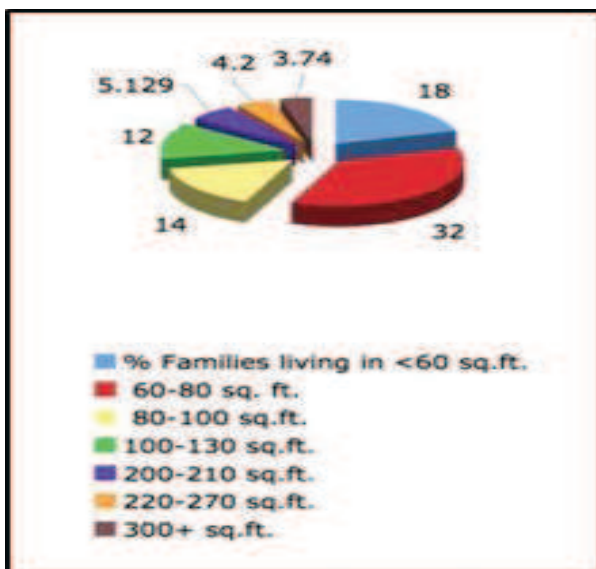
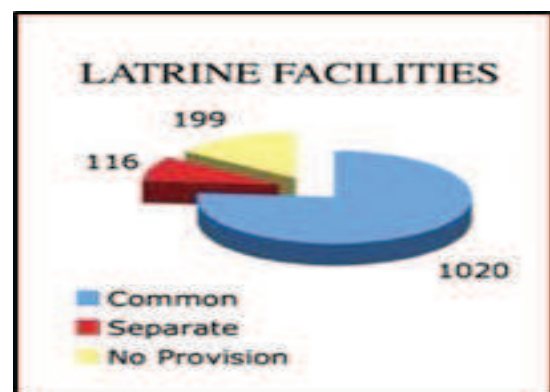
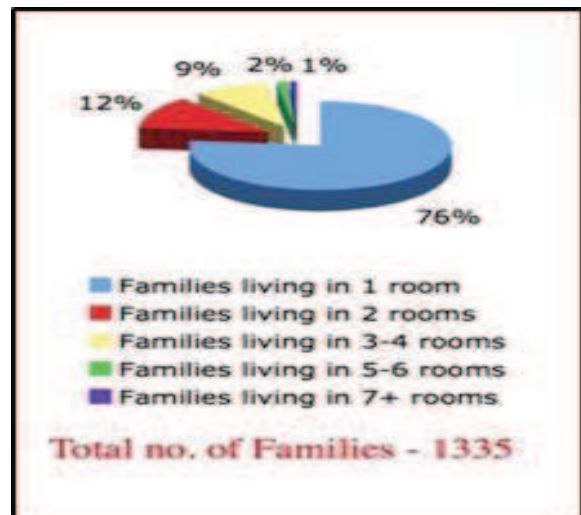


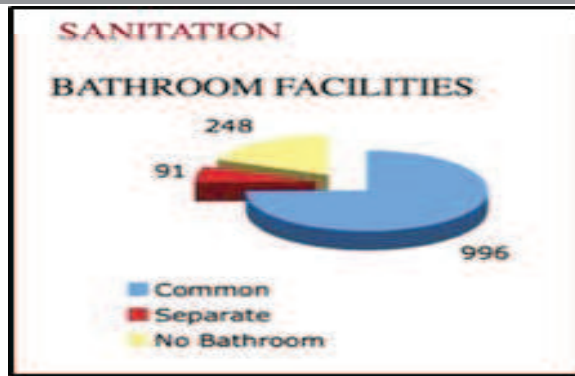
Fig. Groups per sq. ft.

construction companies. They work in factories and belong to the low income group. Affordable housing is a prime concern for this group and it is imperative that they are provided for in a growing metropolis.



Also, most of the workspace occupies the ground floor along with shops and other small commercial enterprises. These are situated on the periphery of the residential clusters and along the roads. The work area using raw materials like hay, clay and water are in dire need of drainage and water supply facilities. This also applies for toilets and baths. 996 units use a common bath while 1020 units use common toilets. There is next to no kitchen space for most of these dwellings where the corridors, ancillary spaces and wet areas accommodate temporary and mobile kitchens.

Conclusion: Slum or squatter settlements are home to migrants from neighbouring towns, villages and mofussils. They are the workforce for hire for



The migrants, in due course, replicate the settlement patterns and the style of living that is typical to their native towns forming urban villages. The settlement patterns display organic qualities that are absent in a modern planned housing complex. They promote the notion of community living and collective gathering spaces. Some dig wells and form a courtyard around

it by enclosing that area with their houses. By improving upon sanitation, providing water supply, introducing the residents to local construction methods and locally available materials it would be creditable to propose incremental housing schemes that would involve user participation. A kit of parts including toilet blocks, kitchens, staircases and bridges, using local materials could be provided which the users would be free to incorporate in their existing settlement.

A settlement of this nature grows over a period of time and is constantly growing. It is interesting to study how they live and how they build so that we can build better for them and imbibe qualities and sensibilities in our designs.

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