

Residential Density Issues: The Case of Karachi

By
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Karachi is Pakistan's only international port city. It contains 10 per cent of the total population of Pakistan and 25 per cent of its urban population. It is the capital of the Sindh province and contains 30 per cent of the province's population and 63 per cent of the province's urban population¹. The city generates 15 per cent of the National GDP and 42 per cent of value added in large scale manufacturing. It provides 25 percent of federal government revenues and 62 percent of income tax². In spite of being the major industrial city of Pakistan, 75 percent of the working population in a 1990 survey worked in the informal sector which mostly operates out of low income settlements mainly in the garment, leather, textile, carpet and light engineering sectors³.

Thirty six point seven percent of Karachi's land is currently utilised for residential purposes: 27 percent has been developed formally and 8.1 percent informally. The development process for the rest (which is 1.6 percent) is unclear.⁴ Sixty two percent of Karachi's population lives on the 8.1 percent informally developed land.

Eighty percent of Karachiites live in plots of 120 square yards or less. Houses on plots of between 400 and 2,000 square yards account for only 2 percent of the total housing stock. Yet, they occupy about 20 percent of Karachi's residential area.⁵

The new low income settlements are far away from employment zones which makes it very difficult for women to work. Surveys show that people living in these settlements spend three to four hours travelling from home to work and back. Travel costs vary between Rs 56 to Rs 100 per day. In addition, there are social costs as well. Due to time spent in travelling, men cannot give time to their families and are tired and ill because of travelling in environmentally degraded and uncomfortable conditions.⁶

Although land for housing is available in informal or semi-formal settlements, expanding families cannot access it easily as they did before this decade. The reason is that the cost of land in a newly developed *katchi abadi* in 1992 for one square metre was 1.7 times the cost of daily wage for unskilled labour at that time. Today it is 40 times the cost for unskilled labour.⁷

As a result of these factors, the only affordable and secure option for an increasing number of families is to build upwards, densifying their settlements. Areas, such as Nawalane in Lyari, which in 1992 had a density of 620 persons per hectare, has a density of over 3,250 persons per hectare today.⁸ Similar conditions are emerging in most of the older informal settlements and in many formal settlements as well. Apartment complexes which had an

¹. Master Plan Group of Offices; *Karachi Strategic Development Plan 2020 (draft)*; City District Government, Karachi, 2007

². Ibid

³. Master Plan and Environment Control Department, Karachi Development Plan 2000, Karachi Development Authority, 1989

⁴. Master Plan Group of Offices; *Karachi Strategic Development Plan 2020 (draft)*; City District Government, Karachi, 2007

⁵. Ibid

⁶. Arif Hasan and Mansoor Raza; *Motorbike Mass Transit*; unpublished report for the IIED UK, April 2011 and Arif Hasan; *Livelihood Substitution: The Case of the Lyari Expressway*; Ushba Publishing International, Karachi, July 2004

⁷. Arif Hasan; *Housing Security and related Issues*; Unpublished paper prepared for the UNDP, October 2008

⁸. Arif Hasan, Asiya Sadiq and Suneela Ahmed; *Planning for High Density in Low Income Settlements: Four Case Studies from Karachi*; IIED, March 2010

average of 5 to 6 persons per apartment living in them a decade ago, now often have 12 to 15 persons.⁹ Although, high densities have numerous advantages for city and infrastructure planning, the abnormally high and unplanned densities emerging in the older settlements of Karachi are creating immense social and physical problems. These include family quarrels, rebellion among children and adolescents, promiscuity, inconvenience for married couples, breakdown of community cohesion, problems in use of toilets and kitchens which increasingly have to be shared, and an increasing gap in water demand and supply.¹⁰

The above discussion points to how important the density issue is to sustainable urban planning. To understand the issue better, we conducted case studies of four low to lower middle income housing sites in Karachi, including three settlements of small plots and one apartment complex. We then carried out a hypothetical redesign exercise to explore how high density settlements could be constructed on these sites according to people's preferences, without compromising on living conditions.

Although settlements of small plots can grow to high densities as residents expand their houses, apartment blocks cannot. However, they are more lucrative for developers because there is more housing for sale immediately after construction. We discussed this with developers and hypothetically designed two small plot settlements on an existing apartment complex. We achieved the same densities (of around 2,800 persons per hectare) as for the existing apartment blocks. The developers were satisfied with the profits that they could make, using our proposal.

Taken together, the four case studies yield a number of conclusions that could inform the planning of liveable high density housing in low to lower middle income areas.

- The vast majority of respondents and interviewees in the four settlements wanted to own a house and not an apartment.
- They also wanted to continue using their home for some income generating activity. This is not possible in an apartment complex apart from giving tuitions to school children.
- Respondents preferred homes that could grow incrementally to house some of their married children, as finding separate accommodation was not an affordable option.
- When they first built their homes, residents in the plot settlements did not consider the additions that they would make incrementally as their needs increased. As a result, the houses are badly planned and ventilated and the settlements are environmentally degraded.
- By remodelling we provided 47 square metre plots. Through this we were able to achieve much higher densities (upto 3,157 persons per hectare) for the plot settlements than the Karachi Building Control Authority (KBCA) prescribed maximum of 1,275 persons per hectare for apartment blocks.
- The existence of an advisory cell or organisation that gives advice on incremental development would help settlements to grow in an organised manner.
- By remodelling a recently developed plot settlement we were able to increase the number of plots from 1237 to 1910. We also changed the plot narrower (width to depth ratio 1:3) this reduced infrastructure costs. As a result, density increased from 501 persons per hectare to 1755. In addition, the cost of the plot was reduced by 41 percent.

⁹. Ibid

¹⁰. Arif Hasan; *Housing Imperatives*; Daily Dawn, Karachi, June 2011

- There is a limit to the density that can be reached without compromising on residents' needs. Houses higher than ground plus three floors are uncomfortable, and their living spaces on lower floors lack light and ventilation; decreasing spaces for amenities and social facilities adversely affects social and environmental conditions. In our replanning exercises, we avoided increasing house heights above ground plus three floors or cutting back on amenities and social facilities, and we found that it was not possible to achieve ultimate densities higher than 3,500 persons per hectare. We have always kept a courtyard in the centre of providing light, air and an open family get together space.

Our study has been widely circulated and discussed. It is also being used as teaching material at the Department of Architecture and Planning at the NED University in Karachi. A housing project in Lahore has asked me to design a settlement on 8 hectares on the principles we have developed as a result of the study.

Plot settlements meet the requirements of low and lower middle income groups better than apartment blocks. They are physically and socially friendlier. In addition, they are affordable since they grow incrementally as and when the need arises. Our study shows that they can achieve more than the densities prescribed by the KBCA. It is necessary to develop appropriate byelaws and zoning regulations to promote high density individually own houses.

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