

Comparison of Environmental, Housing, and Socio-Economic Conditions for the Four Sites

Matrix 01: Environmental Conditions

Case Study	Khuda Ki Basti (KKB)	Nawalane (NL)	Fahad Square (FS)	Paposh Nagar (PN)	Labor Square (LS)
Settlement layout	Orthogonal Grid Iron plan with a house cluster layout around central amenities	Grid Iron plan based on the site topography with back to back houses	Part of the Grid Iron plan of Gulzar-e-Hijri. Compound type apartment block	Grid Iron plan with streets on the front and back of houses	Part of Grid Iron plan of the SITE Town with spaces between apartment blocks acting as spill out spaces and streets
Built area	55.62 %	75.68 %	70.66 %	76.61 %	Not Available
Open area (voids which are either open spaces or un constructed plots)	44.68 %	24.32%	29.4 %	23.39 %	Not Available
Noise Level Control (traffic and general noise)	Good	Fair	Fair	Fair	Fair
	As the settlement is located on the outskirts of the city there is no noise pollution	The road facing houses complain of noise pollution generated by traffic and surrounding commercial activities	The road facing apartments have noise pollution problem due to traffic	The road facing houses have noise pollution problem due to traffic	The road facing apartments have noise pollution problem due to heavy industrial area traffic

Air and Ventilation	Good	Poor	Fair	Fair	Fair
	Good air quality due to its location outside the city	High level of carbon monoxide due to area pollution. Poor ventilation because of narrow, congested streets	The road facing apartments complain of carbon monoxide pollution but the apartments opening onto the central compound have access to clean, fresh air	The road facing houses complain of carbon monoxide pollution due to area pollution	The road facing apartments complain of carbon monoxide pollution due to area pollution
Solid waste disposal	Fair	Fair	Good	Fair	Poor
	No garbage dump seen on the streets. Some garbage dumped in open plots. Strong concept of recycling introduced by SAIBAN and a general low level of consumerism leads to less garbage production.	No garbage dump seen on the streets. Some garbage dumped in open plots. Garbage collected through sweepers who take it to collection points. The main problem lies at the collection points because of city level municipal inefficiency to collect garbage on time.	The union of the apartments is responsible for ensuring adequate solid waste disposal. There are certain garbage collection points and overall disposal is adequate	No garbage dump seen on the streets. Some garbage dumped in open plots. Garbage collected through sweepers who take it to collection points. The main problem lies at the collection points because of city level inefficiency to collect garbage on time.	Many garbage dumps seen on the streets. No adequate system of garbage collection. The reliance is on government sweepers who do not collect garbage promptly.

Drainage during rain	Fair	Poor	Fair	Fair	Fair
		The natural slope of the terrain does help the drainage of rain water but the low lying areas become collection points as is the case in the rest of Lyari (The town in which NL is located)			
Water supply	Poor	Poor	Poor	Fair	Poor
	Water supply is inadequate and irregular	Being a low lying area there are issues of water supply	Water is mostly obtained through water tankers for which money is collected by the union from each apartment	Adequate supply by the concerned government agencies	Water supply is inadequate and irregular
Sanitation	Good	Poor	Fair	Good	Poor
	Low cost sanitation model based on the Orangi Pilot Project successfully executed	As it is a low lying area there are issues of adequate drainage	Drainage lines have severe maintenance issues	Adequate maintenance by the concerned government agencies	Drainage lines have severe maintenance issues
Electricity	Fair	Fair	Fair	Fair	Fair
	All the localities have formal electricity connections but they experience frequent power failures as is the case with the rest of the city				

	Good	Poor	Good	Fair	Fair
Security of area	The suburban settlement provides adequate security	There are issues of gang wars	The gated community ensures good security	Adequate security due to the political patronage of MQM that the area enjoys	Although it is a gated community but there are no checks on people entering the area and anyone can walk in but close links with neighbors help in pointing strangers out.
Parking for cars	N/A	Poor	Good	Fair	Fair
	Residents do not mostly own cars. The primary and secondary streets are wide enough to accommodate cars	The primary streets are wide enough to accommodate cars. Cars cannot enter secondary streets.	The compound accommodates all parking requirements.	Some of the residents own car, they are mostly parked on the streets.	The ownership of vehicles is minimal. Few of the residents own motor bikes that are parked on the streets cum compound in front of apartments
Traffic condition	N/A	Poor	N/A	Fair	N/A
	Not applicable as the car ownership and visits are low	Traffic volumes are high during peak hours on the main roads.	Not applicable as it is a gated compound with adequate parking facility	The primary roads get congested during peak hours but the secondary streets are OK	Not applicable as it is a gated area and secondly very few people own vehicles
Landscaping and vegetation	Poor	Poor	Poor	Poor	Poor
	Few scattered tree plantations	Tree plantations on the main roads, the narrow streets have no space for plantations. Some potted plants kept by residents	Individual apartments have some plants, no plantations on community level	Very Few trees	No trees or plantations seen at all

Area Parks	Good	Poor	Fair	Fair	Fair
	3.52 % of the total area is designated for area parks. Some of the area parks have been developed and are in use by the residents	No space for any area parks	No space for any area parks. The cemented compound serves as the play and socializing area. Nearby parks are utilized for different purposes	1.67 % of the total area is utilized as area level park	One park was seen within the boundary wall of the apartment blocks but it was not being utilized and was a ground rather than a park
Dominant land use and consequent street condition	Residential streets are mostly used for recreation and economic and social activities like children playing, parking of carts and socializing	Commercial Use is on the main road and Residential on secondary lanes. The lanes are too narrow for any playing activity to take place	Residential in apartments and playing and socializing in the compound.	Residential streets are mostly used for recreation and economic and social activities like children playing, parking of cars and socializing	Streets in front of the apartments are mostly used as interaction and recreation areas

Note

- Good is an indication of above average environmental conditions in the given context.
- Fair is an indication of average environmental conditions in the given context where there are some problems or irregularities.
- Poor is an indication of below average environmental conditions where there are more irregularities and major problems.
- Results of KKB, NL, FS and PN are based on detailed surveys, observations and interviews. The case of LS is based on observations only.

Matrix 02: Housing Conditions

Case Study	Khuda Ki Basti (KKB)	Nawalane (NL)	Fahad Square (FS)	Paposh Nagar (PN)	Labor Square (LS)
Average Plot/Apartment size	80 sq. yards (67 sq. meters)	120 sq. yards (100 sq. meters)	81.6 sq. yards (68.2 sq. meters)	66.6 sq. yards (55.7 sq. meters)	61.2 sq. yards (51.2 sq. meters)
Layout of Houses/ Apartments	One to two room layout of single household around a private internal courtyard which is connected to the toilet, kitchen and the staircase. The first floor usually has one to two rooms and roof terrace. (refer house plans KKB)	Two to three room layout of multiple households around a shared internal courtyard which is connected to the toilet, kitchen and the staircase. The same maybe repeated on the upper floors. (refer house plans NL)	One or two room layout of single household around a lounge/living area which is connected to the toilet and kitchen. The common staircase and shared courtyard/open space are outside. (refer apartment plans FS)	Two to three room layout of multiple households around a shared internal courtyard which is connected to the toilet, kitchen and the staircase. The same maybe repeated on the upper floors. (refer house plans NL)	Two rooms layout of double household around an entry foyer which is connected to the toilet and kitchen. The common staircase and shared street act as spill out spaces.
Average household size	6.7 Mostly Nuclear families	13.56 Mostly Extended families	5.72 Mostly Nuclear families	6.7 Mostly Extended families	10 Mostly Extended families
Average number of families per plot	01	2.7	01	1.5	02
Average number of rooms	03	5.0	03	04	02
Average Built up floors	G+1	G+2	G+6	G+2	G+3
Land value per square yard	PKR 5,000 (\$ 61) per sq. yard for a typical house of G+1, having a total covered area (all floors) of 160 sq yards (133.78 sq meters)	PKR 7,352 (\$ 90) per sq. yard for a typical house of G+2, having a total covered area (all floor) of about 360 sq yards (301.0 sq meters)	PKR. 9,752 (\$ 120) per sq. yard for a typical apartment having a total covered area of 81.6 sq. yards (68.2 sq meters)	PKR 10,000 (\$ 123) per sq. yard for a typical house of G+2, having a covered area of about 200 sq yards (167.2 sq meters)	Not Available
Livability conditions of the locality	Fair to Good	Poor to Fair	Fair to Good	Fair to Good	Poor to Fair
	KKB plots were given at a subsidized rate of PKR 370 (\$4.5) per sq yard. Over time an average family has	NL at the current rate of PKR 7,352 (\$90) per sq yard for a G+2 house provides a rather expensive option for new low	FS at PKR. 9,752 (\$12) per sq. yard for an average apartment having a covered area of about 81.6 sq yards	PN at the current rate of PKR 10,000 (\$120) per sq. yards for a G+2 house of a covered area	The current residents who have mostly inherited the apartments or are sharing it with

	<p>invested about PKR 200,000 (\$2469) per plot and the current market rate has reached to about PKR 5,000 (\$61) per sq. yard. This rate is still an economical one for a 80 sq yards suburban plot option in an otherwise expensive Karachi real estate market.</p> <p>Given the initial KKB subsidy with the possibility of incremental housing and vertical expansion accommodating at least 02 generations, low income communities find it an attractive option.</p> <p>The over all physical and social environments are safe and healthy which are looked upon as assets by the residents.</p> <p>The houses themselves with open walls on 02 sides are fairly well ventilated, with adequate light. The wide streets between plots provide adequate privacy and breathing space.</p>	<p>income communities who are unable to pay so much upfront.</p> <p>The current residents who have mostly inherited the houses or are sharing it with family find it an attractive option as they have invested incrementally and are now owners of at an average 120 sq yards (100 sq meters) city centre plot with a possibility of commercialization and further vertical expansion accommodating their future generations.</p> <p>However, over time the external spaces have been encroached upon, area conditions have worsened and the over all density has increased to an extent where the over all physical and social environment in no longer safe and healthy.</p> <p>Old area ties, family and clan networks, city centre nearness (aspects which are looked upon as assets by the residents) still keeps the residents in the area. Otherwise, the locality and the houses are congested</p>	<p>(68.2 sq meters) provides an economical housing option for lower middle income nuclear families who want to live near the city centre, availing the facilities and nearness to work that the location provides.</p> <p>However, there is no possibility of incremental housing development and horizontal and vertical expansion accommodating any future generations.</p> <p>The external spaces provided are shared by all residents and are generally not very well kept. This does not seem to bother the residents too much as they have access to the surrounding facilities like parks, playground and markets.</p> <p>Old area ties, family and clan networks are not deemed very important by the residents as compared to city centre nearness.</p> <p>The feel that in an urban life and nuclear family set ups apartments offer safe and</p>	<p>of about 66.6 sq yards (55.7 sq meters) provides a rather expensive option for low income communities who are unable to pay so much upfront.</p> <p>The current residents who have mostly inherited the houses or are sharing it with family find it an attractive option as they have invested incrementally and are now owners of an average 66.6 sq yards city centre plot with a possibility of commercialization and further vertical expansion accommodating their future generations.</p> <p>Nearness to the city centre, ownership of a family house, old area ties, family and clan networks (aspects which are looked upon as assets by the residents) keeps the younger generations in the area.</p> <p>The locality has also over time become lower</p>	<p>family do not find it an attractive option as their family sizes have grown and there is no possibility of incremental expansion of the apartments and they cannot afford to buy new property to accommodate their extended families.</p> <p>There are also issues of adequate drainage, solid waste collection, water supply and ventilation.</p>
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		<p>with no open spaces and major security issues such as gang wars.</p> <p>The houses themselves with sometimes 03 shared walls with other houses have bad ventilation and light access and suffer privacy issues.</p>	<p>economical living. They feel that their next generations will follow suit and deal with the restraint of extensions of the dwelling units by moving into another flat.</p> <p>The apartments are fairly well ventilated and have access to light. Privacy is not an issue as there is ample space between two blocks of flats</p>	<p>middle to middle income with mostly professionals and businessmen living here.</p> <p>The houses have been extended both horizontally and vertically encroaching on the back and front streets. This has overall congested the area leaving narrow streets and almost no open spaces. The decrease in the street widths has lead to the blocking of air and light and privacy issues.</p> <p>However, due to the average built up density not exceeding above G + 2 at the moment, the overall density is bearable. If the area grows more vertically and the remaining open spaces have been encroached upon, the area conditions would worsen to an extent where the over all physical and social environment will no longer be safe or healthy.</p>	
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Availability of open spaces	Good	Poor	Fair	Poor	Good
Use of Roof	Good	Fair	Poor	Good	Poor
Use of Compound/ Courtyards	Good	Fair	Fair	Good	Streets act as interactive space. There are no formally designed courtyard or compound
Use of Street	Good	Fair	Poor	Fair	
Use of Near by Ground	Fair	Fair	Fair	Fair	Poor
Overall Building Material	Block masonry and Reinforced Cement Concrete	Mix of load bearing and Reinforced Cement Concrete structures	Block masonry and Reinforced Cement Concrete	Block masonry and Reinforced Cement Concrete	Block masonry and Reinforced Cement Concrete
Roofing	Batten tiled sheets	Reinforced Cement Concrete	Reinforced Cement Concrete	Reinforced Cement Concrete	Reinforced Cement Concrete
Flooring	Concrete finish	Tile finish	Porcelain tiles	Tile finish	Concrete finish
Façade treatment	Mostly un plastered	Paint finish	Paint finish	Paint finish	Paint finish
Boundary walls	The boundary walls are raised to 8 feet and more. In some cases, the internal room/enclosure are built using boundary wall as a common/sharing surface boundary wall.	Party walls between adjacent houses. No compulsory open spaces around built units	Compound wall enclosing the entire apartment complex	The boundary walls are raised to 8 feet and more. In some cases, the internal room/enclosure are built using boundary wall as a common/sharing surface boundary wall.	Compound wall enclosing the entire apartment complex
Indicator of Incremental Growth	Yes	Yes	No	Yes	No
	The possibility of incremental growth exists on individual plots but as the settlement is young and the need hasn't arose therefore not many	As it is an old settlement with very strong social ties almost all of the houses have developed incrementally accommodating 2-3	One time development, both by the builder and the individual owner.	The settlement has grown incrementally vertically as the plot sizes are small and the need is there to accommodate growing	One time development

	house extensions are seen as yet. 65% of the residents plan to do further extensions	generations. 53.62% of the residents plan to do further extensions		families. 60%of the residents plan to do further extensions	
Ventilation of houses/ apartment	Fair	Fair	Fair	Fair	Poor
	Ventilation benefit has been accrued in such cases where the orientation of the plot is favorable and internal layout is done accordingly to the proposed design	69.57 % of the respondents believed that kitchens and washrooms are well ventilated and 75.36 % of the respondents thought that bedrooms and lounge are well ventilated	16 % of the respondents believed that the apartments had poor ventilation	Originally planned with front and back streets, the ventilation must have been good, however, with encroachments and resultant narrow streets the ventilation is poor now. In the cases where an internal courtyard still exists , the condition is better	No through ventilation makes the apartment hot, dark and dingy
Privacy	Good	Fair	Fair	Fair	Fair
	As the settlement is a low density area with only ground plus one structure therefore there are no major issues of privacy invasion.	As the residences do not have any compulsory open spaces around them and are constructed in an ad hoc manner, some of the staircases look into the courtyards and terraces of other houses	36 % of the respondents believed that the apartments had privacy issues	The unplanned house extensions have lead to breach of privacy as one neighbor can look into the adjacent houses. But the residents don't seem to be bothered by it and manage through putting curtains or blinds.	Only the ground floor apartments have windows opening on the streets which create privacy problems
House development and maintenance	Good	Fair	Fair	Fair	Poor
	The respondents spent on average PKR 4200 (\$ 52) annually for the maintenance of the houses. 46 % of the respondents answered that	The respondents spent on average PKR 5000 (\$ 61) annually for the maintenance of the houses. 63.77% of the respondents answered that	The respondents spent on average PKR 7574 (\$ 93.5) annually for the maintenance of the apartments. 46% of the	The respondents spent on average PKR 7574 (\$ 93.5) annually for the maintenance of the apartments. 77.7% of the	There were several drainage and sewerage leaks observed

	they maintain through personal savings	they maintain through personal savings	respondents answered that they maintain through personal savings	respondents answered that they maintain through personal savings	
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Matrix 03: Social Conditions

Case Study	Khuda Ki Basti (KKB)	Nawalane (NL)	Fahad Square (FS)	Paposh Nagar (PN)	Labor Square (LS)
Average household size	6.7	13.56	5.72	6.7	10
	Extended families	Extended families	Nuclear families	Extended families	Extended families
Average number of children	4.2	6.36	3.64	3.36	4
Average number of school going children	1.7	3.88	1.36	2.0	Not Available
Average number of working members per household	1.8	2.66	2.04	2.04	2
	The average number of working men is 1.3	The average number of working men is 2.46	The average number of working men is 1.72	The average number of working men is 1.72	Mostly men are the bread earners
Average number of Working women per household	0.5	0.2	0.32	0.32	Nit Available
Dominant Age groups	20 to 40 years	20 to 30 years	20 to 30 years	20 to 30 years	30-40 years
	40 % of males between 20 and 30 years and 48 % of females between 30 and 40 years	34.21 % of males and 54.84 % of females between 20 and 30 years	60 % of males between 20 and 30 years and 60 % of females between 40 and 50 years	26..32% of the males and 54.05 % of the females are between the age of 20 to 30 years	

Occupancy Age	5 years	Since birth	6.5 years	25 years	35 years
	50 % of the population has been residing from 04-07 yrs	100 % of the population has been residing since birth	50 % of the population has been residing for 05 to 08 years	40 % of the population residing in the area for the last 50 years and 60% of the population residing for less than 50 years with large percentage (37%) of the population moving in to the locality over the last ten years	
Occupations	40 % skilled labor	40 % private jobs	36 % private jobs	40 % private jobs	Mostly laborers and factory workers
Place of work	Within 0-10 kms	15-20 kms	5-10 kms	5-10 kms	Within 0-10 kms
	41 % works within KKB and another 41 % works in adjoining areas up to a distance of 5-10 kms	52.18 % population working up to a distance of 15-20 kilometers	40 % up to a distance of 05-10 kilometers	40 % of the population working in adjoining Areas	Most of the population is working in the surrounding factories
Place of shopping	23.96% within 2 kms	83 % within 2 kms	52 % more than 2 kms	64 % within 2 kms	Most of the residents shop from nearby weekly markets
Place of recreation	100 % more than 2 kms	97 % more than 2 kms	100 % more than 2 kms	93 % more than 2 kms	100 % more than 2 kms
Day time Availability of Transport	100 %	100 %	100 %	100%	100%
Night time Availability of Transport	50 %	100 %	100 %	100 %	100 %
Average Income per Household	PKR. 8000 (\$99)	PKR. 6500 (\$ 98)	PKR. 9500 (\$ 80)	PKR 8000 (\$98)	Not ascertained

Monthly expenditure	PKR. 10,050 (\$124)	Not ascertained	PKR. 11,059 (\$ 136.5)	Not ascertained	Not ascertained
Nature of tenure	95 % ownership	94.20 % ownership	68 % ownership	93.33% ownership	95 % ownership
Usage of open space/ compound	Fair	Not applicable	Good	Fair	Good
	The bigger open spaces are under utilized (only 25% of the residents use it) or not utilized except in the evenings for playing football.	Streets are narrow and mainly used for pedestrian circulation. There are no designed open spaces for interaction of residents.	80% of the residents use the central compound for either socializing or as play area	Streets and nearby parks are used for socializing and as play area	Streets are used for socializing and as play area
Play area for children	Fair	Poor	Good	Fair	Good
	Children normally play on the streets and in the open areas on the neighborhood scale.	50.72% of the children under 14 play in their houses and 59.42% of the residents over 14 play in nearby parks and ground.	The compound serves as the main play area for the children and socializing space for the elders.	40 % of the children play on the streets and 55 % play in the nearby area level park	As there are hardly any vehicles on the streets therefore they are a safe play area for children
Women's socializing area	Fair	Poor	Fair	Fair	Good
	Women use the threshold and space in front of the houses for recreation, economic activities and socializing.	60.87 % of the women face problems with regards to recreation and entertainment spaces because there are no separate entertainment/ recreation areas for them and they are not allowed to interact in non segregated areas	The compound serves as the main socializing space for the women.	89.33 % of the women do not have any problems with regards to non availability of recreation spaces	The streets are the main socializing space for the women.

Community center	Fair	Fair	Fair	Poor	Poor
	The residents were divided equally on the presence of community centre necessary as a social space.	100 % believe that the schools play a vital role in the community developments: in making better human beings 56.52 % answered that there is no community center in the area.	72% of the residents believed that there is requirement for a community center	74.67%of the residents believed that there is no requirement for a community center	There is no provision for any community center
Sense of belonging to the community	Fair	Good	Fair	Good	Fair
	90% of the residents feel strong sense of belonging to the locality. 75% feel this affiliation because of the social support available to them through the NGO SAIBAN.	100 % of the residents have a strong sense of belonging because 97.37% of the residents have been living in the area since childhood and have developed strong social ties	90 % of the residents feel a strong sense of belonging because a high percentage of ownership of the apartments, sense of security because of the gated compound and social ties that have developed over time	94.67% answered they have a strong sense of belonging to the community	People are willing to relocate to a locality where incremental development is possible
Role of CBO/ NGO	Good	Good	Fair	Fair	Poor
	The NGO SAIBAN has a very strong presence and helps through health related free facilities, immunization , awareness and income generation programmes.	CBOs in the area help in funerals, lobbying for basic services, admissions in schools, solving conflict with police. One such NGO is Anjuman-e-Naujuwanan-Nawalane	As it is a Muhajir Quami Movement (MQM) dominated area therefore the political party has set up its office in the compound and works towards resolution of the problems of the residents.	CBOs in the area help in funerals, lobbying for basic services, admissions in schools, solving conflict with police.	No CBO or NGO exists in the area

Advantages of location	Fair	Fair	Fair	Fair	Fair
	Ownership (65%) , economical plot option (85%) and safe and good environment (92%) were pointed out as the biggest advantages	47.56 % of the respondents thought of family proximity and social networks \ as the biggest advantage and 37.8 % though of proximity to city centre and work as the biggest advantage	36 % answered safe and good environment	Proximity to city centre and work was pointed put as the biggest advantage of the area (86.67%)	Nearness to workplace
Disadvantages of location	Late infrastructure development (30%) was pointed out as the biggest disadvantage	38.68 % pointed out security issues as the biggest disadvantage and 21.74 % said there were no disadvantages of the location	56 % answered poor infrastructure: non availability of water, electricity, leaking drainage pipes	Poor infrastructure conditions was pointed out as the biggest disadvantage of the area (85.15 %)	Poor infrastructure, scarcity of water and no possibility of incremental development leading to cramped living conditions.

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Matrix 04: Physical Conditions

	Khuda Ki Basti		(KKB)		Nawalane	(NL)		Paposh Nagar		(PN)			Fahad Sqare		(FS)		
Total Area	40.8	acres	16.51	hectares	20.9	acres	8.4	hectares	15	acres	6.07	hectares	1.50	acres	0.607	hectare	s
	197472	sq.yds	165111	sq. meters	101214.24	sq.yds	84579	sq meters	72986	sq.yds	60702	sq. meters	7454	sq.yds	6070	sq. meters	
Total no. of plots	1237				769				714		1			248	1		
Average No of Families/ plot	01				2.72				1.5					01			
Average Family Size	6.7				13.56				6.7					5.7			
Average number of people per plot (average no of families per plot x average family size)	6.7				36.88				10.05					5.7			
Total Population (average no of people per plot x total no of residential plots)	8287				28360				7175					1414			
Population Density (total population / total area)	203	ppl per acres	555	ppl per hectare	1356	ppl per acre	3376	ppl per hectare	478	ppl per acre	1182	ppl per hectare		942	ppl per acre	2329	ppl per hectare
Total Built up Area-GROUND FLOOR	23.06	acres	9.33	hetares	15.4	acres	6.23	hectares	12.09	acres	4.89	hectares		1.06	acres	0.42	hectare
Total built up area ALL FLOORS	30.9	acres	7.37	hectares	35.87	acres	14.51	hectares	23.36	acres	9.45	hectare		5.3	acres	2.14	hectare
Total open area	17.74	acres	7.37	hectares	5.4	acres	2.18	hectares	2.91	acres	1.17	hectare		0.44	acres	0.18	hectare
No of plots/appts. per acre	34.30	plots per acre	13.72	hectares	36.8	plots per acre	90.4	hectares	47.6	acre	117.6	hectare		202	apartment per	500 acre	Appts per hectare

	sq.meters	no.of plots	% of area as developed	% of total area as 'planned'	sq.meters	No of Plots	% of area as developed	sq.meters	No of Plots	% of area as developed				No of Apts.	% of area		
LANDUSE																	
Schools		12	3.65%			2	2.32%		6	2.60%							
Amenities		9	2.86%			6	1.81%		5	2.85%							
Residential		921	40.27%			606	60.5%		578	60.5%				248			
Residential+ Commercial		145	7.14%			93	10.65%		127	6.66%				56	70.6%		
Commercial		14	1.85%			1	0.02%			4%							
Open spaces/ parks		12	7.24%			1	0.12%		1	4%							
Empty Plots			1.85%				5.1%			3.36%					0.0%		
BUILT / OPEN																	
Total built up area %			55.62%				75.68%			76.61%					70.66%		
Total open area%			44.68%				24.81%			23.39%					29.33%		
Total Area			100%				100%			100%					100%		

	area in sq. meters		% by area as developed		area in sq. meters		% by area as developed		area in sq. meters		% by area		area in sq. meters		% by area		
CIRCULATION																	
Total Circulation	10923.23745		35.60%		17591.70		19.61%		2089.14		16.03%		2525.11		29%		
1- Pedestrian*1	-		19.1 %				9.75%				3.7%				02%		
2- Vehicular*2	-		16.5%				9.86%				12.33%				27%		

*1: Pedestrian spaces include streets being used for pedestrians, cycles and motorcycles of width variation from 2'-6" (.75 meters) minimum to 8'-0" (2.42 meters). These are usually not wide enough for emergency vehicles like ambulances and fire engines.

*2: Vehicular spaces include those for public transport as well as those for cars and other motorized traffic. These are usually used by pedestrians as well simultaneously.

Builtup Density	area in sq. meters	no.of plots	Built floor area as % of the total ground area		area in sq. meters	no. of plots	% by area as developed		area in sq. meters	no. of plots	% by area		area in sq. meters	no.of apts.	% by area as developed		
Total Case Study Area																	
Ground	108816.74		40%		15882.01		16%		6416.16		7.93%		785.00		1%		
Ground + 1	19432.20		14%		33672.78		69%		22014.78		54.40%		0.00		0%		
Ground + 2	6456.30		7%		23983.61		74%		74901.75		73.63%		438.07		6%		
Ground + 3			0%		45939.13		19%		3426.68		16.94%		0.00		0%		
Ground + 4			0%		1112.67		5.69%		0.00		0.00%		1841.31		309%		
Ground + 5			0%		412.00		0.26%		0.00		0.00%		0.00		0%		
Total	134705.234		61%		12410.48		184%				152.84%		3064.38		316%		
Length of sewer drain (rft)	6363.64					20189			7409				9484				
Length of water line (rft)	6363.64					20189			7409				9484				

Matrix 05: Physical Comparisons with New Proposal

	Khuda Ki Basti		Nawalane		Paposh Nagar		Fahad Square	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
Total Area	40.8 acres (16.51 hectares)		20.9 acres (8.4 hectares)		15 acres (6.07 hectares)		1.50 acres (0.607 hectares)	
Total no. of plots	1237	2112	769	1000	714	777	248	171
Average Family Size	6.7 persons	6.7 persons	13.56 persons	13.56 persons	6.7 persons	6.7 persons	5.7 persons	5.7 persons
Number of families per plot	01	02	2.72	02	1.5	02	01	01
Average number of people per plot	6.7 persons	13.4	36.8 persons	27.0 persons	10.05 persons	13.4 persons	5.7 persons	5.7 persons
Total Population (Residential)	8287 persons	28300 persons	28299 people	27000 persons	7175 persons	10411 persons	1414 persons	975 persons
Population Density (total population / total area)	203 ppl per acre 502 ppl per hectare	693 ppl per acre 1714 ppl per hectare	1356 ppl per acre 3376 ppl per hectare	1291 ppl per acre 3214 ppl per hectare	478 ppl per acre 1182 ppl per hectare	694 ppl per acre 1715 ppl per hectare	942 ppl per acre 2329 ppl per hectare	650 ppl per acre 1605 ppl per hectare

Average residential plot size	80 sq. yards (67 sq. meters)	56 sq. yards (47.0 sq. meters)	120 sq. yards (100 sq. meters)	56 sq. yards (47.0 sq. meters)	81.6 sq. yards (68.2 sq. meters)	56 sq. yards (47.0 sq. meters)	66.6 sq. yards (55.7 sq. meters)	
Cost of Land per sq. yds.	PKR 5000 (\$ 61) per sq. yards for an average 80 sq. yds. (67 sq. meter) house of G+1.	PKR 5000 (\$ 61) per sq. yards for an average 56 sq. yds. (47 sq. meter) house of G+2.	PKR 7352 (\$ 90) per sq. yards for an average 120 sq. yds. (100 sq. meter) house of G+2.	PKR 7352 (\$ 90) per sq. yards for an average 56 sq. yds. (47 sq. meter) house of G+2.	PKR 10,000 (\$ 123) per sq. yards for an average 66.16 sq. yds. (55.73 sq. meter) house of G+2.	PKR 10,000 (\$ 123) per sq. yards for an average 56 sq. yds. (47 sq. meter) house of G+2.	PKR 9752 (\$ 120) per sq. yards for an average 81.6 sq. yds. (68 sq. meter) house of G+2.	
Cost of Unit	Overall covered areas = 160 sq. yds (134 sq. meter). Overall cost = RKR 800,000 (\$ 9,876)	Overall covered areas = 168 sq. yds (141 sq. meter). Overall cost = RKR 840,000 (\$ 10,370)	Overall covered areas = 360 sq. yds (302 sq. meter). Overall cost = RKR 26,46,720 (\$ 32,675)	Overall covered areas = 168 sq. yds (141 sq. meter). Overall cost = RKR 12,35,136 (\$ 15,248)	Overall covered areas = 200 sq. yds (168 sq. meter). Overall cost = RKR 1,998,000 (\$ 24,666)	Overall covered areas = 168 sq. yds (141 sq. meter). Overall cost = RKR 16,80,000 (\$ 20,740)	Overall covered areas = 81.6 sq. yds (68 sq. meter). Overall cost = RKR 7,95,763 (\$ 9,824)	
LANDUSE	%	%	%	%	%	%	%	
Residential	40.27	55	60.5	55	60.5	55	70.6	
Residential cum Commercial	7.14		10.65		6.66		0	
Commercial	1.85	5	0.02	5	4	5	0	
Parks (area level, neighborhood parks)	7.24	8	0.12	10	4	10	0	
Amenities	2.86	4	1.81	4	2.85	4	0	
Educational	3.19	4.5	2.32	4	2.60	4	0	
Empty Plots	1.85	0	4.98	0	3.36	0	0	

Total Circulation (Roads & Streets)	35.60	23.5	19.6	22	16.03	22	29.4	
BUILT / OPEN								
Total Builtup Area	55.62	68.5	75.68	68	76.61	68	70.6	
Total Open Area	44.6	31.5	24.32	32	23.39	32	29.4	
Total Road Length (In Rft.)/rm	14000ft/4267.2m	12600ft/3840.48m	15120ft/4608.57m	11278ft/3437.53m	12000ft//36576m	7985ft/2433.82m	2747ft/837.28m	
Total Sewerage Line Length (In Rft.)/rm	16,200ft/4937.76m	13600ft/4145.28m	17000ft/5181.6m	12,400ft/3779.52m	13,400ft/5913.12m	8950ft/2727.96m	3075ft/937.26m	
Total Water Lines Length (In Rft.)/rm	15800ft/4815.84m	13000ft/3962.4m	16800ft/5120.64m	12000ft/36576m	13200ft/4023.36m	8620ft/2627.376m	2900ft/883.92m	
Cost of Roads Per Rft.	6790	3575	11790	6766	10100	6166	7491	
Cost of Sewerage and water supply Per plot (Rs) Rft	6500ft/1981.2m	3750ft/1143m	10988ft/3349.14m	7320ft/2231.13m	9313ft/2838.6m	6783ft/2067.45m	6789ft/2069.28m	
Cost of roads per plot (Rs)	6790	3575	11790	6766	10100	6166	7491	
Savings per plot roads sewerage and water(Rs)		3215 2750		5024 3668		3934 2530		
TOTAL	13290	5965	22778	8692	19413	6464	14280	

