

# **Tenure Security through External Agency Intervention – Case of Vasna, Ahmedabad**



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(An NRC for Ministry of Housing and Urban Poverty Alleviation, Government of India)  
**CEPT University**

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## **Acknowledgements**

Research is funded under the research project titled “Inclusive Urbanisation – Social Protection for the Slum and Pavement Dwellers in India”, a CEPT University – Mahila Housing Trust (MHT) project, under the programme ‘Social Protection in Asia’, managed by Institute of Development Studies (IDS), Sussex and Institute of Human Development (IHD), New Delhi and funded by Ford Foundation and IDRC.

Authors acknowledge the contribution of Chintan Shah and Uday Resource Centre in field work for this research. Would also like to acknowledge the support of Niraj Jani for the field work

## **Disclaimer**

The comments and opinions in this paper are of the authors and not of the Centre for Urban Equity or CEPT University.

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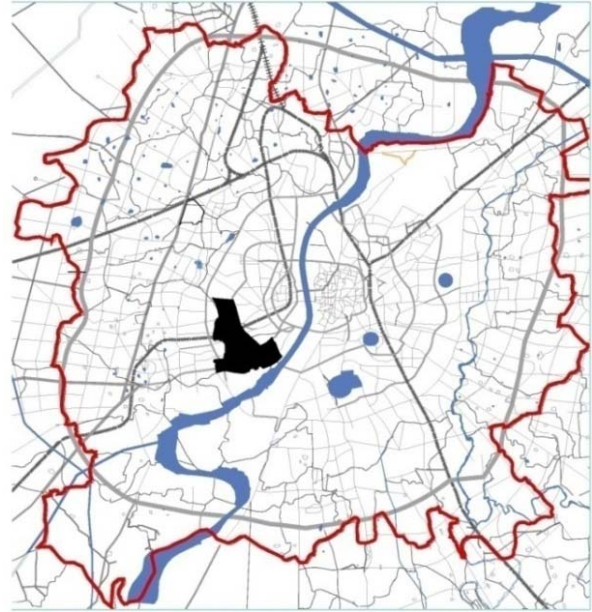
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## 1.0 About Vasna, Ahmedabad

Vasna is located in south-western part of Ahmedabad which is the largest metropolis of Gujarat state and also her commercial capital. Vasna is located on the western bank of river Sabarmati. The area falls within the jurisdiction of Ahmedabad Municipal Corporation (AMC).

In 2001, the total population of Vasna was 103,569 persons in 22,097 households with a sex ratio of 926. The average density of population in Vasna area is 18,831 persons per square kilometre. The total literacy rate in the ward is 81.1 per cent in which male literacy rate is 86.0 per cent and female literacy rate 75.9 per cent.

Based on survey conducted by Mahila Housing Trust (MHT) in the year 2002, there were 24 slums in Vasna Ward housing 7,406 households (Annexure 1). Thus, around 33 per cent of the total houses of the ward were slum dwellings. Out of the total number of slums, 20 slums were located on private land; three on AMC lands and one on state government land. Slum Networking Project (SNP) had been carried out in two slums in Vasna ward.



**Map 1 Location of Vasna Ward in Ahmedabad**

## 2.0 Methodology

There were certain questions based on which the research work was embarked upon.

1. Was there any relationship between level of tenure security and involvement of external agencies?
2. Was the quality of life of the residents in slums with intervention from external agency better than the residents of slums without external agency intervention?

The study was broadly divided into four stages. The first step was to select wards for research from among 64 wards within AMC<sup>1</sup>. After selecting the wards for study, a detailed database of the slums in each of the ward was prepared. The database included land ownership, number of households, population, presence of services like water supply, sewerage, storm water drainage and electricity, presence or absence of an external agency and to what extent this agency was involved in slum development. Based on the database, six slums were shortlisted viz. Pravinnagar-Guptanagar, Sorainagar, Mangal talav, Yogeshwarnagar, Jadibanagar and Shri Omnagar for detailed investigation

in this ward. Among these six, three slums already had some extent of an NGO intervention in assisting the dwellers access basic services. Saath has implemented SNP in Pravinnagar-Guptanagar slum and Mahila Housing Trust (MHT) has implemented SNP in Jadibanagar. Further, MHT has intervened in Sorainagar for water supply. Saath had commenced work on micro finance in Mangal Talav na chhapra. In the remaining two slums, Yogeshwarnagar and Omnagar, there has been no NGO intervention.

The third step was carrying out Focussed Group Discussions (FGDs) in each of the six slums. In the one slum, that was Pravinnagar-Guptanagar, separate FGDs with men, women, young men and young women were carried out. The fourth stage was carrying out structured questionnaire survey. The CEPT research team, in collaboration with Uday Urban Resource Centre (URC), a Community-based Organisation (CBO) established by Saath, undertook primary surveys in these slums. The total sample selected was 529, through stratified sampling based on community groups (Table 1). Identification of communities was easy as the households of same community resided together in a cluster. This was observed in all the slums except Yogeshwarnagar, where the sample selection was not by stratification.

**Table 1: Slum-wise community grouping**

S. No.	Name of the slum	Population	H/H size	Community	No. of H/H	Sample size
1	Pravinnagar-Guptanagar	6,750	5.14	Harijan/Bhil/Vaghri	290	31
				Vanjhara/Marvadi	307	33
				Bharvad	200	21
				Kathiavadi	517	55
				Total	1314	140
2	Jadibanagar na chapra	550	6.11	Patni/Bhaiyaji/Darbar	90	29
				Total	90	29
3	Sorainagar na chapra	3,875	5.00	Dantani/Harijan	410	45
				Marvadi	150	17
				Kathiavadi	150	17
				Total	710	79
4	Yogeshwarnagar na chapra	4,000	4.44	Mixed Community	900	148
5	Mangal Talav na chapra	2,275	5.00	Dantani	300	40
				Vanjhara	200	30
				Vankar (kathiavadi)	250	30
				Total	750	52
6	Shri Om nagar na chapra	3,250	5.00	Harijan	150	30
				Marvadi	500	50
				Total	650	80
TOTAL		20,700			3514	529

All participants were ensured of freely airing their views in the FGDs. The key points of discussion and debate in FGDs included issues of land ownership, land or house transaction documents, availability and adequacy of basic services, socio-economic and cultural background of the slum dwellers, their present standard of living and future prospects, details regarding involvement of NGOs as well as government agencies in slum development, housing preferences, their perception about development of the slum etc. Through these discussions, different types of documents held by the slums dwellers held and factors providing a sense of tenure security could be understood. For example, it

was found that slum dwellers in this ward held an agreement of land plot sale on a stamp-paper (of value ranging from Rs. 20 to Rs. 200), which indicated transaction and the sale value of the plot. But, this was not the land ownership document. The land ownership document is named 7/12 record, which has the name of current as well as past owners and also names of all others who have some stake in the plot of land (mainly the tenant cultivators who were given occupancy rights). The name of the land owner is mentioned in property tax bill also. If the slum was on the municipal land, no transaction documents were available with the residents. Copies of land ownership documents, land transaction documents, property tax bills and receipts and electricity bills were collected during the FGDs. The FGDs assisted the research team in developing understanding of the dynamics and nature of tenure security.

**Table 2: Levels of tenure security, Vasna**

Factors constructing tenure	High <i>de facto</i>	Weak <i>de facto</i>	Insecure
External agency intervention	Yes		
Land document	Yes	Yes	
Land reservation in master plan	No	No	Yes
Administrative instruments	Yes	Yes	No
Entitlement extension	Yes	Yes	Yes
Extension of basic services	Yes	Yes	Yes
Duration of stay	Yes	Yes	Yes

The six slums were divided into three categories of tenure security: (i) high *de facto* tenure security, where SNP was implemented and a NGO was present, the slum dwellers possessed any land related document, including informal one such as a stamp-paper agreement, a large proportion of slum dwellers paid property tax, majority of slum dwellers had a Voter ID card, had long duration of stay and had access to basic services provided by the AMC. (ii) weak *de facto* tenure where there was no NGO present, but had similar conditions as in previous category. (iii) Insecure tenure where slum was on land reserved for other purposes in a Master Plan, did not have any informal land occupancy document and the majority of households did not pay property tax. In essence, the slums located on reserved lands, which were generally public lands, were the slums most vulnerable to the threat of eviction.

### 3.0 Slums' Profiles

#### Pravinnagar-Guptanagar

The settlement of Pravinnagar-Guptanagar is located along two major roads, 132 feet ring road that circles around the city and Paldi-Vasna road that connects to National Highway No. 8C. The population of PG is 7,416 persons in 1314 households in an area of approximately 80,000 sq.mt. The sex ratio of the settlement was 996 with an average household size of 6.

The land of Pravinnagar-Guptanagar and surrounding settlements earlier was a grazing land of Vasna village. Pravinnagar-Guptanagar was one of the four slums in a cluster of about 5000 slum households. This cluster was formed after the flooding in the River Sabarmati in 1973 and the slum dwellers on the river bank lost their homes and were then shifted to Pravinnagar-Guptanagar and Sankalitinagar. Residents were ready to pay if the land was sold to them. In all four FGDs with men, women, youth and young girls, said that the basic services were all good and they all were happy post SNP. The only problem in the settlement was lack of an open plot or community hall for recreation and community interactions. At the time of the survey, which was early 2009, almost all the construction workers of the settlement had been adversely affected by the global economic meltdown.

### **Sorainagar**

Sorainagar slum was located on private land. The owner or his agent had sub-divided it into small land parcels and sold it to the residents. This transaction was carried on Rs.20 stamp paper. The original owner of the plot was unknown and hence it was now difficult to locate the exact history of this transaction. Other than the stamp paper document, the residents do not have any other legal or quasi-legal document. The residents however have been receiving an annual property tax bill from the AMC for last three years. Looking at all this, it was clear that the slum does not have high level of tenure security. The households do not have individual water supply and the AMC has only installed a public stand-post in the settlement. Because the slum was located near Sabarmati River, the water table was comparatively high and hence a few households have installed hand pumps but the water quality was unpotable, therefore not suitable for drinking. All the internal roads of the slum were *katcha*. Sewerage and storm water lines have been installed in the settlement, but proper design has not been done leading to choking, overflow and even back flow in monsoon. There was also water logging during the rains and the roads were slushy. Thus, in all, the slum residents did not have good physical living conditions. AMC had provided very small size individual toilet in each household by collecting Rs. 500 from them, but, without proper sewerage lines, which led to toilets not being used. Many households did not have bath space. There were *aanganwadis* in the settlement and children went to nearby municipal and private schools. There was electricity with individual electric meters. The biggest problem in Sorainagar was transportation. Sorainagar is located approximately 1.5 km away from the main road. Also the connecting road was narrow and *katcha*. Hence it was difficult for even the auto-rickshaw to enter inside the settlement. Residents faced great difficulty in emergencies. People said they were ready to cut their houses and make a wider paved street but they did not know the procedure and there was no organisation to guide them. There were street lights but they were not properly functioning therefore it was not safe for women to go out after sunset. Many girls have reported the incidence of eve teasing. There were two *anganwadis*, one private clinic and one small temple within the settlement. There was limited open space within but plenty of vacant lands outside. Majority of house structures were semi-*pucca* while the *katcha* structures were at the rear of the settlement.

### **Yogeshwarnagar**

Yogeshwarnagar has the worst living conditions among all the six selected slums. There were no basic services like water supply or sanitation system. This was because there was



no NGO intervention in the slum. Majority of houses were *katcha* or semi-*pucca*. But, there were *aanganwadis* and a *gyanshala*. There is a high threat of eviction and hence the residents did not want to invest in housing. They were ready to pay for the basic services but no agency had come forth for the purpose.

### **Jadibanagar**

According to the residents of this settlement, Jadibanagar was formed 25 years ago. Originally the land was agricultural. A person called Phulabhai, who owned the land subdivided it and sold the plots to the people on Rs. 20 stamp paper.

Total population of Jadibanagar was 550 in 90 households. The settlement availed of water supply and sanitation through SNP implemented by the MHT and the AMC. Prior to SNP, the residents purchased water from a few individual households with illegal water lines or a hand pump by paying Rs. 100 per month. Thereafter, the AMC provided a common tap outside the settlement. This SNP was now five years old and now each household has its own individual connection. People said “water quality was very good if water was supplied.” Over the last six months they have had a problem with duration of water supply. Ironically, the settlement had a well functioning sewerage line much before the SNP but it was damaged during the SNP implementation and the new one was of poor quality that often gets choked. Recently one *Aanganwadi* has been opened but otherwise all the children go to the nearby municipal school. Generally the children studied till 7<sup>th</sup> standard after which parents’ financial situation determined continuation in education. After SNP the settlement remains cleaner and hence had fewer epidemic cases than before.

The houses are semi-*pucca* with *pucca* walls and *katcha* ceiling. People want to construct *pucca* ceilings but cannot afford it. People experience perceived tenure security after the SNP and since they are receiving property tax bills. They can avail loan from SEWA Bank but they find the rate of interest high. They are waiting for a scheme to be launched by the Government or MHT for this purpose. Some people have taken loan from SEWA Bank for house repairs.

### **Mangal Talav na Chhapra**

Mangal Talav na chhapra is situated on government land. The name suggests that the settlement was on land of a pond. There was a crematorium and a lake on this land which has been encroached upon by 455 households (2275 people). The residents said that this slum existed since 1954, which is doubtful. Water supply and sanitation facilities were provided by AMC. Paving in entire slum was completed by AMC. Most of the people were either domestic workers or rag pickers. There was a serious problem of flies and mosquitoes. There was no garbage collection from the corporation. There were no street lights in the settlement and the residents faced great difficulty in entering the settlement in the late evening and night. The settlement also has local liquor brewing dens, which is an illegal activity in Ahmedabad as there is alcohol prohibition in the state of Gujarat. Poverty was quite visible here. Saath has begun to organise women into savings groups.

**Table 3: Status of all short-listed slums**

Parameters	Pravinnagar	Jadibanagar	Om nagar	Sorainagar	Yogeshwar-	Mangal
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	Guptanagar				nagar	Talav
<u>General details</u>						
Land Ownership	Private	Private	Private	Private	Private, green belt	Municipal
Age of the slum (years)	40	35	45	35	40	55
<u>Demography</u>						
No of Households	1317	90	650	710	900	650
Population	6750	550	3250	3875	4000	2275
<u>Housing</u>						
Housing condition	permanent	Semi permanent	Semi permanent	Semi permanent	Semi permanent	Temporary
Slum Networking Project	Yes	Yes	No	No	No	No
<u>Infrastructure</u>						
Individual water tap	Yes	Yes	Yes	Yes	No	Yes
Individual toilets	Yes	Yes	Yes	Yes	Yes	50% H/H
Who provided toilets	SAATH	MHT	--	AMC	AMC	Individually / World Vision
Individual bath space	Yes	Yes	Yes	No	No	No
Sewer line	Yes	Yes	Yes	Yes	No	Yes
Rain water drain	Yes	No	No	No	No	No
Garbage collection	Yes	No	Yes	No	No	No
Paved roads	Yes	Yes	Yes	No	No	Yes
Street lights	Yes	Yes	Yes	Yes	No	No
Electricity	Yes	Yes	Yes	Yes	Yes	Yes
<u>Amenities</u>						
Anganwadi	Yes	No	No	Yes	No	No
Health centre in settlement	Yes	No	No	No	No	No

### Shri Omnagar

Shri Omnagar is situated on a private land. The residents do not know much about its origin. There were 650 households with a total population of 3,250. Unlike other settlements, houses in the front were *pucca* and in better condition while houses inside the settlement were in very poor condition. There were commercial establishments on the main road. These were mainly recycling units where old wood, doors and windows and furniture were sold. Very few houses have individual water supply and the rest have a hand pump. Some households had neither of the two depended on a public tap outside the settlement. The water pressure in the individual taps was very low as the secondary lines have been taken from the main water supply line on the main road. Very few houses have individual toilets. Only a few streets have been paved by the residents themselves over time. The level of paved streets has become higher than the houses and hence during the monsoon water enters the houses. The unpaved streets become slushy. A few houses receive property tax bills and the residents feel insecure as they have no documents to support their claim of stay in the settlement. However, since it was a private land, they have not yet received any eviction

### Level of tenure security

In keeping with the methodology adopted to carry out this research study, the slums were classified into three categories. Before dividing the slums into categories, various documents that could help to ascertain degree of tenure security based on legal status were studied, namely, 7/12 document which was property right document, stamp-paper document, property tax bills, assurance of 10 years *de facto* tenure, any address proof like electricity bill, pass book of SEWA Bank, ration card etc. Based on this, level of tenure security of the settlement has been decided. The data of documents available in each slum settlement with tenure status is given in Table 4.

**Table 4: Slum-wise level of tenure security and related parameters**

S. No.	Name of slum	Land ownership	Documents available with slum dwellers	Slum Networking Project (SNP)	Event of demolition in past	Tenure status
1.	Pravinnagar – Guptanagar	Private	Stamp paper, Property tax bill, Electricity Bill	Yes	No	High <i>de facto</i>
2.	Jadibanagar	Private	Stamp paper, Property tax bill, Electricity Bill	Yes	No	High <i>de facto</i>
3.	Sorainagar	Private	Stamp paper, Electricity bill	No	Yes	Weak <i>de facto</i>
4.	Yogeshwarnagar	Private, green belt	Stamp paper	No	Yes	Insecure
5.	Mangal talav na chapra	Municipal	Electricity Bill	No	Yes	Insecure
6.	Shri Omnagar	Private	Stamp paper, Electricity bill	No	No	Weak <i>de facto</i>

Pravinnagar-Guptanagar and Jadibanagar have high *de facto* tenure security. In these settlements SNP has been carried out and hence, even though the residents do not have the 7/12 documents of land ownership they have the *de facto* tenure of 10 years by the AMC under the SNP. Sorainagar and Omnagar have weak *de facto* tenure security. The residents of Omnagar said that the owners of woodwork factories located on the periphery of this slum have political connections. In Sorainagar, though SNP has not been carried out but SEWA has intervened. They have collected money from households for provision of basic facilities like water supply connection, toilet and connection to sewerage lines. Mangal Talav and Yogeshwarnagar have insecure tenure. The residents of these slums neither got property tax bills, nor did they have any supporting documents to prove ownership. Yogeshwarnagar was located on the green belt reservation and Mangal Talav was on municipal land therefore there were with low chances that these to get secured tenure. Both these settlements have experienced incidence of eviction in the past.

**Table 5: Sample profile**

Tenure category	Total households	Sample households	Sample population	Sex ratio	Household size
High <i>de facto</i>	1,404	175	1068	993	6.1
Weak <i>de facto</i>	1,360	221	1300	937	5.9
Insecure	1,350	133	733	1042	5.5
Total	4,114	529	3101	980	5.9

As mentioned in the earlier section, a total of 529 households were taken as samples with a total population of 3101. Surprisingly the sex ratio was favourable and the household size was lower in slums with insecure tenure.

## 4.0 Physical Conditions in Slums

### 4.1 Housing Conditions

In the surveyed households, 42.4 per cent of those with high *de facto* tenure have a *pucca* (permanent) house whereas among those in with insecure tenure and vulnerable to eviction, only 24.4 per cent had a *pucca* house (Table 6). Also, in the latter category, overwhelming 54.4 per cent had a *katcha* (temporary) shelter whereas in high *de facto* tenure only 31.8 per cent households had *katcha* house. The middle category of tenure has a position somewhere in between with regards to housing quality. The sample survey does indicate that the quality of house structure improves with the improvement in tenure status.

**Table 6: Housing Quality, Vasna, Ahmedabad**

Tenure Status	Quality of housing (%)			No. of rooms (% Hh)			
	<i>Katcha</i>	semi- <i>pucca</i>	<i>pucca</i>	1	2	3	> 3
High <i>de facto</i>	31.8	25.9	42.4	42.2	46.2	9.8	1.7
Weak <i>de facto</i>	38.9	22.3	38.9	31.8	52.2	14.6	1.3
Insecure	54.4	21.2	24.4	58.7	30.2	9.0	2.1
Average	42.2	23.1	34.7	45.1	42.2	11.0	1.7

Note:

*Katcha* house is one where the building materials are of temporary nature; *pucca* house is one where the building materials are of permanent nature; semi-*pucca* is a category inbetween the above two

Does improvement in tenure status lead to expansion of house? It does; the sample shows that with improvement in tenure status from insecure to weak *de facto* tenure, households add an additional room (Table 6). In tenure insecure category, 58.7 per cent or three in every five households lived in single room house and only 30.2 per cent lived in two-room house. But, with improvement in tenure status even weak *de facto* category, households living in single room reduce to 31.8 per cent and those living in two-room house to 52.2 per cent. In high *de facto* tenure category, the number of rooms does not change much and contrary to expectation, the single room dwelling households rise again. This could be primarily explained by one settlement (Jadibanagar) with high *de facto* tenure but having about 59 per cent households living in single room house. The other settlement with high *de facto* tenure was Pravinnagar-Guptanagar, where only 39 per cent households were living in single room house.

**Table 7: Housing Ownership & details, Vasna**

Tenure Status	% owning house	% having any document about house ownership	% getting property tax bill
High <i>de facto</i>	87.4	57.1	79.4
Weak <i>de facto</i>	85.0	61.3	72.5
Insecure	88.1	26.3	72.2

Average	86.9	48.2	74.7
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More than 86 per cent of the total households in slums of all tenure categories have claimed owning a house (Table 7). This proportion was almost equal across slums in all tenure statuses. However, the response was very different when inquiry about possession of any kind of ownership document viz., 7/12 document which represents purchase of land, sale deed on stamp paper or power of attorney, was made. The percentage households possessing housing ownership document was close to 60 per cent in households in high *de facto* tenure status while it dropped down to 26 per cent in households with insecure tenure. It was interesting to note that almost 80 per cent of the households received property tax bill in slums with high *de facto* tenure category while more than 72 per cent of the households have claimed receiving property tax bill in slums of weak or no tenure security. Due to external agency intervention, the slums were improved and they started receiving property tax bills, which increased their level of security and reduced eviction threat perception further.

Table 8 gives distribution of households by different house ownership documents. It shows that though the residents believe that they were the owners of the house, in fact, they had no legal document to support their belief. Only 2.5 per cent had a legal land ownership document and all others had some form of quasi-legal document, which showed that they had purchased a house but did not have any document indicating that they were legally occupying that piece of land. Thus the people living in these slums were under constant threat of eviction, worse still basic infrastructure facilities were generally not extended as a result, or if extended, were inadequate, and involvement of any external agency was also not encouraged in these slums.

**Table 8: Possession of Documents Giving Tenure**

	% Stating possession of the document
Power of Attorney	27.8
Patta	0.0
Stamp paper	53.8
Dastavej	2.5
None	52.0

## 4.2 Basic Services

Vasna ward was a peripheral ward lacking basic municipal services such as water supply networks, sewerage and drainage networks, and waste management system before the last 10 years. In a survey carried out in this ward in 2005, it was found that the availability of basic services was poor, except the slum where the SNP was implemented (Mahadevia and Brar 2008). The situation has improved significantly since then and trunk infrastructure has been laid in the ward.

**Table 9: Water Source, Vasna**

Tenure status	Main source of water (% households)					
	Individual connection from municipal supply	Public tap	Privately arranged	Hand pump	From neighbour	Others

High <i>de facto</i>	89.5	4.1	4.7	1.2	0.6	0.6
Weak <i>de facto</i>	28.5	17.7	3.8	48.7	1.3	1.3
Insecure	18.7	51.8	6.7	22.3	0.0	0.5
Average	44.9	25.8	5.2	23.3	0.6	0.8

Access to basic services increases significantly with improvement in tenure security. Thus, nearly 90 per cent of the households in high *de facto* tenure category have individual (household level) water supply connection whereas those in insecure tenure category, only 19 per cent have an individual water supply connection (Table 9). In case the individual water supply lines were not extended to the households in a slum settlement but the local government has decided to extend water supply to the settlement then the other option is provision of public taps by local government. In insecure tenure status, 52 per cent households use public taps for accessing water for domestic use. It was possible that the local government may not extend water supply at all within a settlement then the households make their own arrangements such as sourcing water through a hand-pump, as in the case in settlements in weak *de facto* tenure category where 49 per cent households and in insecure tenure category, 22 per cent households use hand-pump.

Given the fact that this ward has been on the periphery where the local government, the AMC, has not yet expanded its water supply network, NGO facilitation in the last decade through the SNP has brought individual water supply connection. In these slums, 91 per cent households have obtained individual water supply connection through NGO facilitation. Table 10 clearly represents that involvement of an external agency was responsible for provision of basic services. Co-relating Tables 9 and 10, one can see that in high *de facto* tenure category, more than 95 per cent of households with individual water connections have given credit for getting water supply to either SNP or NGO. In contrast, majority of households (86 per cent) in insecure tenure category having individual connections had approached AMC on their own to get connection. Anyway, only 18 per cent of the total households have individual water supply connections in slums in insecure category. This clearly shows that access to basic services was high in slums when an external agency was involved in negotiations with local bodies for provision of basic services. Also when an external agency was involved as an intermediary between the slum dwellers and local body, more households agreed to get legal water supply connections, even though it required payments. Lastly, it also shows that when an external agency intervenes, the local government follows.

**Table 10: Agency that helped in getting individual water connection, Vasna**

Tenure Status	AMC	SNP/ NGO	Self	Don't know
High <i>de facto</i>	9.1	96.1	0.0	0.0
Weak <i>de facto</i>	48.9	24.4	4.4	2.2
Insecure	86.1	11.1	0.0	0.0
Average	48.0	43.9	1.5	0.7

The respondents of primary survey of slums with high *de facto* tenure were quite satisfied with the quantity and quality of the water. Seventy per cent households replied that the amount of water was adequate and 68.8 per cent people were satisfied with the quality of water; 77 per cent of the respondents in weak *de facto* tenure status slums also said that the quantity of water supplied were adequate. A large number of households were dependent of hand pumps for water and did not have individual connections. In the

insecure tenure category, water supply was inadequate and around 52 per cent households relied on public taps. More than 70 per cent of the respondents said that the quality of water available at public post was of good quality.

During FGD in Yogeshwarnagar (insecure tenure category) it was found out that there were only two public taps shared by 900 households. Thus the number of people dependent on these stand posts was very high and water quantity available was inadequate. Also these public taps were located outside the settlement across the main road. Every morning at 5 am, women of the settlement have been queuing up for filling water and all of them have experienced quarrels arising due to frustration over inadequate water quantity. Instances have been recorded of children, following their mother and crossing the road, hit by passing vehicle. A few household in Yogeshwarnagar have hand pumps, but the water quality was very bad and not suitable for drinking purposes.

Mangal Talav (insecure tenure category) was a low income settlement and the residents were employed in marginal jobs. The local Member of Legislative Assembly (MLA) had managed to get individual water connections to some houses located on the main road. Further, some households located along the lake-side in the same settlement have faced demolitions four times and did not have any water connection. In Sorainagar (weak *de facto* tenure) SEWA had collected contributions from households to install basic services in the slum. Water lines have been installed in the entire slum, but were not in working condition due to several design problems. Hence people still had to depend upon hand pumps. Due to improper provisions of water supply in the slums, there was no reliability of quality and quantity of water supply and the respondents purchased water from private suppliers at very high costs.

**Table 11: Availability of Toilet and Its Type, Vasna, Ahmedabad**

Tenure status	No toilet	Toilet type			
		Personal	Sharing	Community	Pay & Use
High <i>de facto</i>	0.0	93.6	5.8	0.6	0.0
Weak <i>de facto</i>	5.1	86.1	8.2	0.6	0.0
Insecure	2.1	68.9	10.4	17.6	1.0
Average	<b>2.3</b>	<b>82.3</b>	<b>8.2</b>	<b>6.9</b>	<b>0.4</b>

Very small proportion of households were without any toilet access and hence defecating in the open was restricted to just 2.3 per cent households in the total sample (Table 11). In case of slums with high *de facto* tenure, all households had access to toilet and 93.6 per cent households had access to personal (individual household level) toilet. In fact, the construction of individual toilet was very important component of the SNP. Thus, availability of personal toilet improves with tenure status. In the weak *de facto* category of tenure, those who did not have a personal toilet shared it with other households and their proportion was 8.2 per cent. In the slums with no security of tenure, 28 per cent shared a toilet, which included 17.6 per cent households using community toilet and 10.4 per cent households sharing a toilet with another neighbouring household.

**Table 12: Agency that helped in getting individual toilet, Vasna**

Tenure Status	Under which scheme		
	AMC	NGO/SNP	Self

High <i>de facto</i>	3.5	94.4	2.1
Weak <i>de facto</i>	36.7	44.4	18.9
Insecure	45.8	25.0	29.2
Average	28.7	54.6	16.7

Table 12 clearly indicates that the presence of an external agency has helped the slum dwellers to get individual toilets. Almost 55 per cent of the slum dwellers in all the three categories have recognised the efforts of either NGO or SNP for provision of individual toilets within their slum. As per tenure category, approximately 95 per cent households of slums in high *de facto* tenure category, 45 per cent households in weak *de facto* tenure category and 25 per cent households in insecure tenure category have given credit to an external agency for helping them to avail facility of individual toilet. Thus the slums where external agencies were involved, the level and provision of services was significantly high. Where the external agency was not present then the households depended on themselves, as 29 per cent households were in insecure tenure category to access individual toilet. Also the level of people participation was high when an external agency was involved as an intermediary between the slum dwellers and local body. People also agreed to pay partly for having individual toilets in their households.

The households of the slums falling under high *de facto* category got individual toilets within last 10 years (due to implementation of SNP). Few households did not participate in SNP due to financial constraints, distrust on the external agency or due to eviction threat (and thereby not wanting to spend money on additions in the house). However, after implementation of SNP these slums received *de facto* tenure. The households who did not participate in SNP also constructed their own toilets themselves as they were assured that the settlement was not going to be evicted for at least for 10 years. In order to facilitate and encourage slum dwellers to construct individual toilets, AMC launched a scheme in Yogeshwarnagar and Sorainagar. According to this scheme, AMC provided a water closet, a door, two bags of cement, tiles and other material to each household in Rs. 500 only to construct a toilet. The household in these slums took advantage of this scheme and constructed their own toilets. However, as the tenure status of Mangal Talav was not clear, neither AMC nor any external agency had extended help to this slum to construct individual toilets. Hence large number of households here were dependent on public toilet or open defecation in this slum. Some road side houses have been provided individual toilets by a local MLA.

**Table 13: Availability and Type of Sewerage**

Tenure status	per cent having sewerage connection	Type of sewerage		
		Underground	Open	Other
High <i>de facto</i>	98.3	100.0	0.0	0.0
Weak <i>de facto</i>	94.4	98.0	2.0	0.0
Insecure	73.2	84.0	14.2	1.9
Average	<b>87.9</b>	<b>94.0</b>	<b>5.4</b>	<b>0.6</b>

The surveyed ward now has full coverage of drainage line and hence all the slums in the ward also have access to sewerage connection. But 12 per cent households in slums still did not have sewerage connection (Table 13). This was because 27 per cent households in insecure tenure category did not have any sewerage connection. Thus, the AMC has not connected slums without tenure security, i.e. slums which may be displaced in the future,



with any sewerage connection. Further, 14.2 per cent households in tenure category three had open sewerage, which indicates that the households themselves may have made some open drain for waste water disposal.

**Table 14: Availability and Type of Sewerage**

Tenure status	per cent stating choking of sewerage drains
High <i>de facto</i>	58.0
Weak <i>de facto</i>	76.2
Insecure	44.4
Average	59.5

The slums with high and weak *de facto* tenure status have sewerage system. However Yogeshwarnagar and Mangal Talav (insecure tenure) do not have proper sewerage system. 60 per cent of the total households in all the three categories have reported choking of sewerage lines. According to the respondents of high *de facto* tenure, the reason behind choking of drains was lack of proper maintenance of drains at regular intervals. They said that after laying the infrastructure, the services need to be properly maintained by officials, especially before monsoons. The respondents were unhappy with the layout of drains in their slums. According to them the drains were laid without considering core engineering and technical principles like slope of drainage lines, depth of drainage lines from ground level, joints, diameter of pipes etc. Because of this faulty design there was frequent breakage of drainage lines when there was any vehicular movement. Also due to incorrect design the drains clogged at various points. At certain locations within the slum locality there often was a backflow of sewage and during monsoon the conditions became very bad

Though the solid waste management of Ahmedabad city was quite efficient, the slums were always found filthy. When there was an NGO intervention, the members of NGO encourage people to keep their settlements clean and throw the waste in the settlement's dustbins. But the settlements like Mangal Talav and Yogeshwarnagar were very filthy and in these slums 4 to 10 per cent people threw waste on the roads. AMC's solid waste department has put a dustbin in almost all the slums and if the slums were small there were common dustbins between two settlements outside the slum. But somehow these dustbins were not cleared by the AMC regularly.

**Table 15: Solid waste disposal**

Tenure Status	% households reporting dust bin in house	% reporting dustbin in slum
High <i>de facto</i>	81.7	85.7
Weak <i>de facto</i>	99.4	49.4
Insecure	85.1	93.8
Average	88.3	77.7

**Table 16: Cleaning of slums**

Tenure Status	Authority keeping the slum clean			Frequency of cleaning			Cost per month (Rs.)			
	Residents	AMC	Others	Daily	2 to 3 times a week	weekly	0	1 to 15	15 to 30	> 30
High <i>de facto</i>	54.7	42.4	2.9	93.6	5.0	1.4	57.7	42.3	0.0	0.0
Weak <i>de facto</i>	31.2	65.6	3.2	100.0	0.0	0.0	53.1	46.3	0.6	0.0

Insecure	68.6	30.9	0.5	94.4	5.6	0.0	90.2	8.8	0.0	1.0
Average	52.7	45.2	2.1	96.0	3.4	0.6	68.2	31.3	0.2	0.4

This study found that residents themselves kept their settlements and surroundings clean. Residents also paid Re 1 to Rs 15 per month. On the whole, however, 68.2 per cent of residents did not pay anything for disposal of waste. It was observed during the field visits that households with secured tenure were quite aware of keeping their houses and surrounding clean. Generally it was believed that when people have a feeling of owning something they would take more of care of their surroundings.

During FGD conducted in Pravinnagar-Guptanagar and Jadibanagar, the respondents acknowledged the role of external agencies for improving the sanitary condition in their settlements. According to them, the sanitary conditions in the settlement prior to implementation of SNP were very bad. The slum was not clean, people dumped waste outside the house and waste collection was very irregular. This created unhygienic living conditions and several outbreaks of disease occurred. It was only after the implementation of SNP and intervention by NGO that people realised the importance of keeping their surroundings clean. The respondents of Sorainagar were hopeful that there would be an involvement from an NGO in their settlement. They refer Pravinnagar-Guptanagar and Jadibanagar as case study and believe that their slum would also change after they received basic services with external agency intervention and have therefore extended their support to the NGO and hopeful for some quick changes in the settlement.

Availability of storm water drain within the settlement increased with the improvement in tenure status. 65 per cent households reported existence of storm water drain in high *de facto* tenure category and just 43.3 per cent stated so in insecure tenure category (Table 17). Also, in the former, if the storm water drain existed then it was underground whereas in the latter, just 67.6 per cent stated that was the case. Thus, as in case of waste water disposal, in case of rain water draining, the residents may have made a temporary arrangement in the slums with insecure tenure status. Also, there was better maintenance of drainage and sewerage system if the tenure security was high as compared to insecure tenure. Only 31.1 per cent households reported water-logging in the former category whereas 54.3 per cent households reported the same in the latter category. Poor maintenance of storm water drain would lead to water logging. Since presence of an NGO was one of the indicators of high *de facto* tenure, these slums also had better maintenance of assets created on account of the presence of an institution.

**Table 17: Storm water drainage availability, type and its functioning**

Tenure status	% reporting storm water drainage	Type of storm water drainage (%)			% stating water logging
		Underground	Open drain	Other	
High <i>de facto</i>	64.6	100.0	0.0	0.0	31.1
Weak <i>de facto</i>	69.4	90.8	1.7	7.6	42.6
Insecure	43.3	67.6	20.6	11.8	54.3
Average	<b>58.2</b>	<b>85.4</b>	<b>8.0</b>	<b>6.6</b>	<b>43.2</b>

**Table 18: Availability of Other Facilities, Vasna, Ahmedabad**

Tenure Status	% having electricity in house	% having electricity meters
High <i>de facto</i>	96.5	97.1

Weak <i>de facto</i>	95.5	96.9
Insecure	91.7	85.4
Average	94.4	92.7

Electricity access has become universal after the private sector came in as they considered slums as clients and provided electricity connection. The connection charges per household have been reduced from Rs. 10,000 in 2004 to Rs. 2,500 presently so that the slum households can afford the initial high costs. Thereafter the monthly bills were charged at the minimum rate making the operational costs of electricity also bearable. In return the households get an address, as the bills mention the address of the customer. Electricity bills therefore give an identity to the slum dweller, which was essential for him/her for entitlement claims. Thus, 94.4 per cent of the surveyed households had electricity in the house and 92.7 per cent had an electricity meter (Table 18). The incidence of both was slightly higher in slums with high tenure security as compared to those with insecure tenure.

## 5.0 Employment

Workforce participation rate (WFPR) and Labour force participation rate (LFPR) decreases among males as well as females as the degree of tenure security reduces from high *de facto* to weak *de facto* status. But, a shift from weak *de facto* tenure to insecure tenure, the WFPR as well as LFPR increase. An interesting trend observed was that among the females living in settlements with insecure tenure, the WFPR as well as LFPR were even higher than the same for females in settlements with high *de facto* tenure. See the figures; the male WFPR for high *de facto*, weak *de facto* and insecure tenure categories were 53.7 per cent, 49.9 per cent and 52.0 per cent respectively and the female WPRs were 26.6 per cent, 19.3 per cent and 33.0 per cent respectively (Table 19). High female WFPR and LFPR were indicative of poverty and thus women come out to work in effort to prevent households from falling into poverty. This data therefore indicates that there was a likelihood of high incidence of poverty among the households living in settlements in insecure tenure. The type of work women in the most insecure category do also points to poverty in their households. Most of the women in Mangal Talav na chhapra were rag pickers. During our FGD, women complained about their livelihood and stated that since they were not qualified for any other work they were forced to do this work, which, however, was not adequate to cover their children's education expenditure.

The LFPR in Ahmedabad in the 61<sup>st</sup> National Sample Survey (NSS) round (2004-05) was 79.5 per cent for males and 21.4 per cent for females (NSSO 2007). Thus, the female LFPR in the slums covered in our survey, which was 40.1 per cent, was higher than the city's average. In contrast, the male LFPR in our sample, which was 77.3 per cent, was lower than the city's average. This indicates high unemployment among the males in the slums which leads to females entering the labour force. This was very well illustrated by the fact that 50.5 per cent females in age 15-59 years work in the settlements in insecure tenure category.

**Table 19: WFPR and LFPR, Vasna, Ahmedabad**

Tenure Status	Work Force Participation Rate			Labour force participation rate (age 15-59 years)		
	Male	Female	Persons	Male	Female	Persons
High <i>de facto</i>	53.7	26.6	40.2	79.4	39.2	62.8
Weak <i>de facto</i>	49.9	19.3	34.6	74.7	29.1	56.0
Insecure	52.0	33.0	42.7	77.5	50.5	69.1
Average	52.0	26.6	39.4	<b>77.3</b>	<b>40.1</b>	<b>63.0</b>

More than half the employed males living in the slums studied were engaged as casual labour (Table 20). Among the females, overwhelming employment was in personal services such as domestic help (47.0 per cent), whereas only 38.6 per cent of the females were employed as casual labour (Table 20). The proportion of personal service in females was even more in the high *de facto* tenure category, the reason being Saath's initiative of Urmila Home Managers, which trains women from slums to be efficient home managers and then assures their placement along with formal contracts with clients.

Interestingly, the proportion of the employed working as casual labour increases with the decline in tenure security, indicating that the employments seem to become more and more stable with the improvement in tenure security. As much as 82.1 per cent employed males in insecure tenure slums were casually employed, when this proportion for high *de facto* tenure category was 50.5 per cent. Similarly, these figures for females were 41.0 per cent and 33.8 per cent respectively. In high *de facto* tenure slums, some new employment opportunities seems to have emerged among the males; for example, employment in private sector (33.6 per cent), employment in financial services (0.4 per cent), shop owners (1.4 per cent) and employment in government services (1.1 per cent). Also, in these slums, employment in personal services was lower than in the slums with weak *de facto* tenure status.

Males in the insecure tenure slums were not into any small scale entrepreneurial activities or in any high or medium skilled employment, as we see zeros in most of the better paying employment categories like the home based work for example garage, mechanical work, tailoring and embroidery, handicraft items, spare parts repairing etc. In slums with weak *de facto* tenure, there was more diversification of employment compared to slums with insecure tenure.

Some of the households were engaged in idol making in Sorainagar. Generally they make idols according to the festivals using the materials like sand, plaster of paris and different chemicals. During the FGD we found from these idol makers that they do not earn much out of it because the idols of Gulbai Tekra (another huge slum settlement in Ahmedabad where all the households were engaged in idol making) were very well known and the residents of Gulbai Tekra did not allow competition. Two persons from Sorainagar also reported that they tried to open up small shops each in the settlement itself but they were not successful in that enterprise. One of them said that the slum was in the interior and not on the main road and so no one would come from outside to buy anything and the slum was not as big as Pravinnagar-Guptanagar that the shop could run with customers from within the settlement alone. That was the reason that there were 4.4 per cent and 8.2

per cent vendors in males and female respectively in slums with weak *de facto* tenure. This data therefore also shows that specific groups residing in slums and the latter's location also matter in deciding employment opportunities besides the tenure status.

**Table 20: Employment Sectors, Vasna**

Employment categories	Tenure Status			
	1	2	3	All
<b>Male</b>				
Casual Labour	50.5	58.4	82.1	64.3
Own Business	1.8	2.7	0.3	1.5
Social Services	0.4	0.0	0.0	0.1
Financial Services	0.4	0.0	0.0	0.1
Government Service	1.1	0.9	0.0	0.6
Home Based Work	0.0	0.0	0.0	0.0
Diamond + Other industries	0.0	0.4	0.0	0.1
Personal services	2.1	3.5	1.4	2.2
Private Service	33.6	18.1	16.2	22.9
Shop Owner	1.4	0	0.0	0.5
Skilled Construction Labour	5.3	11.5	0.0	5.1
Vendors	2.8	4.4	0.0	2.2
All others	0.7	0.0	0.0	0.2
Total	100.0	100.0	100.0	100.0
<b>Female</b>				
Casual Labour	33.8	41.2	41.0	38.6
Government Service	0.7	1.2	0.0	0.5
Home Based Work	0.0	2.4	0.0	0.5
Diamond + Other industries	0.0	1.2	0.0	0.2
Personal services	53.2	34.1	48.3	47
Private Service	11.5	11.8	10.1	10.9
Vendors	0.7	8.2	0.6	2.2
All others	0.0	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0

There were some employment categories where females were absent. These were own business, social service, financial service, government service, shop owner and skilled construction labour. Hence, these entries have been removed from Table 20. Females in the insecure tenure category were either in casual labour, in personal services or in private services.

## 6.0 Education and Health

The total literacy rate from the primary survey for male and female together came as 68 per cent, which was lower than the literacy rate of 79.8 per cent for Ahmedabad city in 2001. However it was interesting to note that the total literacy rate in all the three tenure types was almost equal (69.5 per cent in high *de facto* tenure category, 71.2 per cent in weak *de facto* tenure category and 63.8 per cent in insecure tenure category). The male and female literacy rates in slums with weak *de facto* tenure were 83.7 per cent and 58.7 per cent respectively when in high *de facto* tenure were 80.6 per cent and 58.7 per cent respectively. But, the literacy rates were low in the slums in insecure tenure category, 71.8 per cent for males and 55.1 per cent for the females.

This ward has locational advantage as it is well-connected with rest of the city. This increases the access of the slum dwellers to education facilities. This ward has a large proportion of its population belonging to middle and higher income groups. Hence the ward has many private schools, which were also accessed by the slum dwellers. Being close to the location of educational facilities, there was high awareness among dwellers about education and hence many have put their children in private schools. Thus the literacy level in all the three tenure categories was comparatively equal and does not vary much with the changing tenure type.

**Table 21: Literacy Rate and Children Going to School, Vasna, Ahmedabad**

Tenure Status	Literacy Rate		
	Male	Female	Persons
High <i>de facto</i>	80.6	58.2	69.5
Weak <i>de facto</i>	83.7	58.7	71.2
Insecure	71.8	55.1	63.8
Average	<b>78.3</b>	<b>57.3</b>	<b>68.0</b>

**Table 22: Educational Achievements, Males, Vasna**

Tenure Status	Education level in literate Males who have completed education					
	Just Read	Upto Secondary	Upto Higher Secondary	Graduate	Post Graduate	Other Courses
High <i>de facto</i>	19.9	34.6	36.3	5.8	1.0	2.4
Weak <i>de facto</i>	19.5	30.3	43.2	4.1	0.8	2.1
Insecure	28.3	39.3	27.9	1.6	0.8	2.0
Average	<b>22.4</b>	<b>34.7</b>	<b>35.8</b>	<b>4.0</b>	<b>0.9</b>	<b>2.2</b>

**Table 23: Educational Achievements, Females, Vasna**

Tenure Status	Education level in literate Females who have completed education					
	Just Read	Upto Secondary	Upto Higher Secondary	Graduate	Post Graduate	Other Courses
High <i>de facto</i>	30.2	33.7	28.6	3.5	0.5	3.5
Weak <i>de facto</i>	31.9	39.6	20.1	3.5	1.4	3.5
Insecure	30.5	34.0	28.9	3.6	0.5	2.5
Average	<b>30.7</b>	<b>35.4</b>	<b>26.5</b>	<b>3.5</b>	<b>0.7</b>	<b>3.1</b>

Level of education is an important parameter that helps in understanding the type and quality of available workforce. Tables 22 and 23 give data on the education levels of male and female literates in slums under all three tenure categories. A trend similar to literacy rate was observed in male and female level of education. The level of education was higher in slums with high and weak *de facto* tenure category as compared to the slums in insecure tenure category. The education level of male literates was higher than female literates in all the three tenure categories. This shows the preference of the family towards male child's education. Although the literacy rates do not directly correspond to tenure status as expected, the male educational achievements do. While about 20 per cent of the educated males stated that they could just read and write in the slums in high and weak *de facto* tenure category, in the last tenure category, 28.3 per cent stated so (Table 22). Thus, even though 71.8 per cent males in last tenure category stated they were literate, one in every three of them could only read and by that could not be considered fully literate. In the high *de facto* tenure category, 36.3 per cent males reached higher secondary school and another 5.8 per cent reached graduate level. These figures for

insecure tenure category were 27.9 per cent and 1.6 per cent respectively. In slums in weak *de facto* tenure category, a large proportion of males, 43.2 per cent had reached higher secondary school level, much higher than in the slums in high *de facto* tenure category, but just 4.1 per cent of the educated males had reached graduate level. Once again, there were certain households in the slums in the middle tenure category, which were doing well with literacy and we will have to look for explanations beyond the definition of tenure. As regards to educational achievements of females (Table 23), there was less variation across three tenure categories and also unclear pattern as far as link with the tenure status was concerned. But, 31 per cent of the literate females reported that they were able to just read in all the slums studied.

During discussions, it was found that the slums where all the basic services were available and the women do not have to engage themselves in fetching water for the house can spend more time with her children. She then takes interest and devotes her time for children's education. She also goes out to earn as the extra income was useful for children's education. Although the slum residents stated that they did not differentiate between male and female children as regards education, in practice, the preference was given to the male child. For example male children were sent to private schools for high school education, while female children were not. Generally the female child was educated only up to secondary level, after that they were not sent to school.

There were several reasons for not encouraging higher education of female child. One of the major reasons was the conservative belief that a girl has to learn household tasks so as to perform household duties well after marriage. In one of the FGD with teenage girls, it was reported that many girls wanted to continue studies but their mothers were asking them to leave the studies and help her out in the house. In lower income households where both the parents had to go out to work to earn money, the older female child had to look after the house, cook food and take care of her siblings. Another main reason was not finding adequate number of properly educated grooms for the educated girls. In some of the cases girls were convinced that education was going to be a waste and only their skills in cooking, sewing and housekeeping would help them in future. Some girls also reported cases of eve-teasing as one of the reasons for being afraid to go to school, as the schools for higher education were far away and lack of public transport facility meant they had to walk and be possible targets for eve teasing. But, some girls have continued their higher education or have joined vocational course after constant persuasion by the NGOs working in the slums there. It was also informed that the youth of slums have also joined various vocational courses related to computers, spoken English salesmanship, marketing etc. This was due to constant efforts by NGOs like Saath. They persuaded the youth to join livelihood program 'Umeed' that was initiated by Saath and also appreciated by Government of Gujarat. This programme aimed at giving livelihoods skills and vocational training to the youth.

The tenure status only partly explains the literacy rate or percentage children going to school. The households in weak *de facto* tenure category have the highest proportion of children going to school as well as highest literacy rate (Table 24). Much lower proportion of children in age 7-14 years go to school in the slums in high *de facto* tenure

category; just 71.6 per cent male children and 68.6 per cent female children reported attending school. In fact, when we had an FGD with young boys, in one slum in this category, namely Pravinnagar-Guptanagar, many had said that they had dropped out of school. In contrast, in the slums in middle tenure category, 89.0 per cent male children and 84.6 per cent female children were attending school.

**Table 24: Children education (going to school)**

Tenure Status	per cent children age 7-14 going to school		
	Male	Female	Persons
High <i>de facto</i>	71.6	68.6	70.1
Weak <i>de facto</i>	89.0	84.6	86.7
Insecure	81.4	77.4	79.3
Average	<b>80.5</b>	<b>77.0</b>	<b>78.7</b>

Access to health care, for example, vaccination of children, does not seem to be linked to tenure (Table 25), given that 96.2 per cent households reported vaccinating their children. Thus, if there was universalisation of primary health care, immunisation and maternal and child health care, tenure, which represents urban citizenship, would not play any role in determining access.

**Table 25: Access to Health Care**

Tenure	% HH reporting vaccination
High <i>de facto</i>	95.5
Weak <i>de facto</i>	94.8
Insecure	97.9
Average	96.2

There was no particular pattern even in the type of service these slum dwellers used in minor illness. Most of the households use private clinics because according to them they were expensive but better in quality (Table 26). Very few use Charity Trust (from now on called Trust) health centres in minor as well as major illnesses. While in some major illness the slum dwellers prefer government hospital because they cannot afford surgery or any expensive treatment in a private hospital. Even for child birth, they prefer government hospital because paying the private clinics was not affordable.

**Table 26: Type of health care facilities used in case of illness**

Tenure Status	Health facility used for minor illnesses			Health facility used for major illness		
	Government	Private	Trust	Government	Private	Trust
High <i>de facto</i>	41.7	56.6	1.7	56.6	41.7	1.7
Weak <i>de facto</i>	26.9	71.3	1.3	61.9	37.5	0.0
Insecure	41.8	52.6	4.6	72.7	24.7	1.5
Average	36.8	60.1	2.5	63.7	34.7	1.1

## 7.0 Entitlements

In India, poor are identified through a BPL Card, issued through either some identification exercise undertaken by the local government or on the recommendation of a local elected representative. A BPL card is a ration card, but issued to those identified as Below Poverty Line (BPL), which entitles the poor to access various subsidised public



facilities and government schemes, such as certain amount of subsidised food grains from a Public Distribution System (PDS) shop, a health insurance scheme named Rashtriya Swasthya Bima Yojana (RSBY), etc. Like other studies, this study also indicates that the poor were not able to get a BPL Card and hence their access to various public schemes and subsidised facilities was very limited. Large number of them have an Above Poverty Line (APL) Card, which gives them residential identity but not access to subsidised schemes. This targeting was introduced sometime back, converting the universal coverage of PDS to targeted coverage. In our surveyed slums, about 18 per cent households do not have a ration card and only 19.3 per cent have a BPL Card (Table 27). But, incidence of having a ration card was higher among the households in high and weak *de facto* tenure categories, whereas 27 per cent households living in insecure tenure category do not have a ration card. So if the tenure security does not exist, possibility of getting a ration card reduces. Further, while per household income was the highest in the households with high *de facto* tenure security; these also have the highest proportion of households holding a BPL Card (29.4 per cent). Mis-targeting of subsidised schemes and facilities can be seen even in our survey. Thus, organising for SNP has also had other collateral benefits and one of that was procuring a ration card and that too, a BPL Card. Further, nearly 92 per cent households had their voting-age population holding an election card. With regards to this card not much of difference across the tenure categories could be found except that in the last one, 12 per cent did not have a voting card.

**Table 27: Access to Different ID Cards**

Tenure Status	% having ration card	% having BPL card	% having election card
High <i>de facto</i>	85.3	29.4	94.7
Weak <i>de facto</i>	88.2	10.6	95.3
Insecure	72.9	19.6	87.7
Average	81.5	19.3	92.3

## 8.0 Transport

Around 78.2 per cent of the main earners of families in all the slums travel up to 5 kilometres (km) every day, another 13.5 per cent travel from between 5 to 10 km and only 8.3 per cent travel more than 10 km for employment (Table 28). But, in the slums with high *de facto* tenure, 17 per cent of the main earners travel for more than 10 km for work, indicating that they might be in better categories of work to travel so long and also have higher mobility. The reason for the same was use of scooter (motorised two wheelers) and bus for commuting by those in high *de facto* slums. A very large proportion of those living in slums in insecure tenure category (86 per cent) work within 5 km distance and use mainly shuttle (shared) autorickshaw for commuting to work.

**Table 28: Travel Distance and Mode for Main Household Earner, Vasna, Ahmedabad**

Tenure Status	Distance to work (km)			Mode used						
	0 to 5	5 to 10	> 10	Walk	Bicycle	Bus	Scooter	Auto	Shuttle auto	other
High <i>de facto</i>	64.7	18.1	17.2	26.3	26.3	15.8	15.8	4.6	8.6	2.6
Weak <i>de facto</i>	84.3	10.2	5.5	14.8	40.1	14.8	14.8	2.1	11.3	2.1

Insecure	85.7	12.0	2.3	24.1	18.2	7.1	5.9	10.6	33.5	0.6
Average	78.2	13.5	8.3	21.7	28.2	12.5	12.2	5.8	17.8	1.8

**Table 29: Travel Distance and Mode for Second Household Earner, Vasna, Ahmedabad**

Tenure Status	Distance to work (KM)			Mode used						
	0 to 5	5 to 10	> 10	Walk	Bicycle	Bus	Scooter	Auto	Shuttle auto	other
High <i>de facto</i>	67.7	21.0	11.3	31.1	25.7	16.2	4.1	6.8	13.5	2.7
Weak <i>de facto</i>	89.8	10.2	0.0	31.9	26.1	11.6	7.2	4.3	18.8	0.0
Insecure	93.7	6.3	0.0	34.9	4.7	3.5	3.5	16.3	37.2	0.0
Average	83.7	12.5	3.8	32.6	18.8	10.4	4.9	9.1	23.2	0.9

The distance to and mode used for work travel by the second earner of the household was little different than the first earner. On the whole, only 4 per cent of them go beyond 10 km for work but this distance was traversed by only the second earners in slums in high *de facto* tenure category where 11 per cent of do so (Table 29). The reason of not traversing long distances for work was that the second earners of the households were mainly women, who cannot go long distances for work. It can also be seen that where there was NGO intervention, women have become more mobile and were going longer distances to work than in other slums. Given that lesser distances were travelled by the second earner for work, 32.6 per cent of them walk to work and 18.8 per cent cycle. As many as 23.2 per cent use shared auto or the six-seater auto. In both the above tables public transport (bus) should have more people travelling by it but it was not the case. During the FGDs, people had complained about inadequacy of public bus and fatigue caused due to long distances of walking.

As expected, children only go to schools which were within 5 km distance of their home (94 per cent of children do so) and this was mainly because 84 per cent of them walk to school (Table 30). However, in slums with high *de facto* tenure, 17.6 children travelled more than 5 km for going to school and hence 12 per cent of them went by autorickshaw and another 4.7 per cent went by shared autorickshaw. This means that the families were able to afford sending their children to relatively better schools than the ones available in the locality. There was no practice of slum children going to school by bus as neither do municipal schools have bus nor do the private schools to which urban poor send their children have any bus arrangement. Nearly 94 per cent children in slums with insecure tenure walk to school and another 4 per cent bicycle.

**Table 30: Travel Distance and Mode for School Children, Vasna, Ahmedabad**

Tenure Status	Distance to work (km)			Mode used					
	0 to 5	5 to 10	>10	Walk	cycle	Bus	Scooter	Auto	Shuttle auto
High <i>de facto</i>	82.4	14.7	2.9	72.1	9.3	2.3	0.0	11.6	4.7
Weak <i>de facto</i>	98.7	1.3	0.0	84.8	7.6	2.5	1.3	3.8	0.0
Insecure	100.0	0.0	0.0	94.2	3.8	0.0	0.0	1.9	0.0
Average	93.7	5.3	1.0	83.7	6.9	1.6	0.4	5.8	1.6

## 9.0 Income, Expenditure and Savings

While the average household income per month of the surveyed households was Rs. 4,965, that in the households with high *de facto* tenure was Rs. 5,537, (Table 31) which was 1.12 times that of the average and 1.3 times that of the average income (of Rs. 4,238) of households with insecure tenure. There was a very strong relationship between tenure security and household income, the latter increasing with the improvement in the former. Even the average monthly per capita income supports this argument. Average monthly per capita income in high *de facto* tenure slums was Rs. 907 while that of weak *de facto* and insecure categories was Rs. 895 and Rs. 743 respectively. An interesting observation was that even if the overall work force participation rate and labour force participation rate were higher for households living in insecure tenure category than the rest of the tenure categories (42.7 per cent and 69.1 per cent) respectively, their average monthly income and monthly per capita income was lower than the households in the two other tenure categories. The reason was that the insecure slums have very high proportion of workers employed as casual labour. In addition, the women who were engaged in domestic help in slums with high *de facto* tenure were associated with Urmila Home Managers and so they get their remuneration regularly. While in other two categories, majority of women who were engaged in domestic help generally find the job themselves and so their income was neither regular nor fixed.

**Table 31: Average Monthly Household and Per Capita Income (Rs.), Vasna**

Tenure Status	Average monthly household income (Rs.)	Average monthly per capita income (Rs.)
High <i>de facto</i>	5,537	907.7
Weak <i>de facto</i>	5,191	895.0
Insecure	4,238	743.5
Average	4,965	841.5

The expenditure pattern demonstrates a strong relationship with the tenure security. On food, slum dwellers who have comparatively high tenure security, expend 22.9 per cent of their total expenditure whereas in low tenure security this proportion was 30.6 per cent and in no security it was 40 per cent (Table 32), indicating that the larger share of total expenditure was devoted to food as the level of tenure security declines. As, lower the income, higher is the share of food in total expenditure, indicates that incomes were lower for those living in insecure tenure category. This corroborates with the income data of our sample. In cooking fuel a converse pattern can be seen; cooking fuel expense in high *de facto* tenure slums was the highest and lowest in insecure tenure category slums. This was because most of the households with high *de facto* tenure use Liquefied Petroleum Gas (LPG). In other two categories, households still use hearth which was lit by dried branches of shrubs and trees. The smoke of this hearth is very injurious to health. Many of the households do not have a separate kitchen and so they cook outside their dwelling on the street. An interesting explanation was put forward by the women in the FGD that they do not use the cooking gas because the food cooked on hearth was tastier.

**Table 32: Distribution of Expenditure, Vasna, Ahmedabad**

Expenditure Item	Tenure status
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	High <i>de facto</i>	Weak <i>de facto</i>	Insecure
Food	22.9	30.6	39.7
Cooking fuel	3.6	1.8	1.1
Clothes	2.6	4.1	3.8
Communication	2.5	3.5	3.9
Education	6.8	3.4	4.1
Health	5.4	3.7	4.4
Housing	12.9	9.5	7.9
Electricity	6.8	10.1	4.6
Basic services charges	2.8	2.0	4.8
Consumer durables	13.1	2.9	7.7
Transport	6.8	5.7	4.4
Debt repayment	6.8	14.8	7.9
Insurance premium	2.9	6.6	4.6
Recreation & entertainment	4.2	1.3	1.1
Total	100.0	100.0	100.0

Note: Expenditure on some items was reported for one year, which has been converted into per month for the table.

Households in high *de facto* tenure status devote 6.8 per cent of their total expenditure on their children's education while households in weak *de facto* and insecure status devote 3.4 per cent and 4.1 per cent respectively on this. In third category, the proportion was higher than that of category 2 because Yogeshwarnagar has two *Aangawadis* inside as well as a *Gyanshala* (primary school) and the households sent even their girl children to these schools. In weak *de facto* tenure slums, there was one *Aanganwadi* inside the slums but for primary school children had to go some distance. Similar trend was observed about expenditure on health care.

Expenditure on housing can be directly linked to the tenure status of the slums. Households in slums with high *de facto* tenure spend 12.9 per cent of their total expenditure on housing, which was the highest in terms of expenditure share among the three tenure categories. There were two reasons for this; increase in spending on housing on account of no threat of eviction and also increase in expenditure to maintain the assets created. The household living in slums with insecure tenure spend only 7.9 per cent of their total expenditure on housing, which was the least in terms of proportion among the three categories (Table 32). Households in the insecure category devote relatively higher proportion of their expenditure on basic services, which was very obvious as they do not have access to subsidised services of the AMC. Most of the houses in insecure tenure category were not connected to the drainage line and hence use septic wells which have to be emptied periodically for a fee.

Expenditure on some sort of luxury like purchasing consumer durables and entertainment was much more in high *de facto* tenure status slums than in the other two categories; 4.2 per cent expenditure was incurred on recreation and entertainment by the slums households was this category, when the proportion was far lower on this item in the other two categories of slums; 1.3 per cent and 1.1 per cent respectively. Slums with high *de facto* tenure expend the least on proportion of total expenditure on debt repayment among the three and the most also in terms of proportion towards transport among the three categories of slums.

**Table 33: Incidence and Amount of Savings, Vasna**

Tenure Status	% HH having saving	Average savings per month (Rs.)
High <i>de facto</i>	32.6	231
Weak <i>de facto</i>	16.9	196
Insecure	23.2	122
Average	<b>24.4</b>	<b>198</b>

Savings incidence as well as average amount saved also had strong relation with the tenure status. 32.6 per cent of the households living in slums with high *de facto* tenure save, and the average savings of those who save was Rs. 231 per month (Table 33). In weak *de facto* tenure slums, only 17 per cent households save and the average monthly savings was Rs. 196, both lower than the former. Proportion of households saving in insecure category was 23 per cent, which was higher than in weak *de facto* status slums, but the average amount saved was the least among the three categories and was only Rs. 122 per month. In both the SNP slums, which were high *de facto* tenure category, the women's savings groups were started before the SNP implementation, an institutional intervention that continues post-project. Relatively higher income has probably resulted in higher per household saving. One of the insecure tenure category slums was Mangal Talaav na Chhapra where the Saath NGO, has begun to organise women's savings groups. Savings can be introduced in the slum households, even when they do not have a legal address, if a local institution intervenes to organise. Here, too, as in majority of the micro savings programmes in India, women have been organised into savings groups. A detailed narrative of the community mobilisation for SNP in Pravinnagar-Guptanagar<sup>2</sup> indicates that women were first organised for a savings programme through formation of groups named Sakhi Mahila Mandal (SMM) and then training for employment was introduced for them. Subsequently, the SMM became vehicle of implementing the SNP. At Jadibanagar it was similar, where the SEWA Bank first came for micro-credit programme for the women, and then based on the formation of local women's groups, the MHT, a sister organisation of SEWA Bank, stepped in to implement the SNP.

During the visits to the slums, especially high *de facto* tenure category slums, it was learnt that the women in them were initially hesitant to deposit money with SMM and SEWA Bank as saving as they had no understanding of this process or the value of small amounts such as Rs. 50 or so saved per month. The NGO staff educated these women about the concept of small savings, resulting now in a regular practice of savings on one hand and access to microfinance on the other. Many of them have taken loans based on their saving histories for housing upgradation, expanding the business (buying carts for vegetable vending, opening a small shop, buying raw material or equipments) and for their children's education. Some of the women said "in our wildest dreams, we had never imagined that even our daughters would go to college for studies and learn computers," and that was made possible through SMM and SEWA Bank. Today these women encourage their neighbours and relatives to save if they were not part of such an organisation.

## 10.0 Aspirations

### 10.1 Awareness and Participation

In general, the awareness about and participation in local development institutions and processes was very low among the selected slums. Thus, only 1.2 per cent of the surveyed households stated that they were aware about Jawaharlal Nehru National Urban Renewal Mission (JNNURM) (Table 33), the largest so far of the urban development programmes of the national government. But, some households (3.1 per cent) knew about JNNURM in the slums of high *de facto* tenure, which was because of the external agency working in these settlements. In the other two categories of slums hardly anyone knew about such developmental schemes. During the discussions many men complained that such schemes come and go and they were never informed about the programmes designed for them. By the time the slum dwellers come to know about the schemes and show their willingness to participate, the schemes were on the verge of ending.

**Table 34: Awareness About JNNURM, Vasna**

Tenure Status	% HH aware about of JNNURM projects
High <i>de facto</i>	3.1
Weak <i>de facto</i>	0.0
Insecure	0.5
Average	1.2

**Table 36: Participation in Local Development Institutions and Programmes, Vasna**

Tenure Status	% reporting participation in local development works	% HH attending meetings	% reporting participation through			
			local committee member if any	standing in local elections	becoming member of a political party	becoming member of a CBO/ NGO
High <i>de facto</i>	3.4	12.7	4.6	0.6	0.6	26.9
Weak <i>de facto</i>	41.3	0.0	0.6	0.0	0.6	2.5
Insecure	0.0	8.7	1.0	0.0	0.5	32.5
Average	13.6	7.3	2.1	0.2	0.6	21.6

Even participation in local development institutions or works was very low in general. On the whole, 13.6 per cent households reported that they had participated in local development works, 7.3 per cent households reported participation in local area level meetings, 2.1 per cent reported that they were member of a local committee and less than one per cent reported that they were a member of a political party or stood for any local elections. But, 21.6 per cent stated that they were a member of a local NGO. This indicates that the life in slums revolves around membership of a Community Based Organisation (CBO) or NGO. These could be a CBO representing a caste or a social group and NGO could be anyone of the development organisations, namely Saath and MHT, working in the slums in this ward. While highest participation in the local meetings for various purposes was reported in the slums in high *de facto* tenure (12.7 per cent) and then in slums in insecure tenure category (8.7 per cent), and the highest membership in a CBO or a NGO was reported in insecure tenure category slums (32.5 per cent) followed by slums in high *de facto* tenure category (26.9 per cent). Saath has begun work in Mangal Talaav na Chhapra in tenure category 3 and has a Urban Resource Centre (URC) in Pravinnagar Guptanagar (high *de facto* tenure) whereas MHT has done a SNP in Jadibanagar (high *de facto* tenure).

## 10.2 Options for Rehabilitation

In Vasna as much as 40.2 per cent households were ready to get rehabilitated in a new location. But when asked how far they were ready to go then almost 100 per cent replied that they would like to shift within the same ward. As much as 64.7 per cent from slums with high *de facto* tenure wanted to stay in the present settlement itself but with some improvement. From this percentage, 78.4 per cent preferred houses like their current houses, which have room(s) on ground floor and in some cases even a first floor. In other words, the dwellers preferred houses that could be incrementally improved. From weak *de facto* and insecure tenure categories, 57.6 and 56.9 per cent respectively would prefer to stay in existing settlements but with improved facilities and houses like their dwelling units, which can be improved incrementally. Only 19.7 per cent households in the sample preferred apartment style houses among those whose option was *in-situ* development. This was very important for shelter policy.

**Table 37: Options for Rehabilitation or Better Housing by Government Authority**

Tenure Status	Housing option preferred		If improve the settlement then house type option (%)	
	Improve existing settlement & present house	Move to a new location	apartment	Houses like current one
High <i>de facto</i>	64.7	35.3	21.6	78.4
Weak <i>de facto</i>	57.6	42.4	15.4	84.6
Insecure	56.9	43.1	22.2	77.8
Average	<b>59.7</b>	<b>40.3</b>	<b>19.7</b>	<b>80.3</b>

During the interaction with the slum dwellers an interesting observation emerged; that women do not mind apartment style housing if all the basic facilities were provided but men were more insistent on getting the land on which their present houses were situated, registered on their names..

**Table 38: Housing Options if Want to Rehabilitate**

Tenure Category	For those wanting to move to new house, preferred house type option (%)			
	Apartment	Houses like current one	SNP	Only developed land sites
High <i>de facto</i>	15.0	75.0	3.3	6.7
Weak <i>de facto</i>	9.4	58.5	1.9	30.2
Insecure	20.9	77.3	0.0	1.8
Average	15.1	70.3	1.7	12.9

A total of 40.3 per cent households who were willing to get rehabilitated (Table 37), out of which 70.25 per cent prefer houses like their current houses. While 15.1 per cent in all want apartment style houses, interestingly 12.9 per cent prefer only developed land sites and they would like to construct the houses themselves. From category 1 and 3, only 6.7 per cent and 1.8 per cent were willing to have site and services but in category 2, 30.2 per cent prefer to have only site and services.

This section therefore indicates that level of tenure security highly influences reduction in deprivation, that is, it improves physical conditions of living, improves the employment situation, increases incomes and by that reduces poverty. In case of health care access, represented here by the incidence of vaccination among children, tenure does not show any significant impact, probably because of the universalisation of vaccination in the city.

Thus, if there was a strong public policy to reduce deprivations, tenure may cease to play an important role in reducing deprivations.

## 11.0 Measuring Impacts of Tenure Security

### 11.1 The Variables

The research hypothesis is: shelter security, determined through land tenure security leads to improvement in physical living conditions (reduces deprivations in physical quality of life), improvement in capabilities on account of firstly improvement in literacy rates and then educational levels, and then empowerment to negotiate the administrative and political space and improvement in employment and incomes. It was not the other way round; incomes lead to improvement in education and then shelter security. It can be argued that education improvement could lead to empowerment and increase in incomes and consequently improvement in living conditions and shelter security. Our argument that all other interventions of development such as improvement in access to education and health would be null were there no shelter security.

The variables that construct tenure security have been taken as independent variables and the social protection outcome variables have been selected as dependent variables. There were 12 dependent variables defined for the logistic regression analysis. The independent variables were land ownership, house document (even the quasi legal), payment of property tax and indicators of urban citizenship such as ration card, BPL card and election card. The definition of variables is given below.

#### **Independent Variables**

NGO intervention in slum development: households were asked to state whether there was an intervention of NGO in slum cleanliness and other development activities in the settlements. A value of 1 was assigned if there was an intervention by NGO and 0 for otherwise.

NGO intervention in mobilising savings: this variable has been created using the question “*where do you save?*” if the households were saving with a NGO a dummy value of 1 was assigned and 0 for otherwise.

Land ownership: Three categories of land ownership namely private land and public land have been observed in the study area. Two dummy values have been created: 1 for public lands and 0 for private lands.

Property tax: This variable has been created using the question “*whether the household pays property tax?*” If the household pays property tax, dummy value of 1 was assigned and dummy value of 0 was assigned for non paying households.

Years of stay: For the analysis, duration of stay, which was a continuous variable, has been converted to a dichotomous variable. This variable was created by taking dummy



value of 1 for years of stay more than 20 years and dummy value of 0 for less than 20 years. We also tried this analysis for other cut-off points for duration of stay. But this data set has very little variation and around 90 per cent of the households have been living in the slum for more than 20 years. 20 years was selected as a cut-off point for other area studies and in this exercise also it was decided to go along with it.

### Independent Variables

Variable	Value
NGO intervention in slum development	1 for Yes 0 for No
NGO intervention in mobilising savings	1 for Yes 0 for No
Years of stay_20	1 for more than 20years 0 for less than or equal to 20 years
Land Ownership	1 for Public 0 for private and others
Property tax	1 for paying property tax 0 for otherwise
House document	1 for Yes 0 for No
BPL card	1 for yes 0 for no
Election card	1 for yes 0 for no
Ration card	1 for yes 0 for no

House document: This variable has been framed using “*do you possess any quasi-legal document of the house?*” dummy value of 1 was assigned if the households have a house document (even the quasi legal) and 0 for otherwise.

Ration Card, BPL Card and Election Card: These are three variables. Households were asked to state whether they possess these cards. Dummy value of 1 is assigned if the households possess the card and 0 for otherwise. Possession of Ration card, BPL card and Election card are often independent of legal residential status as all these are extended to the households before election irrespective of the household’s tenural status. But these documents then create entitlements. Hence, we have included these three as independent variables as well in our analysis.

### Dependent Variables

Type of housing: This variable has been created from responses on housing type, where the response categories were: (i) *pucca* (ii) *semi-pucca* (3) *katcha*. Since there were three categories, for analysis, housing type was recorded into a dummy variable: 1 for *pucca* and *semi-pucca* and 0 for *katcha*. Assigning a value of 1 for *pucca* and 0 for *semi-pucca* and *katcha* was also tried but the results were weaker than the previous categorisation of this variable.

Number of rooms: Households were asked to state the number of rooms they have. A dummy value of 1 was assigned to the households having more than 1 room and 0 for otherwise.

No of assets: Households were asked about owning of the different consumer durables / assets at their home. There were 16 types of consumer assets were found in the households. To convert the continuous variable (which ranges between 0-16), dummy value of 1 is assigned if the households have more than 4 assets and 0 for less than or equal to 4 assets. Other cut-off points such as more than 6 assets were also tried but without getting robust results.

Agency supplying water: This variable was created by asking “*which agency supplies water?*” A dummy value of 1 was assigned if the agency supplying water was local government<sup>3</sup> and 0 for other agencies.

Sewer line: Households were asked to state whether they had sewerage connection to their settlement. A dummy value of 1 was assigned if the households have sewer line connection 0 for otherwise.

Storm water drains: This variable has been created by asking “*do you have separate storm water drainage in your system?*” dummy value of 1 was assigned if the settlement has the facility and 0 for otherwise.

Toilet facility: Households were asked to state whether they had toilet facility available to them or not. Dummy value of 1 was assigned if the households have the facility and 0 for otherwise.

Bath space: This variable was recorded as dummy variable by asking the availability of the bath space to the households. Value of 1 was assigned if the households have the facility and 0 for otherwise.

Employment\_1: This variable was for the household head and there were number of options for this variable. Among these, a dummy value of 1 is used if the household head’s employment was regular and 0 for otherwise.

Employment\_2: This variable was for the household head and there were number of options for this variable. Among these, a dummy value of 1 is used if the household head’s employment was non casual and 0 for casual.

Employment\_3: This variable was a composite variable of the number of people working in a household and the type employment taken up by the household members. A dummy value of 1 was assigned if at least one of the employed members in the household was casual labour and value of 0 was assigned if all of the household employed members were non casual labour.

Number of people working in a family: The number of people working in a household variable was collected from household information data. This was collected as a continuous variable and recorded using dummy values: 1 if more than 1 person was employed in a household and 0 for otherwise.

Income: This variable was collected as a continuous variable and recorded in the analysis using dummy values: 1 for monthly income more than Rs. 2000<sup>4</sup> per household and 0 for otherwise. Other income cut-offs were also tried but without good result.

### Independent Variables

Variable	Value
Type of housing	1 for <i>pucca</i> and semi <i>pucca</i> 0 for <i>katcha</i>
No of rooms	1 for 2 or more than 2 rooms 0 for one or less rooms
Assets	1 for more than 4 0 for 4 and less than 4
Agency Water Supply	1 for Public 0 for others
Sewer Line	1 for yes 0 for no
Strom water Drainage	1 for yes 0 for no
Latrine facility	1 for Yes 0 for No
Bath Space	1 for yes 0 for No
Literacy rate of household	1 for more than 65per cent 0 for less than or equal to 65per cent
Employment_1	1 for non casual labour 0 for casual labour
Employment_2	1 for regular employment 0 non regular employment
Employment_3	1 for at least 1 casual labour in household 0 for no casual labour
No of people working in a family	1 for more than 1 0 for 1or less than 1
Income	0 for less than or equal to 2000 1 for more than 2000
Food expenditure as per cent of income	1 for less than or equal 50 per cent 0 for more than 50 per cent
Food expenditure as per cent of income	1 for less than or equal 40 per cent 0 for more than 40 per cent
Food expenditure as per cent of income	1 for less than or equal 60 per cent 0 for more than 60 per cent

### 11.2 Relationships among the Variables

Factor analysis was used to know whether some underlying pattern of relationship exist among variables; discovering a new set of factors; or confirming existing factor(s) as being the true factor(s). Essentially, the factors defining shelter security have been derived using proxies as we do not have any straight forward or single indicator of tenure status. Because the variables constructing shelter security were many, the factors were subjected to oblique rotation to ensure that all variables were ascribed to a factor, and none was allocated to two or more factors.

#### KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.567
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Bartlett's Test of Approx. Chi-Square	389.662
Sphericity df	136
Sig.	.000

The Kaiser -Meyer-Olkin (KMO) measure of sampling adequacy was an index for comparing the partial correlations among the variables. Large values for the KMO measure indicate that a factor analysis of the variables was a good idea to proceed. The KMO measure of sampling should be greater than 0.5 for a satisfactory factor analysis to proceed. Looking at the above table, we can observe that the KMO measure was 0.567. From the same table it can see the Bartlett's test of sphericity. The associated probability was 0.000 which was less than 0.05. Hence, we can reject the null hypothesis and conclude that the strength of the relationship among the variables was strong. So, it was a good idea to proceed with factor analysis.

Table 39 shows the results of the component factor extraction among the households in the sample, in Vasna. The table also gives the respective Eigen values and percentage of variance for the factors. The rule of thumb here is that only factors with Eigen values more than 1.0 should be used in further analysis. This criterion of identifying factors that explain the variance in the data was chosen because of the relatively large number of variables. It shows that six variables had Eigen values greater than 1.0 and together were explaining 61 per cent of the variance in the data set. NGO related factors together explains 30.5 per cent of the variance, suggesting these two were most important factors determining tenure security as well as the outcome variables related to living conditions, education, economic status and access to entitlements. We found from the correlation matrix that NGO related components were not correlated with the same variables. Years of stay, land ownership, payment of property tax and possession of informal document of house or land transaction, were other important variables explaining the data set variance of about 8 per cent to 6.5 per cent each. It has to be noted that these variables were the independent variables in our hypothesis and were the defining achievement with regards to other variables.

**Table 39: Factors Explaining Data Variance among Variables, Vasna, Ahmedabad**

S.No	Variables	Initial Eigen values		
		Total	% of Variance	Cumulative %
1	NGO intervention in slum development	3.183	18.722	18.722
2	NGO intervention in mobilising savings	1.997	11.747	30.469
3	Years of stay more than 20 years	1.426	8.388	38.857
4	Public land ownership	1.358	7.991	46.848
5	Payment of property tax	1.265	7.439	54.287
6	Informal house document	1.098	6.459	60.746

\* This was a composite variable constructed as described in Table 1.

Independent variables related to these factors together explain 61 per cent of the variance. In all 20 variables explain the total variance in the data set, but, the independent variables of these factors explain more than half the variance, indicating that the selection of independent variables was correct and that indeed tenure security explains physical living

conditions, human development status, economic status and access to entitlements in slums in Vasna ward.

### 11.3 Logistic Regression<sup>5</sup>

**Logistic** regression analysis uses the techniques of multiple regression analysis to research situations in which the variables are categorical. Since many of the variables in the data set are dichotomous, bivariate analysis<sup>6</sup> has been carried out to observe and measure the impacts of tenure and variables constructing tenure on the outcome indicators. The results for Vasna ward are presented in Table 40.

The results presented in Table 39 are bivariate logit regressions of independent variables with the dependent variables. The independent variables are that of tenure security and dependent variables are outcome variables of living conditions, human development, economic status and access to entitlements. All the dependent variables can be called outcome variables of tenure security. The findings of the bivariate logit regression for slums in Vasna ward are presented below:

- i) The NGO intervention in slum development has significant and positive relationship with variables of living conditions, namely size of dwelling unit (number of rooms), water supply by public agency, availability of toilet facility, sewer line connection, and availability of independent bath space. All these results are significant at more than 80 per cent level. If a household was living in a settlement which has NGO intervention, likelihood of having more than one room in the dwelling unit increases by 109 per cent; likelihood of getting water from public agency increases by 252 percent; the likelihood of it having toilet facility increases by 375 percent; likelihood of having sewer connection and independent bath space increase by 385 and 141 per cent respectively.

**Table 39: Bivariate Logit Regressions, Vasna**

Dependent Variables	Independent Variables											
	NGO intervention in development		NGO intervention for microfinance		Duration of stay more than 20 years		Public land ownership		Property tax bill/ receipt		Any document of house/ land	
	% change	Sig.	% change	Sig.	% change	Sig.	% change	Sig.	% change	Sig.	% change	Sig.
House quality was <i>pucca</i> or semi- <i>pucca</i>	5.1	0.907	309.8	0.002	102.4	0.188	-73.6	0.241	47.6	0.433	931.7	0.000
More than one room in dwelling unit	108.9	0.057	106.8	0.057	33.3	0.195	-48.6	0.512	113.7	0.068	9.4	0.820
Public agency supplying water	252.0	0.001	11.9	0.783	117.0	0.148	-	-	16.3	0.730	89.2	0.162
Availability of toilet	375.1	0.204	14.8	0.908	79.2	0.649	715.5	0.999	323.8	0.279	-	-
Sewer line present	385	0.035	189.2	0.123	-24.2	0.772	-99.2	0.002	45.0	0.587	1412.6	0.012
Independent bath space	141.5	0.051	53.9	0.356	40.8	0.916	-89.9	0.066	90.8	0.170	431.5	0.000
Literacy above 65 per cent	11.2	0.775	9.5	0.809	4.4	0.924	-	-	25.2	0.575	24.4	0.562
More than one person working in a family	102.2	0.073	21.2	0.630	17.4	0.740	-60.6	0.353	33.5	0.499	32.0	0.490
Household head as non-casual labour	65.0	0.239	101.5	0.108	9.6	0.862	-56.6	0.424	21.1	0.688	195.7	0.015
Household head as regular employed	27.8	0.552	32.1	0.513	154.2	0.081	-100.0	0.999	10.8	0.823	360.4	0.000
At least one casual labour in the household	-9.1	0.803	-48.2	0.087	-39.9	0.259	24.3	0.999	1.3	0.975	-46.5	0.114
Household income of more than Rs. 2000	46.8	0.375	135.9	0.054	425.2	0.020	-85.3	0.115	57.0	0.336	165.4	0.030
Per capita income of more than Rs. 650	48.8	0.313	46.3	0.352	133.8	0.068	-60.2	0.358	58.7	0.302	7.8	0.849
Savings	-11.6	0.802	519.8	0.000	23.5	0.199	-15.3	0.879	140.8	0.093	245.6	0.017
More than 4 assets	51.2	0.491	408.4	0.009	991.6	0.035	-88.2	0.070	73.7	0.399	443.7	0.014
Food expenditure as % of expenditure less than 50	54.0	0.395	21.7	0.711	39.9	0.602	-84.4	0.107	52.5	0.472	4.3	0.933
Having BPL card	-63.4	0.056	77.5	0.249	-66.6	0.060	168.4	0.471	8.5	0.883	-17.1	0.707
Having voter card	39.3	0.617	-49.8	0.313	-82.3	0.269	31.4	0.999	35.0	0.662	245.4	0.099
Having ration card	-42.6	0.302	19.4	0.757	-17.5	0.766	607.0	0.999	380.3	0.004	119.2	0.166

Note: Shaded cells are significant relations

- ii) The NGO intervention in slum development also improves economic status and has positive and significant relationship with number of persons employed in a household; household head having non-casual employment, household income to be more than Rs. 2000 per month and per capita income to be more than Rs. 650 per month; and food expenditure as a proportion of expenditure to be less than 50 per cent, with the likelihood of improvement in these variables are 102 per cent, 65 per cent, 47 per cent, 49 per cent and 54 per cent respectively. These relations are significant at between 90 per cent and 60 per cent.
- iii) The NGO intervention in slum development does not have any significant impact on literacy rate.
- iv) NGO intervention in slum for the purpose of micro finance has positive relationship with house quality, which improves by 310 per cent; on owning more than one room house, which improves by 107 per cent; access to sewerage connection, which improves by 189 per cent and also access to independent bath, which improves by 54 per cent.
- v) The likelihood of household head being non-casual labour improves by 102 per cent, likelihood of having at least one casual labour in the household reduces by 48 per cent, likelihood of income being more than Rs. 2000 increase by 136 per cent and likelihood of per capita income more than Rs. 650 increases by 46 per cent in case there was an NGO intervention for microfinance related activities.
- vi) Undoubtedly, the likelihood of household saving increases by 520 per cent in case there was NGO intervention in savings. This could result in increase in household assets, which indeed has increased by 408 per cent in case there was microfinance NGO in the slum.
- vii) The probability of holding a BPL card goes up if there was an NGO working on microfinance issues in the slum. The NGO could assist the slum dwellers in accessing BPL card. The likelihood of possessing BPL Card and ration card decreases by 64 per cent and 43 per cent respectively, with level of significance of 95 per cent and 70 per cent respectively.
- viii) The duration of stay of more than 20 years also has strong positive relationship with variables of living conditions, namely having *pucca* or semi-*pucca* house quality (improving by 102 per cent), having more than one room in dwelling unit (improving by 33 per cent) and water supply by public agency (improving by 117 per cent), with significance levels up to 80 per cent. The duration of stay was not related to (or does not have any impact on) availability of water from the urban local body, the AMC; availability of a toilet at household level and presence of sewer line in the settlement. This means that these outcomes are influenced by other factors that construct tenure security level.
- ix) With regards to economic status, duration of stay was positively and significantly related to regular employment of the household head (by 154 per cent), household income more than Rs. 2,000 (by 425 per cent), per capita income more than Rs. 650 (by 134 per cent), households saving (by 24 per cent), and having more than four assets (by 992 per cent). The relationships are significant up to 70 per cent level. Duration of stay has significant (at 75 per cent level) negative relationship with at least one member of the household employed as casual labour, the incidence increasing by -40 per cent.
- x) Duration of stay has negative and significant impact on holding of a BPL card (at 94 per cent) and voter ID cards (at 74 per cent significance level). The last result was contrary to our understanding and therefore could be freak result. The first observation was self-

- explanatory as income increases with duration of residence in a settlement. Thus, while duration of stay was an important component of tenure security, it explains only certain outcomes.
- xi) The relationship of public land ownership with the outcome indicators are all negative, indicating that the slums on public lands do not experience any improvement in living conditions or economic status and has insignificant relationship with access to entitlements. For example, if a slum was on public land then possibility of having a *pucca* or semi-*pucca* unit decreases by 74 per cent, of a sewer line connection by 99 per cent, independent bath by 90 per cent, more than one person working in a family by 61 per cent, household income more than Rs. 2000 per month by 85 per cent, of having more than four assets by 88 per cent and food expenditure less than 50 per cent of the total expenditure by 84 per cent.
  - xii) This indicates that the households living on public lands face eviction threat. They do not possess any documents to support their residency in that place and hence are more vulnerable to eviction threat. This observation was a contradiction to general understanding in literature that the slums on public lands have higher level of tenure security than the slums on private lands (Durrand-Lasserve and Selod 2007). This observation also indicates that the local State was not into welfare distribution and was also under pressure to use public lands for raising financial resources for infrastructure projects or for commercial purposes to earn income.
  - xiii) The impact of property tax was positive and significant on number of rooms in dwelling unit (by 114 per cent), availability of toilet (by 324 per cent), independent bath space (by 91 per cent), household income more than Rs. 2000 per month (by 57 per cent), per capita income more than Rs. 650 per month (by 59 per cent), households saving (by 141 per cent) and households possessing more than 4 assets (by 74 per cent). The surprise result here was possibility of increase in at least one casual worker in the family by 57 per cent when the household receives a property tax bill, indicating this to be a freak relation. Lastly, possibility of increasing access to a ration card increase by 380 per cent if the household has receives a property tax bill or has its payment receipt.
  - xiv) Holding any document of house or land, even of a quasi-legal status such as a stamp paper agreement of sale of land or house extends some tenure security to the households, leading to improvement in availability of toilet by 89 per cent. This variable has positive relation with many of the variables of economic status. The possibility of household head not being casual labour improves by 196 per cent, household income above Rs. 2000 per month improves by 165 per cent, and possibility of saving improves by 246 per cent and household possessing more than four assets improving by 444 per cent. Even, the possibility of holding a voter card and a ration card improve by 245 per cent and 119 per cent respectively if the household holds any document related to house.
  - xv) None of the tenure variables are related to the education status variables.

## 12.0 Conclusions

The study of slums in Vasna ward indicates that *de facto* tenure security helps in enhancing living conditions, human development, economic status and access to entitlements and there was no need to aim for legal tenure security in the first instance. Tenure security was constructed through firstly presence of an external agency in the slum, followed by duration



of stay and then availability of some quasi-legal document of house ownership. Further, even property tax bills sent to the households lead to increase in perceived tenure security. In this paper, the term *de facto* tenure security has been used to denote this. Thus, tenure security was a fluid concept and many actions of the civil society and of the local government can create *de facto* security of tenure. Even having electricity meter extends some sense of perceived security. In the specific case of Ahmedabad, peculiarly, since the electric supply was by a private agency and in its desire to extend clientele base, it gave electric connections to the slums where the dwellers were willing to pay initial connection charges. This flexibility could not have been feasible if the electricity company was a public one, as was the case before privatisation. But, this does not mean that privatisation of other basic facilities would extend customer status to the slum dwellers and by that extend some security of tenure and by that logic privatise the basic services.

There were different levels of *de facto* tenure security. In this study, two levels have been categorised; high *de facto* tenure and weak *de facto* tenure. The former one was where there was either a guarantee of no eviction for a specific period of time or presence of an external agency that could be banked upon for support in times of eviction threat. The third tenure status was insecure status, where there was eviction threat. Unlike in literature, where there was stylisation of levels of tenure security, in this study only two levels of *de facto* tenure status have been clearly found. Weak *de facto* tenure was that unless some interventions by the government or civil society happens the stalemate with regards to tenure status would continue.

Generally, it was assumed that employment would lead to income and then to secure tenure. This paper argues this trickle down does not always work. Tenure or supply side dynamics or policies play a very important role in the welfare of the poor; it reduces the time period of consolidation of an urban household. In hostile policy environment, as in case of urban India where the neo-liberal state is becoming increasingly hostile to the poor, and there is elite capture of urban land and resources, supply side policy interventions are extremely important. Thus, if tenure comes first, it can have positive impacts on the lives of the urban poor.

Lastly, do we have to wait till the urban poor can be extended legal land titles or property rights as Hernando De Soto has been arguing? This study indicates that we do not need to wait for the drastic changes to occur. Small steps taken at appropriate time, such as extending even basic services and taxes as well as support of NGOs or even organising by the poor themselves for their tenure security would help in improving the living conditions in the slum settlements. These would have beneficial impacts on also employment and human development indicators. Hence, instead of thinking of the best options, it was better to begin with what was feasible and then gradually move towards the best.

### Annexure 1 - List of slums, Vasna

S.No.	Name of slum	S.No.	Name of slum
1.	Bhikabhai Juvabhai Na Chapra	13.	Pravin Nagar Na Chapra
2.	Chndranagar Na Chapra	14.	Rabari Vado
3.	Das Ordi Na Chapra	15.	Rajiv Nagar
4.	Desai Vas	16.	Rampura Gam's Chapra
5.	Gupta Nagar Na Chapra	17.	Serainagar Na Chapra
6.	Indira Nagar	18.	Someshwar Nagar Na Chapra
7.	Jadiba Nagar Na Chapra	19.	Sompura na Chapra
8.	Kachiya Vas	20.	Sreyas Na Chapra
9.	Malav Talav Chamunda Nagar	21.	Tajbibi Badshah Khan Na Chapra
10.	Mangal Talav Na Chapra	22.	Vallabh Nagar Na Chapra
11.	Narayan Nagar	23.	Velabhai Ni Chali
12.	Om Nagar Na Chapra	24.	Yogeshwar Na Chapra

## Notes

- <sup>1</sup> All the wards of the city were studied to know number of slums in each ward and presence of any external agency in the slums. From this list of all the wards, few wards were shortlisted for detailed enquiry about the level of involvement of an external agency. After a visit to the shortlisted wards, Vasna and Amraiwadi were selected for detailed research work.
- <sup>2</sup> One of the planned outputs of this research project.
- <sup>3</sup> Provision of basic services (water supply, sewerage and public health) has been one of the key responsibilities of the urban local bodies in India.
- <sup>4</sup> The average monthly income of the household in Vasna was Rs.3, 350. The regression analysis carried out using this as cut of point hasn't produced significant results.
- <sup>5</sup> The logistic regression assumes that the outcome variable, Y was categorical, but logistic regression doesn't model this outcome variable directly. For simplicity we assume that Y was dichotomous, taking on values of 1 for positive outcome and 0 for negative outcome. In theory, the hypothetical, population proportion of cases for which Y = 1 was defined as  $p = P(Y=1)$ . Then, the theoretical proportion of cases for which Y = 0 was  $1 - p = P(Y = 0)$ . In the absence of other information, we would estimate p by the sample proportion of cases for which Y = 1.

Let:

$$P_i = \Pr(Y=1/X= x_i)$$

Then we can write the model:

$$\text{Log} (P_i/1-P_i) = \text{logit} (P_i) = \beta_0 + \beta_1 x_1$$

The parameter  $\beta_0$  gives the log odds of an independent variable. In the table 1, for example,  $\beta_0$  gives the log odds of the households stayed in the slum for 20 or less than 20 years and  $\beta_1$  shows how these odds differ for the household stayed more than 20 years in the slum.

If we rewrite the model in terms of odds as:

---


$$(P_i/1-P_i) = \exp (\beta_0 + \beta_1 x_i)$$

Or in terms of the probability of the outcome occurring as:

$$P_i = \exp (\beta_0 + \beta_1 x_i) / (1 + \exp (\beta_0 + \beta_1 x_i))$$

Conversely the probability of the outcome not occurring was

$$1 - P_i = 1 / (1 + \exp (\beta_0 + \beta_1 x_i))$$

<sup>6</sup> The logistic regression assumes that the outcome variable, Y was categorical, but logistic regression doesn't model this outcome variable directly. For simplicity we assume that Y was dichotomous, taking on values of 1 for positive outcome and 0 for negative outcome. In theory, the hypothetical, population proportion of cases for which Y = 1 was defined as  $p = P(Y = 1)$ . Then, the theoretical proportion of cases for which Y = 0 was  $1 - p = P(Y = 0)$ . In the absence of other information, we would estimate p by the sample proportion of cases for which Y = 1.

Let:

$$P_i = \Pr(Y=1/X= x_i)$$

Then we can write the model:

$$\text{Log} (P_i/1-P_i) = \text{logit} (P_i) = \beta_0 + \beta_1 x_i$$

The parameter  $\beta_0$  gives the log odds of an independent variable. In the table 1, for example,  $\beta_0$  gives the log odds of the households stayed in the slum for 20 or less than 20 years and  $\beta_1$  shows how these odds differ for the household stayed more than 20 years in the slum.

If we rewrite the model in terms of odds as:

$$(P_i/1-P_i) = \exp (\beta_0 + \beta_1 x_i)$$

Or in terms of the probability of the outcome occurring as:

$$P_i = \exp (\beta_0 + \beta_1 x_i) / (1 + \exp (\beta_0 + \beta_1 x_i))$$

Conversely the probability of the outcome not occurring was

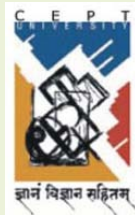
$$1 - P_i = 1 / (1 + \exp (\beta_0 + \beta_1 x_i))$$

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