



# VULNERABILITY ASSESSMENT OF SLUMS IN PERIYANAICKEN-PALAYAM AND NARASIMHANAICKEN-PALAYAM

*November 2018*





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## Abbreviations

<b>ANM</b>	Auxiliary Nurse Midwife
<b>AWC</b>	Anganwadi Centre
<b>AWW</b>	Anganwadi Workers
<b>BPL</b>	Below Poverty Line
<b>DCH</b>	Districts Census Handbook
<b>EHP</b>	Environmental Health Project
<b>FGD</b>	Focus Group Discussion
<b>IEC</b>	Information, Education and Communication
<b>NFHS</b>	National Family Health Survey
<b>NNP</b>	Narasimhanaicken-palayam
<b>NUHM</b>	National Urban Health Mission
<b>NUSP</b>	National Urban Sanitation Programme
<b>OBC</b>	Other Backward Caste
<b>PHC</b>	Primary Health Centre
<b>PNP</b>	Periyanaicken-palayam
<b>RTI</b>	Reproductive Tract Infections
<b>SBM (G)</b>	Swachh Bharat Mission-Gramin
<b>SBM (U)</b>	Swachh Bharat Mission-Urban
<b>SC</b>	Scheduled Caste
<b>SHG</b>	Self Help Groups
<b>ST</b>	Scheduled Tribes
<b>TNUSSP</b>	Tamil Nadu Urban Sanitation Support Programme
<b>TP</b>	Town Panchayat
<b>UNFPA</b>	United Nations Population Fund
<b>USAID</b>	United States Agency for International Development
<b>VHND</b>	Village Health Nutrition Day
<b>WASH</b>	Water, Sanitation and Hygiene



A large, light green letter 'E' graphic is positioned on the right side of the page. The text 'Executive Summary' is centered within the middle horizontal bar of the 'E'.

# **Executive Summary**



# Executive Summary

Sanitation programmes for urban poor like all other urban centric development programme often fails to reach the neediest. Though the Census 2011 figures say that 81 per cent of urban households have toilets on their premises, the same source also reveals that only 66 per cent of slum households have a toilet within their premises. The rest used community toilets (15%) or practiced open defecation (19%). Furthermore, around 19 per cent of slum households were not connected to any form of drainage system.

Empirical evidence bolsters that agencies (NGOs, donors, governments) which are external to slums often consider urban poor as a homogenous group and have reached out to only 30 per cent of the better-off slums with their programmes. Hence, in pursuit of targeting the most vulnerable as well as differentially vulnerable slums, especially from the perspective of the full cycle of sanitation, a vulnerability study was conducted in eleven slums by the Tamil Nadu Urban Sanitation Support Programme (TNUSSP).

The cross-sectional study was carried out in the cluster of Town Panchayats (TPs) comprising of Periyanaicken-palayam (PNP) and Narasimhanaicken-palayam (NNP) from Coimbatore district, Tamil Nadu. The two TPs, which are the intervention areas of the TNUSSP, have the following objectives:

- To understand and ascertain a multitude of inequality among the urban poor pockets from the cluster of TPs.
- To develop a plan of action and prioritise essential services
- To identify the actual location and distribution of key focus groups, and thereby design focused interventions to reach these population groups

To determine vulnerability of the slum, 22 composite indicators were identified, which included the following:

- Authorisation status of the slum
- Location of the slum
- Migration status of the population
- Number of NGOs/CBOs working there
- Condition of approach road
- Type of housing
- Access to toilet and water supply
- Drainage and electricity
- Demographic constitution of the population in terms of religious minorities and caste
- Number of BPL families
- Number of families with children engaged in child labour
- Health seeking behaviour, access to healthcare facilities within the slum and outreach services

Based on the results the slums were divided into 'least vulnerable', 'moderately vulnerable' and 'most vulnerable'.

The primary data was collected at the slum-level through a Focused Group Discussion (FGD) with 10–12 key informants from the community including community leaders, members of the local Self-Help Groups (SHGs), senior citizens, Anganwadi workers, Auxiliary Nurse Midwife (ANMs), representatives from youth groups and through participant observation of the slum.

Information on parameters like location of the slum, condition of the approach road to the slum, type of housing, drainage, etc. was recorded based on observation while for other parameters viz. source of

water, type of toilet facility, literacy status, prevalence of child labour and service coverage among other responses were elicited from the FGDs. This information was verified with existing secondary sources like data from TPs and recent surveys conducted by TNUSSP.

The study showed that five slums (one from PNP and four from NNP) belonged to the 'moderately vulnerable' category with scores ranging between 16 and 20. The rest of the slums belong to the 'least vulnerable category' with scores ranging between 11 and 15. The scores also indicate that slums are quite homogeneous in terms of their vulnerability.

Primary factors such as employment patterns, non-availability of Primary Health Centres (PHC) nearby and poor coverage of nutrition services contributed to the vulnerability of slums considered in this study. Other significant factors were location, absence of toilets and rampant open defecation. Housing types, absence of civil society organisations, water supply through stand posts, poor drainage and literacy level can be attributed as secondary factors.

It is envisaged that the findings from the study can be used for planning interventions and optimum utilisation of the available resources.

# Slum Vulnerability Study: Rationale and Objectives

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# 1. Slum Vulnerability Study: Rationale and Objectives

## 1.1 Introduction:

The growth of urban slums has been one of the defining characteristics of the past decades in the developing world. Approximately one billion people live in urban slums, and the slum population is growing by 2.2 per cent per year (UN-HABITAT 2006). Urban slums are characterised by crowding, extreme poverty, lack of land or property tenure, lack of services and infrastructure, and a predominantly informal economy. Sanitation in urban slums is a particular problem. While more than one-quarter of the urban population worldwide has inadequate sanitation, the proportion is much higher for slum dwellers. Inadequate sanitation compels slum residents to use unhygienic latrines, or defecate in the open, creating significant disease-related hazards (Ahmed 2005; Allan 2003; Hanchett et al. 2003).

In India, the changing urban demographic trend and rapid proliferation of slums has managed to shift the focus of sanitation programmes from being rural centric to cover the urban poor over the last decade – especially after the formulation of the National Urban Sanitation Policy, 2008 (NUSP -2008). However, this shifting of opportunities, services and resources offered by neo urban-centric development programmes have grossly failed to reach the people who need them the most.

According to the Census 2011, 81 per cent of urban households have toilets in their premises. Often such staggering statistics of the urban average camouflage the plight of urban poor as segregated data from the same source (Census 2011) reveal that only 66 per cent of slum households have a toilet within their premises. Around 15 per cent of them are using community toilets, while the remaining 19 per cent practice open defecation. The Census also states that around 19 per cent of slum households are not connected to any form of drainage system.

Empirical evidence shows that agencies (NGOs, donors, governments) which are external to slums often consider urban poor as a homogenous group and have been able to cater only around 30 percent of the urban poor that too from “better off” slums (Rao & Thakur, 2007). Hence, in pursuit of targeting the most vulnerable as well as differentially vulnerable slums, especially from the perspective of full cycle of sanitation, a study was conducted in eleven slums by the Tamil Nadu Urban Sanitation Support Programme (TNUSSP).

## 1.2 Rationale for the Study:

Tamil Nadu is one of the most urbanised states in India with 48.5 percent urban population as against the national average of 31.2 per cent (Census 2011). The state has witnessed a decadal growth rate (2001-2011) of 27.6 per cent in its urban population outpacing a mere 6.49 per cent in its rural counterpart. With this rapid urbanisation, Tamil Nadu contributes to 15 per cent of the total housing shortage in India (Technical Group, Ministry of Housing and Urban Affairs, 2012). Concentration of low-profile economic activity and emergence of the informal sector in urban locations along with concomitant migration from rural hinterlands, coupled with shortage of housing especially for the poor and economically weaker groups has led to the size of slum population leap consistently. (Economic Appraisal 2011-12 to 2013-14. )

According to Census 2011, in Tamil Nadu around 16.6 percent of urban households are located in slums (national average 17.4 percent). Economic Appraisal 2011-12 to 2013-14 conducted by the

Department of Evaluation and Applied Research, further reveals that most of the slums are in vulnerable locations like river banks, water logged areas, road margins with squalid housing conditions and a dearth of basic amenities.

Coimbatore, popularly known as the Manchester of South India, is one of the top three urbanised districts of Tamil Nadu with a staggering urban population of 75.73 per cent. Over the decade 2001-2011, the district has witnessed a decadal growth rate of 27 per cent in its urban population against a negative decadal growth rate of its rural population (-1.76 per cent, Census 2011). Around 11.66 per cent of urban population are slum dwellers in this district. According to the District Census Handbook, 2011 Coimbatore has total 392 slums across 44 statutory towns including Town Panchayats, six municipalities, one municipal corporation and 18 census towns.

The cross-sectional study was carried out in the cluster of Town Panchayats (TPs) comprising of Periyanaicken-palayam (PNP) & Narasimhanaicken-palayam (NNP) in Coimbatore district, Tamil Nadu. PNP and NNP are two of the statutory towns in Coimbatore district, and are located in the northern part of the district at a distance of 17 kms and 12 kms respectively from Coimbatore city along NH 67, which runs between Coimbatore and Mettupalayam. According to Census 2011, PNP with a population of 26,000 is a Class III category town whereas NNP belongs to Class IV category with a population of 17,900. The proportion of slum population in PNP TP is 7.38 percent and in NNP TP around 5.40 per cent. This pair of town panchayats also form the intervention area of TNUSSP. Considering the above factors, it was decided that the vulnerability study would be conducted in eleven slums located in these two town panchayats.

### **1.3 Definition of Slum**

According to Census 2011, a 'slum' has been defined as a 'residential area where dwellings are unfit for human habitation by reasons of dilapidation, overcrowding, design of buildings, narrowness or faulty arrangement of streets, lack of ventilation, lack of sanitation facilities or any combination of these factors which are detrimental to safety or health (The Slum Areas 'Improvement and Clearance' Act, 1956).

Nevertheless, it is estimated that population in slums witnesses a growth of around 6-8 per cent per annum as against 2-3 per cent growth of overall urban population (Swami, 2107). The following causes can be attributed to the proliferation of the slums (Swami, 2107) in India:

1. Industrialisation and consequent migration from rural hinterlands
2. Lack of employment opportunities and livelihood resources in rural areas
3. Inadequate infrastructural facilities in urban areas
4. Low wages earned due to poor employable skills
5. Ineffective land reform

The aforesaid causes clearly suggest that, often people with deplorable socio-economic conditions reside in slums. They do not belong to a homogeneous group and there exist considerable disparity in terms of key development parameters such as health, education, livelihood, basic infrastructure facilities and social capital leading to different vulnerability across slums (Agarwal, Taneja, & Patra, Health Vulnerability Assessment of Slums – A tool for better planning of health programs in urban areas, 2005).

### **1.4 Definition of Vulnerability**

The term 'vulnerability' means 'able to easily hurt' (Rao & Thakur, 2007). According to Loughhead et al. 2001, 'Vulnerability' can be defined as 'a situation where some people are more prone to face adverse situations, and where there is a higher likelihood of succumbing to those situations'. The term has different meanings not only across different disciplines but also with respect to size and scale

(Mohapatra, 2012). In the context of public health, however, it implies a situation leading to morbidity and mortality (Agarwal, Satyavada, Kaushik, & Kumar, 2007).

Various studies conducted in India on slums and the urban poor have identified the following factors as major determinants of health vulnerability:

<b>Table 1.1: Factors Contributing to Higher Health Vulnerability of the Urban Poor in India</b>	
<b>Factors</b>	<b>Situation affecting health vulnerability in slums</b>
Economic conditions	Irregular employment, poor access to credits and loans.
Social conditions	(Drug) addiction, gender inequality, poor education status
Living environment	Poor access to safe water supply and sanitation facilities, overcrowding, poor housing and insecure land tenure
Access and use of public health service	Lack of access to primary health care services, poor quality of health care, high private health expenditure
Hidden or unlisted slums	Many slums are not notified in official records and are not covered by civic and health services
Mobility	Temporary migrants have difficulty in accessing health services or other development programs. Follow up treatment is also difficult
Morbidity	High prevalence of diarrhoea, cough and fever among children
Education	Lack of education among urban poor hinders the ability of using health care or preventing diseases
Negotiating capacity	Lack of organised efforts in the slums
Urban literacy	Migrants from rural areas are unfamiliar with urban context and behaviour
<i>Source: Agarwal et al. 2007 : 124</i>	

Thus, the urban poor residing in slums are exposed to several risk factors, which results in poor health outcomes.

Vulnerability assessment is defined as ‘the systematic examination of the system to identify those critical infrastructures or related components that may be at risk from an attack and the determination of appropriate procedure that can be implemented to reduce the said risk (Rao & Thakur, 2007). From a public health perspective, ‘hazard’ is often defined as ‘potential threat to human beings and their welfare’. Therefore, ‘vulnerability’ is ‘exposure and susceptibility to loss’ whereas ‘risk’ is a ‘probability of hazard occurrence’ (Turner, et al., 2003)

Therefore, a vulnerability assessment is a multi-step process that includes hazard identification, determination of the degree of exposure and risk detection. This makes it necessary to develop composite indicators of vulnerabilities which include bio-physical, socio-economic and institutional indicators, thereby relating it to both people and places, (Mohapatra, 2012) i.e. 'slums' and 'urban poor' in the context of the present study.

Traditionally in India, most of the social development programmes have remained rural centric. However, rapid urbanisation coupled with increase in the number of slums has brought home the importance of urban sanitation. Yet, the opportunities, services and resources offered by neo urban centric development programmes are grossly failing to reach people for whom they are meant. What makes the problem further complex are a) statistics of urban average often camouflage the plight of urban poor and b) urban poor are not a homogeneous group (Agarwal, Taneja, & Pradeep, 2005). An estimate reveals that because agencies like NGOs, donors and governments are external to slums their programmes and implementation can only cater to around 30 per cent of the urban poor, that too from 'better off' slums (Rao & Thakur, 2007). Hence, in pursuit of targeting the 'most vulnerable' as well as differentially vulnerable slums participatory methods for ranking the urban poor is essential (Agarwal, Taneja, & Pradeep, 2005). The present study was an effort to do exactly that with a set of selected health vulnerability criteria.

## **1.5 Objectives of the Study**

- To confirm the existence of and understand the locations of slums in the two TPs.
- To understand and ascertain the multitude of inequality and lack of essential services for the urban poor pockets in the two TPs.
- To identify the actual location and distribution of key focus groups, and thereby design focused interventions to reach these population groups.

## **1.6 Methodology**

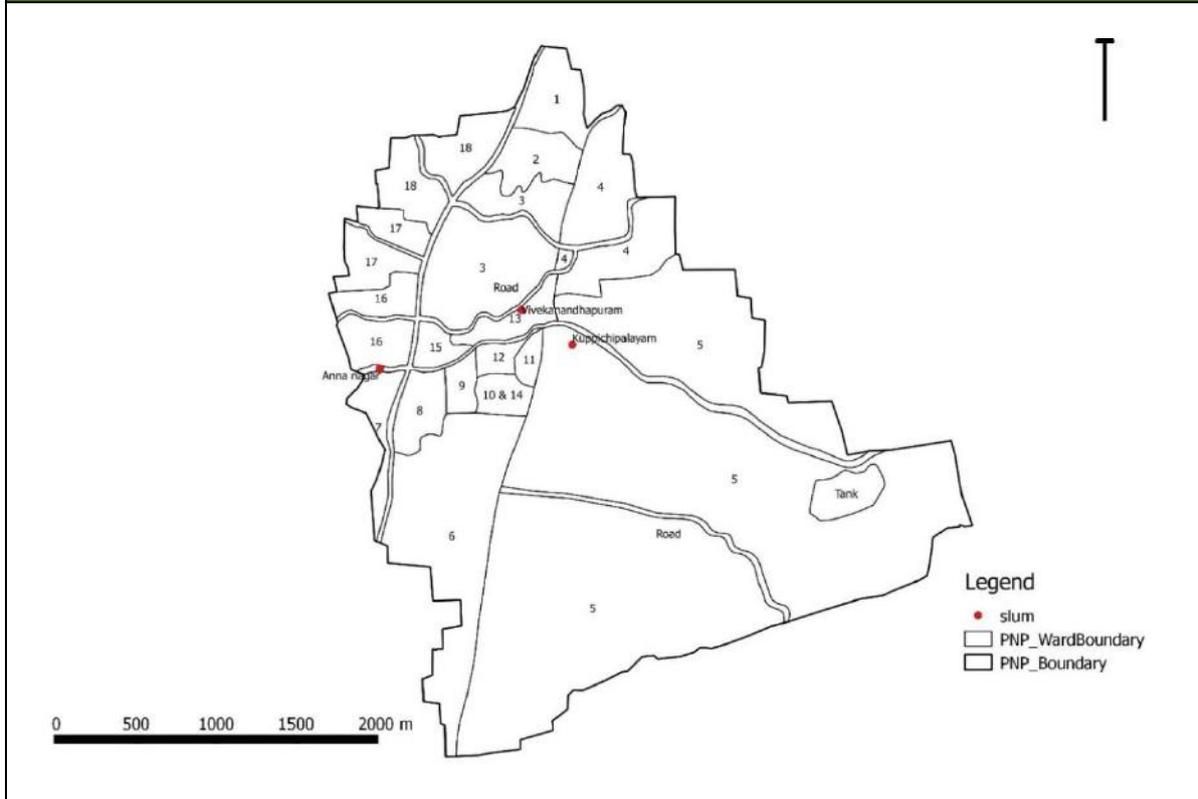
The cross-sectional study was carried out in the cluster of Town Panchayats (TPs) comprising of Periyanaicken-palayam (PNP) and Narasimhanaicken-palayam (NNP) from Coimbatore district, Tamil Nadu. The methodology consisted of administering pre-tested questionnaires as well as holding Focus Group Discussions (FGDs) with a cross-section of the residents in the 11 slums where the study was being done. Transect walks, participant observations as well as key informant interviews formed a part of the study.

### **1.6.1 Study Area**

The Town Panchayats\* (TPs) of Periyanaicken-palayam (PNP) and Narasimhanaicken-palayam (NNP) are in Coimbatore District of Tamil Nadu. PNP is located to the North of Coimbatore city along the National Highway No.67 going toward Mettupalayam. NNP town is situated 5 km ahead on the same road.

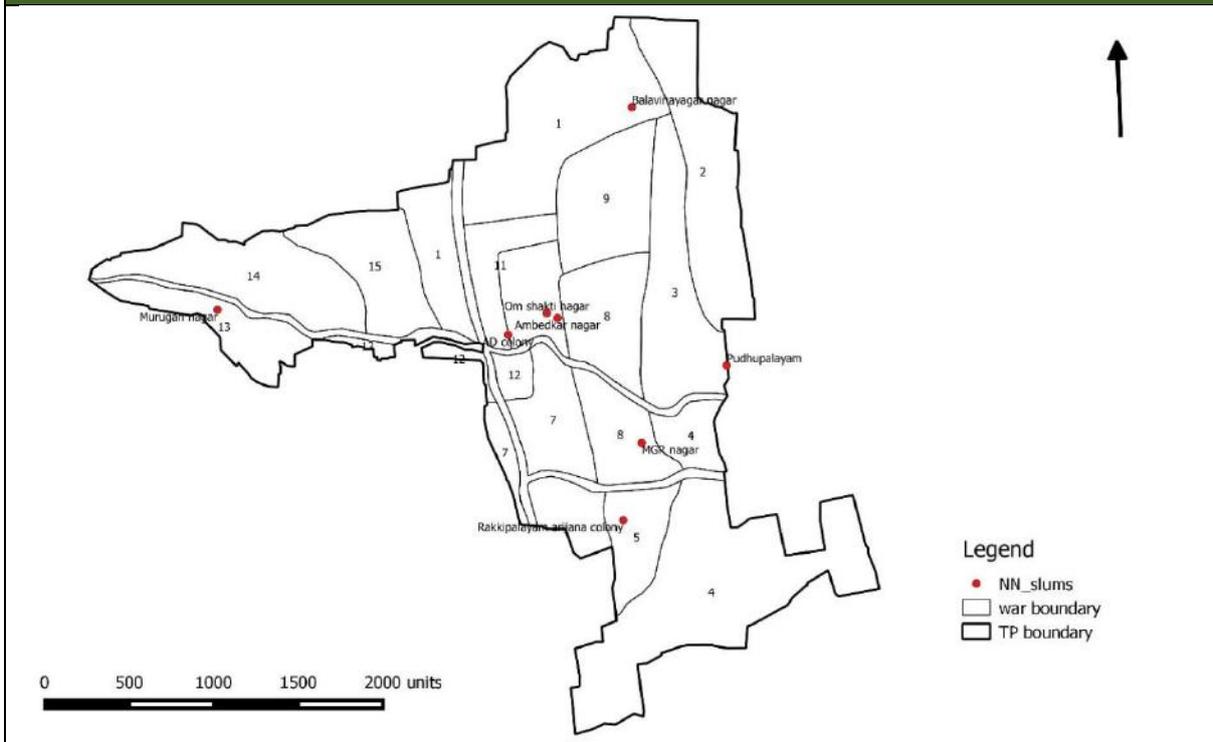
The households in the two town panchayats are predominantly dependent on the on-site sanitation systems with 67 per cent households connected to septic/holding tanks in PNP and 71 per cent in NNP. The on-site sanitation systems connected to the households are currently emptied on demand by private desludging operators. The two Town Panchayats (TPs) are served by a total of 25 Public Sanitary Conveniences (PSCs or public toilets) two of which are defunct at present.

Figure 1.1: Spatial distribution of slums in PNP



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu.

**Figure 1.2: Spatial distribution of slums in NNP**

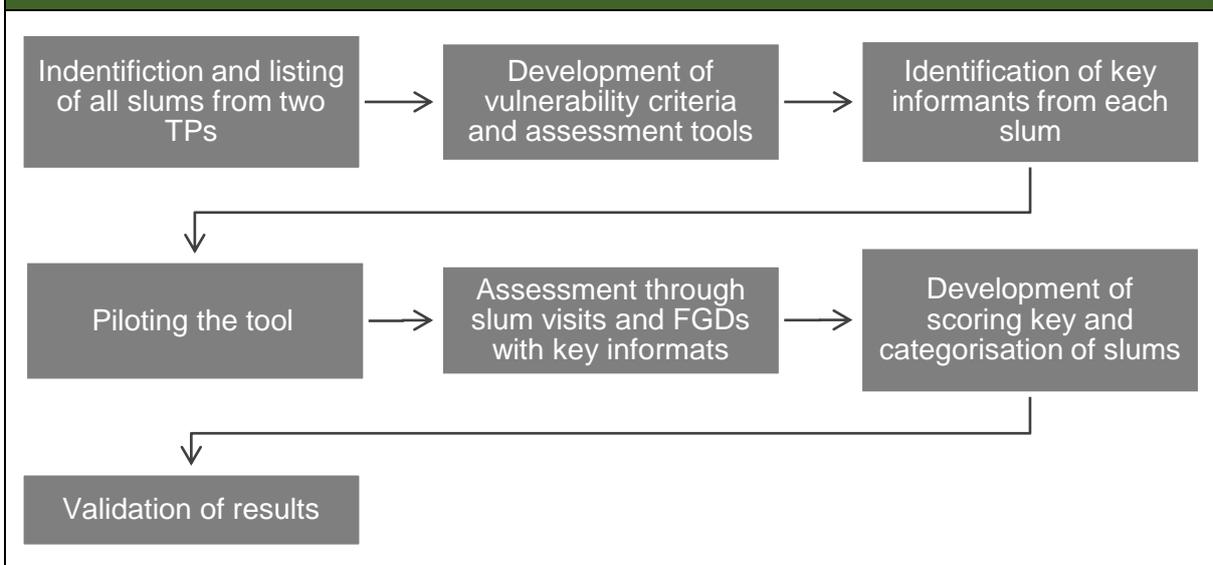


Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu.

### 1.6.2 Process of identification and vulnerability assessment of slums

The following process was followed while identifying and assessing the slums in both the town panchayats.

**Figure 1.3: Process Diagram of the Health Vulnerability Assessment in Slums**



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu.

### 1.6.3 Selection of Vulnerability Criteria Indicators

The criteria were developed based on literature review and local context regarding socio-economic conditions, infrastructure, available services and the ease in accessing facilities in the selected slums. The current study followed the footprints of similar studies conducted to measure health vulnerability of slums from five Indian states during the tenure of the Environmental Health Project (EHP) 2005 supported by the United States Agency for International Development (USAID) and the Health of the Urban Poor Program (2009-2015), another flagship programme of the USAID. In 2014, the National Urban Health Mission (NUHM) was launched as a submission of the National Health Mission. NUHM standardised this method of assessment, and the corresponding tool for pan India application.

To determine vulnerability, 22 composite indicators were identified under four categories. Each indicator was assigned a value on a scale of 0-2, where '0' stood for least vulnerable and '2' indicated most vulnerable. The following table presents the indicators along with their assigned values.

Table 1.2: Composite Indicators for Vulnerability Assessment			
	Most vulnerable (2)	Moderately vulnerable (1)	Least vulnerable (0)
<b>Authorisation status of the slum</b>	Slum un-listed/not registered (1000 households and above)	Slum un-listed/not registered (less than 1000 households)	Slum listed/registered
<b>Location of the slum</b>	Homeless shelters/ roadside/ along railway tracks/ dumping ground/ polluted water/near airport/ near gas line/ under high tension wires	Unauthorized settlement/ land belonging to local authority/ leased land	Own land/ authorised quarters
<b>Migration status</b>	Seasonal migration	Recent migration (less than two years)	Living in the slum for more than two years
<b>Number of NGOs /CBOs operating in the slum</b>	None	1 – 2	3 or more
<b>Condition of approach road to the slum</b>	No road/kachha road	All weather road in a bad condition	All weather road in a good condition
Housing and Basic Amenities			
<b>Housing</b>	Kachha	Semi-pucca	Pucca/ permanent structure
<b>Basic amenities- toilet</b>	No toilet, defecation in the open by all - men, women and children	Community toilet/ shared toilet	Individual toilet
<b>Basic amenities- water supply</b>	No piped water supply (people use hand pumps, dug wells, tankers etc.)	Use community based piped water connections	Individual piped water supply

Table 1.3: Composite Indicators for Vulnerability Assessment

	Most vulnerable (2)	Moderately vulnerable (1)	Least vulnerable (0)
<b>Basic amenities- water supply</b>	No piped water supply (people use hand pumps, dug wells, tankers etc.)	Use community based piped water connections	Individual piped water supply
<b>Basic amenities- drainage</b>	No drains, clogged drains with open pits	Drainage without concrete structure/poor maintenance/clogged/overflowing drain	Underground drainage, with regular maintenance/no clogging
<b>Basic amenities- electricity</b>	No electricity connections at all	Illegal electricity connections	Legal electricity connections
Socio-economic and Demographic Profile of the Slum			
<b>Percentage of minority population- religious</b>	≥50%	10 – 49%	≤10%
<b>Percentage of BPL Households</b>	≥50%	11- 49%	≤10%
<b>Percentage of population without any identity proof</b>	>80%	11- 79%	<10%
<b>Percentage of literate population in the slum (male + female)</b>	<10%	10 – 64%	> 65%
<b>Occupational conditions</b>	Hazardous working conditions like rag picking, sex trade, mining, recycling waste products, construction workers, manual rickshaw pullers	Engaged in unskilled and semi-skilled jobs like street vendors, painters, carpenters, tailors, auto drivers, maids, security guards	Private or government jobs with regular monthly wages, shopkeepers
<b>Percentage of children engaged in child labour</b>	>10% children engaged in child labour	0 – 10% children engaged in child labour	No child labour
Status of Health and Health Services			
<b>Number of primary health care facilities within the slum</b>	None	1-2	3 or more

Table 1.3: Composite Indicators for Vulnerability Assessment			
	Most vulnerable (2)	Moderately vulnerable (1)	Least vulnerable (0)
<b>Health/ care seeking behaviour</b>	Seek treatment from private unqualified providers within or outside the slum	Seek treatment from public health facility more than 2 km away from the slum or a private qualified provider within or outside slum	Seek treatments from public health facility within half a km of the slum
<b>Service coverage</b>	<50% institutional delivery	50 – 79% institutional delivery	>80% institutional delivery
<b>Outreach services</b>	No outreach	Irregular outreach (once a month or even less)	Frequent outreach (once a week)
<b>Number of functional AWCs within the slum</b>	None	1-2	3 or more
<b>Disease outbreaks in the past one year</b>	2 or more	1	None

*Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu.*

According to the above vulnerability matrix a slum could fall between a maximum score of '44' and minimum score of '0'. Based on cumulative scores, the slums were classified into the following categories.

Table 1.4: Categorisation of Vulnerability		
Cumulative Score	Category	Colour coding
0-15	Least vulnerable	
16-30	Moderately vulnerable	
31-44	Most vulnerable	

*Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu.*

#### 1.6.4 Data Collection

To undertake this assessment, primary data was collected at the slum level through an FGD with 10-12 key informants from the community and through participant observation of the slum. During the FGDs, key informants from both genders and different age groups were involved. Community leaders, members from local Self-Help Groups (SHGs), senior citizens, Anganwadi workers, Auxiliary Nurse Midwife (ANMs) and representatives from youth groups comprised the focus groups in all the slums where the study was conducted. Information on parameters like location of the slum, condition of the approach road to the slum, type of housing, drainage, etc. was recorded based on observation. For other parameters viz. source of water, type of toilet facility, literacy status, prevalence of child labour, service coverage, etc. responses were elicited from the FGDs. The information obtained from the group

discussions was verified with existing secondary sources like data from TPs and recent surveys conducted by TNUSSP.

### **1.7 Limitations of the Study**

The assessment exercise provided an understanding of slums only at the particular period when the exercise was undertaken. However, it is important to know that the slum scenario is ever changing owing to seasonal migration, relocation and shifting of construction sites among other things. Population and other socio-demographic estimates are very crude as they are an approximation from group discussions and transect walks. Since FGDs were a core part of this study, limitations like response bias from the respondents and interpretation bias from facilitators are most likely to exist.



# Slum Vulnerability Study: Findings and Discussion

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## 2. Slum Vulnerability Study: Findings and Discussion

Districts Census Handbook (DCHB) 2011 reveals that each of the towns considered under the current study has three slums that are notified. However, the details from the TPs should that there were a total of eleven slums in the two TPs. PNP claims to have a total of three slums, though their names are different from the ones in the DCHB 2011. NNP, on the other hand, has a total of eight slums. Data discrepancy is a common problem while identifying slums in urban areas. Often a significant number of slums remain unlisted and vulnerability is more acute in those unlisted slums (Agarwal, Taneja, & Patra, 2005). The demographic details of all slums obtained through the current study is depicted in Table 2.2. The population and household data were validated with secondary sources like TPs and Sanitation Situation Reports of PNP and NNP developed under TNUSSP. The data reveals that the average household size in the slums is around four. In PNP seven per cent of the total population resides across three slums, whereas in NNP five per cent of the total population resides across eight slums.

Table 2.1: Slum Detail from Study Area as per Census 2011			
Name of TP	Name Slum	No. of Households	Population
PNP	Kuppichipalayam	135	567
	Jothipuram	269	834
	Anna Nagar	122	512
NNP	N.S.N Palayam	80	320
	Poochiyur	175	543
	Rakipalayma	25	102

*Source:* TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu.

The DCHB also said that Hinduism is the predominant religion among slum dwellers in these clusters of TPs. Caste wise, except four slums (one in PNP and three in NNP); the population predominantly belongs to the SC category.

**Table 2.2: Demographic Details of the Slums**

Town Panchayat	Slum	Ward No.	Population	HH	Population Composition (%)				Caste Composition (%)			
					Hindu	Muslim	Christian	Others	SC	ST	OBC	Others
PNP	Kuppuchipalayam - Arijana Colony	5	425	121	80		20		95	3	2	
PNP	Vivekanandhapuram	13	748	214	95		5		80		20	
PNP	Anna Nagar	7	522	149	99	1			10		90	
NNP	Arijana Colony	7	360	103	99		1		99		1	
NNP	MGR Nagar (Union Road) South	3	132	38	99		1		10		90	
NNP	Murugan Nagar	14	234	67	99		1		99		1	
NNP	Rakkipalayam	6	60	17	100				100			
NNP	Pudhupalayam	2	85	24	100				100			
NNP	Ohm Shakthi Nagar	8	294	84	99		1		10		90	
NNP	Ambedkar Nagar	2	90	26	100				100			
NNP	BV Slum	3	160	46	98		2				100	

*Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu*

## **2.1 Slum Characteristics**

### **2.1.1 Status of Slums**

Slums in both the TPs are registered under the Slum Clearance Board<sup>1</sup>.

### **2.1.2 Locations of the Slums**

Three slums from NNP viz. Pudhupalayam, Arijana Colony, MGR Nagar and one slum Anna Nagar from PNP are located either near drains, on the roadside, near canals or by the railway track. Their respective locations make them more prone to several vulnerabilities including displacement, diseases, etc.

### **2.1.3 Migration**

There were no recent migrants in any of the slums which were a part of the study.

### **2.1.4 Condition of the approach road**

Out of the eleven slums where the study was conducted, three from PNP (Kuppuchipalayam, Vivekanandhapuram, Anna Nagar and three from NNP (Arijana colony, MGR Nagar and Murugan Nagar) have a good approach road, which can withstand difficult weather conditions. One slum from NNP has a kachha road (Pudhupalayam). The approach roads to the remaining slums are in bad condition.

### **2.1.5 Presence of NGO/CBO**

An NGO called JC Nalla Sangam was running a livelihood promotion programme in Kuppuchipalayam (PNP) slum. There was no NGO/CBO presence in any of the other slums.

### **2.1.6 Exposure to seasonal hazards**

No slum had reported experiencing seasonal hazards.

## **2.2 Housing and Basic Amenities**

### **2.2.1 Housing**

Irrespective of the TP, majority of the households in all the slums are semi pucca.

### **2.2.2 Toilets**

Most households in slums like Balavinaigar Nagar, Murugan Nagar, Union Road (south) from NNP and Kuppuchipalayam from PNP did not have toilets. In these slums, open defecation is a common practice. Majority of the inhabitants from the remaining slums, except Anna Nagar depend on community toilets. In Anna Nagar, where individual toilets, constructed under Swachh Baharat Mission (U), are prevalent.

### **2.2.3 Water supply**

All households in the eleven slums depend on a community piped water connection for their needs. They receive a regular supply of potable and non-potable water from the same source at different times.

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<sup>1</sup> Tamil Nadu Slum Clearance Board was established in September 1970 and has been implementing various housing, slum development, rehabilitation and resettlement programmes to ameliorate the living conditions of slum families in TN. The Board initially started its activities in Chennai and gradually extended to other urban areas in a phased manner since 1984.

## 2.2.4 Drainage

Slums like Balavinaigar do not have drainage facility. Anna Nagar from PNP and Arijana Colony from NNP are two slums that have grown over wide stormwater drains. Often grey water and in few cases, black water from these slums finds its way into the adjacent storm water drain through chutes or drain pipes. In the remaining slums there are drainage systems, which do not have any concrete structure, and which are badly maintained.

## 2.2.5 Electricity

As far as electricity is concerned, it was found that all households from all the eleven slums in the two TPs have legal electricity connections.

## 2.3 Socio-economic and Demographic Profile of the Slums

### 2.3.1 Minority population

Except in Kuppuchipalayam in PNP, no other slums have a minority population of more than ten per cent (Table 2.2).

### 2.3.2 Availability of BPL households

During the FGDs, it was revealed that Arijana Colony from NNP has the highest percentage of BPL households (28%). Table 2.3 presents the slums identified with BPL households in both the TPs. Though informants from Balavinaigar Nagar said that the slum had BPL households, it was difficult to triangulate the results since none of the identified households had ever received a BPL card.

Table 2.3: Distribution of BPL Households in Slums		
Slum	TP	Percentage of BPL HH
Kuppuchipalayam - Arijana Colony	PNP	1.4
Vivekanandhapuram	PNP	2
Anna Nagar	PNP	2
Arijna Colony	NNP	28
Rakkipalayam	NNP	8.3

*Source:* TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

### 2.3.3 Population without any identity proof

Out of eleven slums, the two relatively smaller ones (MGR Nagar; Pudhupalayam) at NNP had more than ten per cent of their population bereft of any identity proof.

### 2.3.4 Literacy

The following table depicts the level of adult literacy across all eleven slums

Table 2.4: Approximation of Adult Literacy in Slums			
Slums	TP	Ward	Percentage of literate
Kuppuchipalayam - Arijana Colony	PNP	5	55
Vivekanandhapuram	PNP	13	50
Anna Nagar	PNP	7	55
Arijana Colony	NNP	7	33
MGR Nagar (Union Road) South	NNP	3	25
Murugan Nagar	NNP	14	55
Rakkipalayam	NNP	6	50
Pudhupalayam	NNP	2	15
Om Shakthi Nagar	NNP	8	45
Ambedkar Nagar	NNP	2	18
Balavinaigar Nagar	NNP	3	68
<i>Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP &amp; NNP, Coimbatore, Tamil Nadu</i>			

Except Balavinaigar Nagar, all the other slums belong to the moderately vulnerable category in terms of adult literacy. During the FGD, it was revealed that in most slums the percentage of female literacy is higher than male literacy.

### 2.3.5 Occupational Profile

Men in slums are mostly engaged as construction workers, painters, drivers, sanitary workers and shopkeepers, although a few of them hold regular jobs in private companies. Women, on the other hand, are mostly construction workers or work as domestic help. Those who work as domestic help earn an average of Rs. 2000 per month. Women from Balavinaigar Nagar (NNP) are mostly employed as domestic help.

The daily wage earned by men in all slums averages to about Rs. 700-750 per day, and the daily wage earned by women averages to about Rs. 300 –400.

### 2.3.6 Child Labour

There was no presence of child labour in any of the slums that were part of the study. It was found that children were often encouraged to attend school even though their parents were hardly educated or were illiterate. There were 1-2 higher secondary schools within 2 km radius from all the slums except Murugan Nagar and MGR Nagar (Union Road, South). Murugan Nagar had a high school within 2 km radius while the children from MGR Nagar (Union Road, South) had to travel more than 2 kms to reach the nearest public school.

The system of taking credit and paying back with interest was prevalent in all eleven slums. It was noticed that the residents mostly borrowed money to deal with emergencies like illness or to pay for children's education and in a few cases, for day-to-day running of the household. All slums have one or more SHGs, which are involved in promotion of livelihood activities.

Alcoholism was found to be rampant across all the slums with anywhere between 25 per cent to 90 per cent of the residents consuming alcohol. In slums like Arijana (NNP) Colony and Vivekanandhapuram (PNP) even aged women were found to indulge in drinking alcohol.

## **2.4 Access to Health Services**

### **2.4.1 Primary Health Care Centre**

No slum had a primary health centre within the slum limits. However, in the case of Om Shakthi Nagar, Arijana Colony and Ambedkar Nagar from NNP and Vivekanandhapuram, Kuppuchipalayam from PNP, the PHC was located within a range of half a km to one km from the slum. In other slums, residents had to travel more than two kms to access the nearest public health facilities.

### **2.4.2 Healthcare/ Health Seeking Behaviour**

People in all eleven slums showed a preference for private healthcare over public healthcare facilities. There is a gross dissatisfaction with the services rendered by public healthcare facilities. Even for minor illnesses, people from these slums were known to opt for private qualified doctors from nearby areas. Inhabitants from slums such as MGR Nagar (Union Road, South), Anna Nagar, Murugan Nagar, Rakkipalayam, Pudhupalayam, Balavinaigar Nagar were ready to travel more than two kms to consult private healthcare service providers.

### **2.4.3 Service Coverage**

Institutional delivery is prevalent in all slums except Balavinaigar Nagar. Majority of the deliveries are conducted in PHC facilities. Though residents preferred private healthcare providers for all other problems, they sought government healthcare facilities for deliveries to be able to avail the benefits of the Janani Suraksha Yojana (JSY).

### **2.4.4 Outreach Services**

Excluding Anna Nagar (PNP), Balavinaigar Nagar and MGR Nagar (Union Road, South) all slums were covered with outreach activities, which were supposed to happen once a month. However, the concerned ANMs revealed that due to various reasons the outreach camps were not taking place regularly.

### **2.4.5 Anganwadi Centres**

Only two slums viz. Anna Nagar and Om Shakthi Nagar have functional Anganwadi Centres (AWC) within slum periphery, established under the Integrated Child Development Services (ICDS). Kuppuchipalayam and Vivekanandhapuram have access to an AWC located within half a km. Rest of the slums are deprived of any nutritional support services from the government.

### **2.4.6 Recent Disease Outbreak**

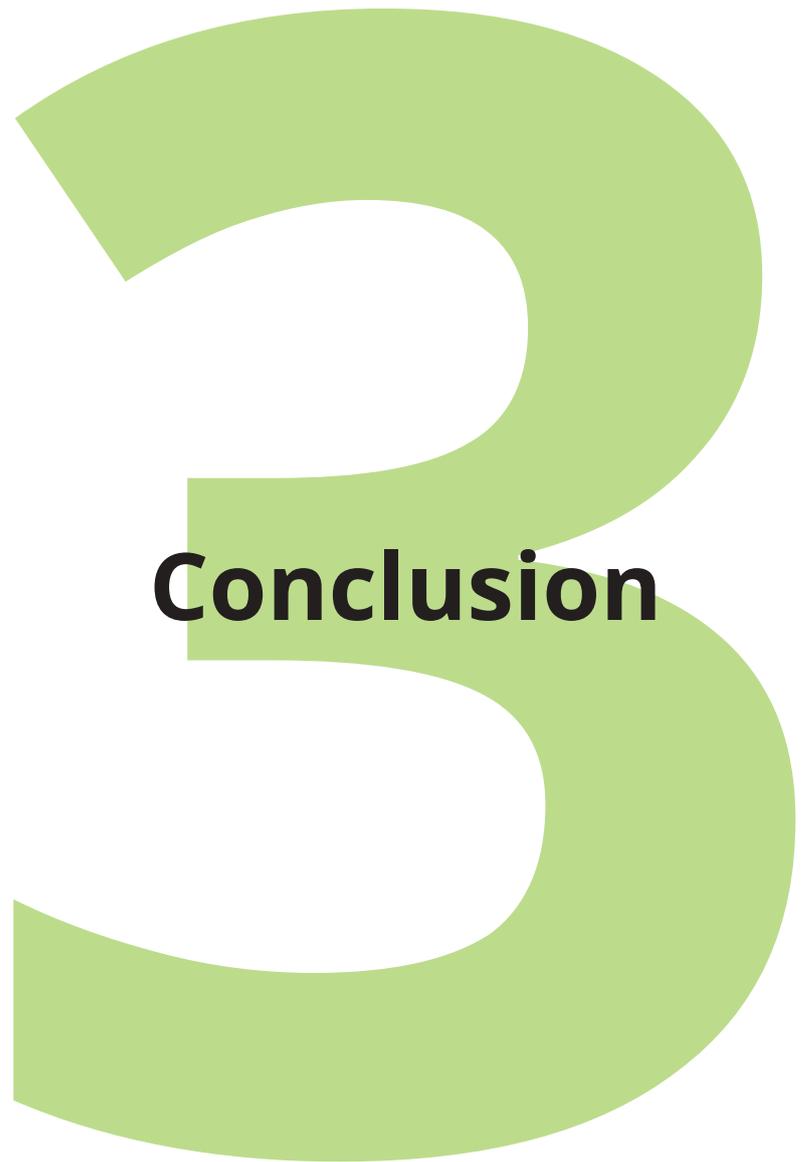
None of the slums reported any disease outbreak in the last couple of years. Cold, fever, stomach ache, etc. surfaced as common ailments across all slums. The profiling of non-communicable disease was not, however, within the scope of the current study.

Table 2.5: A Matrix on Vulnerability Assessment of Slums in PNP& NNP

Name of the slum	Ward No	TP	Status of slum			No. of NGOs / CBOs operating in the slum	Condition of approach road to slum	Housing	Basic Amenities				Availability of minorities	Availability of BPL HHs	Availability of Identity proofs Adults and Children Education	Employment pattern	% of children as child labor	Status of Health and health services					No. of functional AWC within slum	Composite( Total Score = 42 )	
			Authorization	Location	Migration				Toilet	Water supply	Drainage	Electricity						Availability of PHC facility	Health seeking behavior	Service coverage	Outreach services	Disease outbreak in past 1 year			
Kuppuchipalayam - Arijana Colony	5	PNP	0	1	0	1	0	1	2	1	1	0	1	0	0	1	2	0	2	0	0	1	0	2	16
Vivekanandhapuram	13	PNP	0	1	0	0	0	1	1	1	1	0	0	0	0	1	2	0	1	0	0	1	0	1	11
Anna Nagar	7	PNP	0	2	0	1	0	1	0	1	1	0	0	0	0	1	1	0	2	1	0	2	0	1	15
Arijana Colony	7	NNP	0	2	0	0	0	1	1	1	1	0	0	1	0	1	2	0	1	0	0	1	0	2	15
MGR Nagar (Union Road) South	3	NNP	0	2	0	1	0	1	2	1	1	0	0	0	1	1	1	0	2	1	0	2	0	2	19
Murugan Nagar	14	NNP	0	1	0	1	0	1	2	1	1	0	0	0	0	1	1	0	2	1	0	1	0	2	15
Rakkipalayam	6	NNP	0	1	0	1	1	1	1	1	1	0	0	0	0	1	2	0	2	1	0	1	0	2	16
Pudhupalayam	2	NNP	0	2	0	1	2	1	1	1	1	0	0	0	1	1	1	0	2	1	0	1	0	2	19
Ohm Shakthi nagar	8	NNP	0	1	0	1	1	1	1	1	1	0	0	0	0	1	2	0	1	1	0	1	0	1	15
Ambedkar Nagar	8	NNP	0	1	0	0	1	1	1	1	1	0	0	0	0	1	2	0	2	0	0	1	0	2	15
Balavinaigar Nagar	3	NNP	0	1	0	1	2	1	2	1	2	0	0	1	0	0	2	0	2	1	0	2	0	2	20

Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu





**Conclusion**



### 3. Conclusion

The composite scores represent that none of the slums come under the 'most vulnerable' category. A total of five slums (one from PNP and four from NNP) belong to the 'moderately vulnerable' category with scores ranging between 16 and 20. Rest of the slums belong to the 'least vulnerable category' with scores ranging between 11 and 15. The scores also indicate that slums are quite similar when it comes to certain kinds of vulnerabilities.

Primary factors like employment pattern, non-availability of primary health centres nearby, poor coverage of nutrition services are the main contributing factors to the vulnerability of slums considered in this study. Other significant factors are location, absence of toilets and rampant open defecation. Housing types, absence of civil society organisations, water supply through stand posts, poor drainage and literacy levels can be attributed as secondary factors responsible for the vulnerability of these slums from both the TPs.

This study reveals that acknowledgement and inclusion of local vulnerability factors help to better understand specific needs develop context and plan appropriate intervention strategies. It is concluded that the findings from the study can be used for planning interventions and optimum utilisation of the available resources.



# Bibliography

Agarwal, S., Satyavada, A., Kaushik, S., & Kumar, R. (2007). Urbanization, Urban Poverty and Health of the Urban Poor:. Demography India, 36(1), 121-134. Retrieved 2017, from <http://demographyindia.in/>

Agarwal, S., Taneja, S., & Patra, P. (2005). Health Vulnerability Assessment of Slums – A tool for better planning of health programs in urban areas. Poverty Equity and Health Research -a report on Forum 9 (pp. 2-9). Mumbai: Global forum for health research.

Ahmed 2005; Allan 2003; Hanchett et al. 2003. (n.d.).

Loughhead, S., Mittal, O., & Wood, G. (2001). Urban Poverty and Vulnerability in India . New Delhi: DFID.

Mohapatra, S. (2012). Assessing Different Health Vulnerability of the Slums in Chandigarh , India. International Quarterly for Asian Studies(1-2), 81-98. Retrieved 2018

Rao, B. T., & Thakur, J. S. (2007, July). Vulnerability Assessment in Slums of Union Territory, Chandigarh. Indian Journal of Community Medicine, 32(3), 189-191. doi:10.4103/0970-0218.36824

Swami, S. K. (2107). An Emperical Study of Growth of Slum Population in India. International Journal of Political Science (IJPS), 3(1), 10-13. Retrieved February 2018, from [www.arcjournals.org](http://www.arcjournals.org)

Turner, B. Et Al. (2003). A Framework for Vulnerability Analysis in Sustainability Science. Proceedings of the National Academy of Science of the United States of America(PNAS), 100, pp. 8074-8079. Retrieved 2018

UN-HABITAT. State of the World's Cities 2006/07. Nairobi: United Nations Human Settlements Programme; 2006. . (n.d.). Nairobi: United Nations Human Settlements Programme; 2006.



# Annexures

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# Annexure 1: Slum Profiles

## A1.1 Anna Nagar

### Location

Anna Nagar is located in Ward No. 7 of Periyanaicken-palyam Town Panchayat (PNP TP). The slum has a population of 522 people with 150 households. Most of the houses in the slum are semi-permanent structures (semi-*pucca* houses).

Figure A.1: A view of Anna Nagar



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A1.2 Socio-demographic profile

Hindus comprise 99 per cent of the population while the remaining 1 per cent are Muslims. Among Hindus, 10 per cent belong to the Scheduled Caste (SC) while the rest are from Other Backward Classes (OBCs). Around 2 per cent of the residents fall into the Below Poverty Line (BPL) category. All residents have government-issued identity proofs. Anna Nagar is said to be an officially registered slum under the PNP TP.

## A1.3 Basic infrastructure

### Water supply

The main source of drinking water for residents is the community-based piped water connection. The frequency for potable water supply is once a week and for non-potable water supply is once in two days.

Figure A.2: Solid waste flowing into the open drains



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

### **Sanitation**

Anna Nagar has community toilets along with toilets constructed under the Swachh Bharat Mission (SBM).

### **Drainage**

The slum has an open drainage system which is often found to be clogged and overflowing during the rainy season.

## **A1.4 Public services**

### **Anganwadi centre**

People of Anna Nagar have access to the Anganwadi Centre (AWC) which is situated half a kilometre away from the slum.

### **Schools**

There is a government school situated within a half-a-kilometre radius of the slum that is accessed by the people of Anna Nagar.

### **Electricity**

Anna Nagar has legal electricity connection.

### **Healthcare facilities**

There is no government healthcare facility within the slum. The residents avail private medical facilities at PNP or go to the primary healthcare centre 1 km away.

## A1.5 Socio-economic facilities

Most men and women in the slum work as construction workers, painters, maids etc. Around 90 per cent of the population is found to be literate. There is one active Self Help Group (SHG) functioning in the community. A youth group formed a while ago is currently inactive. It is found that 80 per cent of the adults are prone to substance abuse and alcoholism.

## A2.1 Vivekanandhapuram

### Location

Vivekanandhapuram, situated in PNP is one of the biggest slums in the two TPs, stretching to almost seven streets. There are 200 households. The total reported population stands at 748, and the total number of houses and shops in the slum is 300.

Figure A.3: A view of Vivekanandhapuram



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A2.2 Socio-demographic profile

Hindus comprise the majority (95 per cent) while the rest (5 per cent) of them are Christians. Most people (80 per cent) belong to SC category while 20 per cent belong to Scheduled Tribe (ST). 50 per cent of the population are migrants, among whom 2 per cent belong to the BPL category.

Most houses are permanent structures (*pucca* houses) with tiled roofs. There is no title/land *patta* (deed) issued officially for the residents. However, the TP has provided both electricity and water connection to almost all the houses.

## A2.3 Basic infrastructure

### Water supply

The main source of drinking water for people is the common water pipes. There are separate pipelines for potable and non-potable water. The frequency for potable water supply is once a week and for non-potable water supply is once in two days.

### **Sanitation**

People have access to the community toilet located in the slum and almost 85 per cent of the population is dependent on it. However, the slum is located on the fringes of the TP, close to open defecation sites.

### **Drainage**

There is a properly constructed open storm water drainage system in the slum which is clogged with solid waste and overflowing in a few places. The polluted rain water and domestic sewage from the drain overflows freely into paths in the settlement during rains.

## **A2.4 Public services**

There is a government primary school and an AWC located half-a-kilometre from the slum. Adequate lighting is provided through street lighting. People visit the government hospital located one-and-a-half kilometres from the slum for medical facilities.

### **Electricity**

All families residing in the slum have legal electricity connection and pay their bills regularly.

## **A2.5 Socio-economic status**

The majority (60 per cent) of men and women are engaged in livelihoods related to construction, painting and sometimes in private and informal jobs. 80 per cent of them are literate, out of which 60 per cent are women and 40 per cent are men. Few of them are engaged as salesmen or shopkeepers and some as auto drivers. Almost 90 per cent are engaged in daily wage labour for their sustenance. There are four active SHGs in the slum for women, including a currently inactive cultural youth club. Alcoholism is reported among majority of the slum dwellers.

## **A3.1 Kuppichipalayam – Arijana Colony**

### **Location**

Kuppichipalayam–Arijana colony is in PNP TP and is one-and-a-half kilometres from the National Highway 67 (NH67) that cuts across PNP. The slum is on the eastern boundary of the TP and is close to the railway lines passing through PNP, which connects Coimbatore city with the adjacent Mettupalayam. There are close to 200 households and the total reported population stands at 425.

Figure A.4: A view of Kuppichipalayam – Arijana Colony



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

### A3.2 Socio-demographic profile

Hindus comprise a majority of the population at 80 per cent while the rest (20 per cent) are Christians. Most people (95 per cent) belong to the SC category while 3 per cent belong to ST and 2 per cent are OBC. Among them, only 6 families i.e., less than two per cent (1.4 per cent) belong to the BPL category. Almost 70 per cent of the houses here are permanent structures (*pucca*) with tiled roofs. There are no title/land *patta* issued to the residents. However, the residents pay bills for their electricity and water connections provided to almost all houses by the TP.

The slum is located on the fringes of the TP, close to the open defecation sites. Almost 89 per cent of the population defecates in the open due to lack of individual toilets.

### A3.3 Basic infrastructure

#### Water supply

The main source of drinking water for residents is the community-based piped water connection. The frequency for potable water supply is once a week and for non-potable water supply is once in two days.

#### Sanitation

There are two community toilets within half-a-kilometre radius, used by 89 per cent of the population. Only 11 per cent of the households have individual toilet facilities. Some practice open defecation.

### **Drainage**

There is a drainage system in the slum, which is clogged and overflowing at times. The mixed storm water from the drain runs freely in the settlement paths during rains.

## **A3.4 Public services**

### **Schools**

There is a primary government school at Kasthuripalayam in close proximity of the slum.

### **Electricity**

All families residing in the slum have electricity connections and pay their bills regularly.

### **Anganwadi centre**

AWCs are not present in the slum.

### **Healthcare facilities**

There is no Primary Health Centre (PHC) or similar health facility within the slum. People avail private medical facilities at PNP or at the PHC located three kilometres away.

## **A3.5 Socio-economic status**

Around 60 per cent of the residents are engaged in livelihoods related to construction, painting and in private jobs. Private jobs include working in shops and being employed as auto drivers. Almost 90 per cent of them earn daily wages. There are two active SHGs and one defunct youth club in the slum. Alcoholism has been reported among 80 per cent of the slum dwellers.

## **A4.1 Murugan Nagar**

### **Location**

Murugan Nagar is located in the NNP TP and has 66 households with a population of 234.

Figure A.5: A view of Murugan Nagar



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## **A4.2 Socio-demographic profile**

Hindus belonging to SC category comprise almost 99 per cent of the population. The rest of the residents belong to the OBC category.

## **A4.3 Basic infrastructure**

### **Water supply**

The main source of drinking water is the community-based piped water connection. There are no separate pipelines for potable and non-potable water supply; the same pipes are used alternatively. The frequency for potable water supply is once a week and for non-potable water supply it is once in two days.

### **Sanitation**

Though there is a community toilet facility available in the slum, people still practice open defecation.

### **Drainage**

There is a properly constructed open drainage system in the slum. However, it is clogged and overflowing, and when it rains, the water from the drain runs freely onto the roads in the settlement.

## **A4.4 Public services**

### **Schools**

Murugan Nagar has access to a government school nearby; around 1 km from the slum.

### **Electricity**

All families residing in the slum have electricity connections and pay their bills regularly.

### **Healthcare facilities**

There is a government PHC located 1.5 kms away from the slum. People in the slum access this health centre for emergency medical care and treatment.

## **A4.5 Socio-economic facilities**

Majority (60 per cent) of the residents are engaged in livelihoods related to construction, painting and in private jobs. Private jobs include working in shops and being employed as auto drivers. Almost 90 per cent of the residents are engaged in daily wage labour for their sustenance. There are two active SHGs and one defunct youth club in the slum. Alcoholism has been reported among 80 per cent of the slum dwellers.

## **A5.1 Arijana Colony**

### **Location**

Arijana Colony is located in the NNP TP, half-a-kilometre from NH 67 which connects Coimbatore city to Mettupalayam. There are almost 105 households in this slum and the total reported population stands at 360.

Figure A.6: A view of Arijana Colony



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A5.2 Socio-demographic profile

Majority of residents are Hindus (99 per cent) while 1 per cent of them are Christians. Most people (99 per cent) belong to the SC category while 1 per cent belongs to OBC and 2 per cent belong to the BPL category. Most houses (75 per cent) are semi-*pucca* houses with tiled roofs. There are no title/land *patta* issued to residents. However, they pay bills for electricity and water connections, provided to almost all houses by the TP.

The slum is located on the fringes of the TP, close to open defecation sites. However, almost 90 per cent of the population use community toilets.

## A5.3 Basic infrastructure

### Water supply

The main source of drinking water for residents is the community-based piped water connection. There are no separate pipelines for potable and non-potable water supply; the same pipes are used alternatively. The frequency of potable water supply is once a week and of non-potable water supply is once in two days.

### Sanitation

Arijana Colony has community toilets and majority (90 per cent) of the households do not have individual toilet facility. Some of them are also habituated to open defecation. The households are very closely packed and lack of individual toilets is mostly due to space constraints.

### Drainage

There is no drainage system within the slum but the settlement itself is along the main drain and the sewage from the settlement is discharged into that drain.

## A5.4 Public services

### Schools

There is a government school opposite the slum on the main road. There are also two private schools nearby.

### Electricity

All families residing in the slum have legal electricity connections and they pay their bills regularly.

### Anganwadi centre

There is no Anganwadi centre in the in the slum.

### Healthcare facilities

There is a PHC located within half-a-kilometre of the slum. People in the slum use this facility for emergency medical care and treatment.

## A5.5 Socio-economic facilities

Majority (90 per cent) of men and women are engaged in livelihoods related to construction, painting, sanitary work, housemaids and private jobs. Around 65 per cent of the residents are literate, of which 35 per cent are female and 30 per cent are male. Some of them work in shops and some are employed as auto drivers. Almost 90 per cent of the residents are engaged in daily wage labour for their sustenance. There is reported alcoholism and substance abuse among 90 per cent of the slum dwellers.

## A6.1 Om Sakthi Nagar

### Location

Om Sakthi Nagar is located in the NNP TP, 400 metres from the town panchayat office, along the main road. There are almost 105 households and the total reported population stands at 360.

Figure A.7: A view of Om Sakthi Nagar



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A6.2 Socio-demographic profile

Hindus comprise a majority (99 per cent) of the population while Christians constitute 1 per cent of the population. Most people (90 per cent) belong to the OBC category, while 10 per cent belong to SC. Around 8.3 per cent of the population belong to the BPL category.

Most houses (85 per cent) are permanent structures with tiled roofs. There are no title/land *patta* issued to the residents. However, they pay bills for electricity and water connections which are provided to almost all houses in arrangement with the TP.

Though open defecation continues to be practiced, many people have begun using the community toilet located in the slum. Today, almost 70 per cent of the population is dependent on the community toilet.

## A6.3 Basic infrastructure

### Water supply

The main source of drinking water for residents is the common piped water connection. There are no separate pipelines for potable and non-potable water supply; the same pipes are used alternatively. The frequency of potable water supply is once a week and of non-potable water supply is once in two days.

### Sanitation

Om Sakthi Nagar has community toilets and a majority (90 per cent) of the households do not have an individual toilet facility. Some are also habituated to open defecation.

### Drainage

There are no drains on individual streets but a wider main drain carrying sewage from the rest of the TP cuts across the settlement. This drain also carries the exfiltrating effluent from the septic tanks of the community toilet.

Figure A.8: A view of the open drain in Om Sakthi Nagar



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A6.4 Public services

### Schools

There is no government school in the slum. However, there are two private schools near the slum.

### Electricity

All families in the slum have legal electricity connections and pay their bills regularly.

### Anganwadi centre

There is an AWC centre in the slum.

### Healthcare facilities

There is a PHC located 1 km away from the slum. People in the slum use this facility for emergency medical care and treatment.

## A6.5 Socio-economic status

Majority (70 per cent) of the residents (men and women) are engaged in livelihoods related to construction, painting, sanitary work, house work and in private jobs. Surprisingly, around 70 per cent of the residents (35 per cent female and 30 per cent male) are literate. Some of them work in shops and some are self-employed as auto drivers. Almost 90 per cent of the residents are engaged in daily wage labour for their sustenance.

## A7.1 Ambedkar Nagar

### Location

Ambedkar Nagar is split between two different wards—Ward No. 8 and Ward No. 3 of the NNP TP. It is reported that the slum was established around 40 years ago and currently has 90 families with 50 households.

Figure A.9: A view of Ambedkar Nagar



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## **A7.2 Socio-demographic profile**

Hindus comprise 98 per cent of the population while the rest 2 per cent are Christians. 99 per cent of them belong to the SC category while the rest (1 per cent) belong to OBC.

Around 75 per cent of the houses are permanent structures with semi-*pucca* walls and tiled roofs. There is no title/land *patta* issued to the residents. However, all of them have been provided with electricity and water connections by the TP.

## **A7.3 Basic infrastructure**

### **Water supply**

The main source of drinking water to the slum is the community-based piped water connection. There are no separate pipelines for potable and non-potable water; the same pipes are used alternatively. The frequency of potable water supply is once a week and non-potable water is once in two days.

### **Sanitation**

The slum has a community toilet located in Palayur at a distance of less than half-a-kilometre but there are no individual household toilets found in the slum.

### **Drainage**

The slum does not have a proper drainage system and often faces problems of clogging and overflow of the existing drains during monsoon.

## **A7.4 Public services**

### **Schools**

There is a primary government school located around half-a-kilometre from the slum.

### **Electricity**

All families residing in the slum have legal electricity connections and pay their bills regularly.

### **Anganwadi centre**

The slum is served by an AWC which is around 2 kms from the slum.

### **Healthcare facilities**

There is one PHC located within half-a-kilometre radius of the slum. The residents of the slum access the PHC for emergency medical care and treatment.

## **A7.5 Socio-economic facilities**

Around 90 per cent of the residents (men and women) are engaged in livelihoods related to construction, painting, sanitary work, house work and in private jobs. Around 40 per cent of the residents (of which 20 per cent are female and 80 per cent male) are literate. Some of them are engaged in working in shops and some are self-employed as auto drivers. Currently there are two active women's SHGs and an inactive youth club in the locality. The residents report that 90 per cent of the slum dwellers are addicted to alcohol.

## A8.1 MGR Nagar

### Location

MGR Nagar is located in Ward No. 3 of NNP TP and has 132 residents.

Figure A.10: A view of MGR Nagar



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A8.2 Socio-demographic profile

Majority of the people are Hindus. 99% of them belong to the Scheduled Castes, but no one belongs to the BPL category. 85% of the houses are semi-*pucca* permanent structures with tiled roofs. There is no title/land *patta* issued to the residents. However, all households are provided with electricity and water connection by the TP.

## A8.3 Basic infrastructure

### Water supply

The source of potable and non-potable water for the slum is the community-based piped water connection. The frequency of water supply is once in every three days.

### Sanitation

The slum is located on the fringes of a natural drain and is close to open defecation sites. However, 70 per cent of the population use the community toilet available in the slum.

### Drainage

The slum has a closed drainage system which is often found to be clogged and backflows are common during monsoon.

## A8.4 Public services

### Schools

MGR Nagar has access to the nearby primary school, located two-and-a-half kilometres from the slum.

### Electricity

All families residing in the slum have legal electricity connections and pay their bills regularly.

### Anganwadi centre

There are no AWCs within the slum but there is one located at a distance of 1 km.

### Healthcare facilities

The residents avail emergency medical care and treatment from the PHC which is 2 kms from the slum.

## A8.5 Socio-economic facilities

Around 90 per cent of the population work as construction workers, painters, sanitary workers and maids. Some are self-employed and some work in shops and in private jobs. Around 70 per cent of the population is literate, of which 35 per cent are female and 30 per cent are male. There is one active women's SHG and an inactive youth club in the slum. 85 per cent alcoholism is reported among the slum dwellers.

## A9.1 Pudupalayam- AD Colony

### Location

Pudupalayam—AD Colony is in Ward No. 2 of NNP TP. There are 24 households with a population of 80. The total number of structures (houses and shops) in the slum is 105.

Figure A.11: A view of Pudupalayam – AD Colony



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A9.2 Socio-demographic profile

Majority of the population is Hindu belonging to the SC category. However, none of the residents have been categorised as BPL families. Around 85 per cent of the households are semi-*pucca* permanent structures. There is no title/land *patta* issued to the residents. However, all households have been provided with electricity and water supply connections by the TPs.

### **A9.3 Basic infrastructure**

#### **Water supply**

The main source of drinking water for residents is the community-based piped water connection. There are no separate pipelines for potable and non-potable water; the same pipes are used alternatively. The frequency of potable water supply is once a week and of non-potable water supply is once in two days.

#### **Sanitation**

The slum is located on the fringes and is close to the open defecation site. However, 85 per cent of the population use the community toilet.

#### **Drainage**

There is an open drain in the slum which is clogged and overflowing. Dirty water from the drain runs freely into the settlement during monsoon.

### **A9.4 Public services**

#### **Schools**

There is a primary school close by and a secondary school one-and-a-half kilometres away.

#### **Electricity**

All households have legal electricity connections and pay their bills regularly.

#### **Anganwadi centre**

An AWC is located 2 kms away from the slum.

#### **Healthcare facilities**

For medical care, treatment and emergencies, residents of the slum access the PHC located 2 kms away.

### **A9.5 Socio-economic status**

Around 90 per cent of the population in the slum work as construction workers, painters, sanitary workers, maids and auto drivers. Some of them work in private jobs and are hired as employees in shops. Around 65 per cent of the residents are literate, of which 30 per cent are male and 35 per cent are female. Currently, there is an active SHG and an inactive youth club in the slum. Reported data from the survey shows that 85% per cent of the residents are alcoholic. Substance abuse is also common.

### **A10.1 Rakkipalayam- AD Colony**

#### **Location**

Rakkipalayam which is in Ward No. 4 of NNP TP was established around 60 years ago. There are 17 households with a population of 60 in this slum.

Figure A.12: A view of Rakkipalayam- AD Colony



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A10.2 Socio-demographic profile

98 per cent of the population are Hindus, while 2 per cent are Christians. Of the Hindus, 95 per cent belong to the SC category while 5 per cent belong to the OBC. Around 70 per cent of the households are permanent *pucca* structures with tiled roofs. There is no title/land *patta* issued to the residents. However, all households have electricity and water connections provided by the TP.

## A10.3 Basic infrastructure

### Water supply

The main source of drinking water for the slum is the community-based piped water connection. There are no separate pipelines for potable and non-potable water supply; the same pipes are used alternatively. The frequency of supply for potable water is once a week and for non-potable water is once in two days.

### Sanitation

50 per cent of the residents use the community toilet located close to the slum and the rest practice open defecation. No individual toilets were found in the slum.

### Drainage

The slum has an open drain which was found to be clogged and overflowing during rainy season.

### Anganwadi centre

There is an AWC 1 km from the slum.

## A10.4 Public services

### Schools

The slum has access to a government school half-a-kilometre away.

### Electricity

All families residing in the slum have legal electricity connections and pay their bills regularly.

### Healthcare facilities

There is no healthcare facility in the slum. People avail private medical facilities at NNP or at the PHC which is located 2 kms away.

## A10.5 Socio-economic facilities

60 per cent of the population work as construction workers or painters. Some others are self-employed while few are employed in shops or hold private jobs. Around 80 per cent of the population is literate. There is an active women's SHG and an inactive youth group in the slum. There is 70 per cent reported alcoholism among the slum dwellers.

## A11.1 Balavinaigar Nagar

### Location

Balavinaigar Nagar is 3 kms from the TP of NNP. The slum is a relocated settlement of residents moved from another slum called Thudiyalur. The slum is connected to the highway through a road that runs parallel to the Kousika River channel, which is mostly dry and has water only during heavy monsoons. The settlement is surrounded by agricultural fields.

Most of the houses are made of semi-permanent *kachha* structures and a few *pucca* houses. Many *pucca* houses have semi-permanent structures with thatched roofs or tiled roofs attached to them.

Figure A.13: A view of Balavinaigar Nagar



Source: TNUSSP, 2018. Vulnerability Assessment of Slums in PNP & NNP, Coimbatore, Tamil Nadu

## A11.2 Socio-demographic profile

There are almost 80 households with a population of 160 in the slum. The population consists of mixed groups of people from different religions. However, a majority of them are Hindus. There are two temples located within the small slum. In the slum, transgenders actively mingle with the rest of the residents during community functions.

## A11.3 Basic infrastructure

### Water supply

There are common water tanks into which groundwater is pumped and stored. There is also common drinking water supply provided by the TP.

**Drainage**

There are no pavements or drainage facility in the slum. Grey water from the households is let out into the open space.

**Sanitation**

The slum lacks access to individual household toilets. The community toilet is not functional. People mostly use agricultural fields or the river bed for defecation. Open defecation is widespread as many of the households do not have individual toilets.

**A11.4 Public services****School**

Children in the slum attend the government school located 2 kms away.

**Electricity**

The main streets of the slum have streetlights. The access road to the slum from the highway does not have any lighting. Most houses have an electricity connection.

**Anganwadi centre**

There is no AWC present in the slum.

**Healthcare facilities**

People avail private medical facilities at NNP or at the PHC 3 kms away at Thudiyalur.

**A11.5 Socio-economic facilities**

There are adolescent dropouts and unemployed youth in the community. There are provision stores and grocery shops at the entrance of the slum. Most of the men and women work as construction workers, painters or maids. Some of them are also employed as shop keepers, van drivers and auto drivers. Their daily wages range from Rs 300 to Rs 750 per day depending on the occupation.



Greetings! My name is \_\_\_\_\_ (state your name) and I work for \_\_\_\_\_ (name of organization). S/he is \_\_\_\_\_ (State note taker's name) and also working with us. Our organization is assisting the state government in conducting assessments under the recently launched National Urban Health Mission (NUHM) in various cities across the country. Under NUHM one of the main objectives is to ensure that vulnerable population in a city has access to primary health care services. Therefore, we are conducting a survey to understand the health vulnerability of different slums in the city. We are trying to assess how different aspects related to a slum, i.e., the status of slum; living conditions of people; etc. make people vulnerable to various health issues.

Therefore, you are invited for this discussion to assess the vulnerability of the slum. We will do this by using a tool developed for this assessment, which covers various aspects including the location of the slums and status of housing, availability and accessibility of basic services like water supply, drainage and toilets, nature of occupation/employment, access with social, physical and economic accessibility to health services, education and social capital. We will discuss the slum's situation with reference to the tool's questions and provide an answer that is agreeable to everyone.

The information you provide to us will be completely confidential, and we will not associate your name with anything you say in the discussion. You may refuse to answer any question or withdraw from the discussion at any time. We understand how important it is that this information is kept private and confidential. We will ask participants to respect each other's confidentiality. If you have any questions now or after you have completed the discussion, you can always contact any one of us

Do you agree to continue?

NO (0)

YES (1)

***Explanations on the procedures of the Slum level Vulnerability Assessment***

- 1) Before asking any questions to the group, take a transect walk through the slum and observe actual situation of the slum. Record your observations in the end of this schedule in the specified area. Also draw a social map of the slum, i.e., a map with location of water sources, schools and health facilities, etc.
- 2) Identify few key persons from the slum who know about the slum and can respond the questions you are going to ask. Form a group of these key persons.
- 3) Ask the group if anyone has participated in this type of exercise before. If not participated, explain them the process and how it is important. Explain that the group needs to discuss and reach an agreeable point.
- 4) Ask the group if there are any questions before starting the discussion and address those questions.
- 5) During discussion make it sure that people understand the question properly, give them time to think and discuss to all before answering the question and do not move too quickly.
- 6) Use the probes to make sure that all the issues are addressed, but move on when you feel you are starting to hear repetitive information. Do not forget to get detailed information about participants in the format provided. In case of disagreement among the group members about the response, encourage the group to one answer. Also record the both the responses into remark section.
- 7) Among the group of facilitators of the assessment – one or two persons can moderate the discussion and two persons can take note of the discussion.

Sl.no.	Questi	Code	Skip to
<b>Slum characteristics</b>			
101	What is the population of the slum?	Slum population -----	
102	What is the population composition of the slum?	Hindu ----- Muslim ----- Christian ----- Others -----	
103	What is the caste composition of the slum?	Scheduled caste ----- Scheduled tribe ----- Other backward caste ----- Other castes/General caste-----	
104	Is this slum listed/registered?	No ----- Yes -----	0 1
105	Where is this slum located? [MULTIPLE RESPONSES POSSIBLE]  [RECORD THROUGH OBSERVATIONS]	Along river/nallah/ water bodies ----- Along railway lines ----- Along major transport establishment ----- Close to gas pipe line ----- Under high tension wires ----- Near harmful industries ----- Areas prone to natural calamities ----- Dumping ground/hazardous or objectionable----- Others (SPECIFY)-----	1 2 3 4 5 6 7 8
106	How is the approach road to the slum?	No road/kachha pathway ----- All weather road in a bad condition ----- All weather road in a good condition -----	0 1 2
107	Does this slum have migratory population?	No ----- Yes-----	0 1 → Q111
108	Does this slum have population that has recently migrated, i.e. in less	No ----- Yes-----	0 1 → Q109
109	What percentage of the total slum population is the migrated population?	% Migrated population -----	
110	Do migrants come and live in this slum during any particular season of the	No ----- Yes-----	0 1
111	Does this slum face any seasonal hazards	No ----- Yes-----	0 1

Sl.no.	Questions	Code	Skip to
<b>Housing and basic amenities</b>			
112	What is the type of most of the households in this slum?	Kaccha/----- Semi-Pakka ----- Pakka -----	0 1 2
113	What is the main source of water connection for most households in this slum?	Non-piped water source----- Community based piped water connection -- Individual piped water connection -----	0 1 2
114	What is the main type of toilet facility in most households in this slum?	No toilet facility----- Community/shared toilet ----- Individual toilet -----	0 1 2
115	What is the type of drainage facility available to most households in this slum?	No drainage facility ----- Drainage without concrete structure ----- Drainage without regular maintenance/ clogged / overflow during rain----- Underground drainage, with regular maintenance/ no clogging -----	0 1 2 3
116	What is the source of electricity used by most households in this slum?	No electricity ----- Illegal electric connections----- Legal electric connections -----	1 2 3
<b>Social –economic and demographic characteristics of the slum</b>			
117	How many households are there in this slum?	No. of households -----	
118	Do most of the people in the slum belong to any particular community/ caste/tribe?	No ----- Yes-----	0 1
119	Do most of the slum dwellers have any identity proof with them?	No ----- Yes-----	0 1
120	What percentage of slum population has an identity proof?	% Population with identity proof	
121	Which are the most common identity proofs that the slum dwellers have?	BPL card----- Ration card ----- Adhaar card ----- Voter card ----- Others (Specify)-----	1 2 3 4 9
122	Does this slum have BPL households?	No ----- Yes-----	0 1
123	What is the percentage of households having BPL card in this slum?	% BPL households -----	
124	What is the percentage of people who can read and write, i.e. literate population in this slum?	Total (%) ----- Male (%) ----- Female (%) -----	
125	How many public schools are accessible from this slum, i.e. within a radius of 2km?	Total no. of public schools -----	
126	What is the type of the school? <b>[MULTIPLE RESPONSES POSSIBLE]</b>	Primary ----- Secondary ----- Higher secondary ----- Other (SPECIFY) -----	1 2 3 9

Sl.no.	Questions	Code		Skip to
127	Does any NGO/civil society organization work in this slum?	No -----	0	Q130
		Yes-----	1	
128	What do they do? [MULTIPLE RESPONSES POSSIBLE]	Work for education -----	1	
		Work for Health care -----	2	
		Work for Livelihood-----	3	
		Run a Day care center-----	4	
		Work for Women and child rights -----	5	
		Work for sanitation -----	6	
		Others (SPECIFY)-----	9	
129	How many NGO/civil society organizations are working in this slum?	No. of NGOs/CSOs -----		
130	Does this slum have any community based organizations (CBO)?	No -----	0	Q133
		Yes, inactive-----	1	
		Yes, active -----	2	
131	How many CBO's are currently operating in this slum?	No. of CBOs -----		
132	What do they do? [MULTIPLE RESPONSES POSSIBLE]	Work for education -----	1	
		Work for Health care -----	2	
		Work for Livelihood-----	3	
		Run a Day care center-----	4	
		Work for Women and child rights -----	5	
		Work for sanitation -----	6	
133	Are most people in the slum engaged in a particular type of occupation?	No -----	0	
		Yes-----	1	
134	What are the different types of occupation people of this slum engaged with? [MULTIPLE RESPONSES POSSIBLE]	No	Yes	
		0	1	
	A. Rag pickers-----	0	1	
	B. Waste collectors-----	0	1	
	C. Recycling waste products -----	0	1	
	D. Sex traders -----	0	1	
	E. Construction workers -----	0	1	
	F. Rickshaw pullers-----	0	1	
	G. Mining-----	0	1	
	H. Street vendors (Flower, Fish, Vegetable, Fruit)-----	0	1	
	I. Painters -----	0	1	
	J. Tailors -----	0	1	
	K. Carpenters -----	0	1	
	L. Auto drivers-----	0	1	
	M. Maids-----	0	1	
	N. Security guards/ Watchman -----	0	1	
	O. Shopkeepers-----	0	1	
	P. Private or government regular job holders -----	0	1	
	X. Others (SPECIFY)-----	0	1	

Sl.no.	Questions	Code	Skip to
135	In which occupation majority of the slum people engaged with?	A. ----- B. ----- C. ----- D. ----- E. -----	
136	What percentage of slum population are daily wage earners?	% of daily wage earners -----	
137	What is the approximate daily wages ?	Rs./-	
138	What percentage of slum population has got regular (government or private/self employed ) employment?	Government jobs ----- Private jobs-----	
139	In what percentage of households do both adult men and women work for earning a livelihood?	% Households -----	
140	Does this slum have children below 14 years engaged with work for earning money?	No ----- Yes-----	0 1
141	What is the percentage of slum children below 14 years of age who are engaged with work for earning money?	% children working -----	
142	Is there any credit facility available from where people can take loan?	No ----- Yes-----	0 1
143	How is the credit available in this slum?	No credit available ----- Credit with interest ----- Mutual borrowing ----- Institutional credit -----	0 1 2 3
144	Why do they take credits? [MULTIPLE RESPONSES POSSIBLE]	Health problems ----- Child's education ----- Maintaining households ----- Food----- For alcoholism/ substance abuse ----- Others (SPECIFY)-----	1 2 3 4 5 6
145	What is the percentage of adults indulged in alcoholism or any other substance abuse?	% Adults -----	
<b>Health care services (Both public and private)</b>			
146	Is there any primary health care facility available within slum?	No ----- Yes-----	0 1
147	How many primary health care facilities are available within the slum?	No. of primary health facilities -----	
148	What are the types of primary health care facilities?	Public ----- Private qualified ----- Private unqualified-----	1 2 3
149	Are these primary health care facilities in proximity of all the people living in this slum?	Within half kilometer radius from slum ----- More than half kilometer radius from slum--	1 2

Sl.no.	Questions	Code	Skip to	
150	Where do you go for availing primary health care services?	Public Facility within slum ----- Public Facility Outside slum, within half km ----- Public Facility Outside slum, more than 2 km ----- Private qualified health care providers within or outside slum ----- Private Non-qualified providers within or outside slum -----	1 2 3 4 5	
151	In this slum, where are most of the deliveries conducted?	At home ----- At health facility (public) ----- At health facility (private) -----	1 2 3	% % %
152	How often outreach activities are conducted by front line workers in slum?	No outreach activity ----- Once a week ----- Once a month -----	0 1 2	
153	Who conduct these outreach activities?	ASHA ----- ANM ----- AWW ----- Others (SPECIFY) -----	1 2 3 9	
154	Is there any Anganwadi Centre in the slum?	No ----- Yes -----	0 1	
155	How many Anganwadi Centers are there?	No. of AWCs -----		
156	How many of them are functional?	No. of functional AWCs -----		
157	How accessible are most of the AWCs to the slum population?	Within slum ----- Outside slum -----	1 2	
158	Does the community avail services ?	No ----- Yes -----	0 1	
159	Did the slum/ area witness any disease outbreak in the past one year?	No ----- Yes -----	0 1	→ Q 160
160	If yes, which were those diseases?	A. _____ B. _____ C. _____ D. _____		
161	What are the common diseases affecting the community or residents in this slum?	A. _____ B. _____ C. _____ D. _____		

**Thank you for your participation and time and responding very positively to our questions. These are very important information for us. We are greatly benefited from this process. Do you have any question for us? Thank you.**

# Annexure 3: Scoring Sheet

## “Slum level” Vulnerability Assessment Scoring Sheet

Slum level vulnerability assessment helps in identification of the most vulnerable slums in a city, thereby, helping in prioritization of efforts and optimal use of limited resources.

To undertake this assessment, slum level primary data is collected on certain identified parameters through a group discussion with community members and participatory observation of the slum. Information on some parameters like location of the slum, condition of approach road to the slum, type of housing, drainage etc. needs to be recorded on the basis of observation while for other parameters like source of water, type of toilet facility, literacy status, child labour, service coverage etc. responses would be elicited from group discussion. If required the information obtained from the group discussions may be verified from existing secondary sources like data from Municipal Corporation, recent surveys of the corporation, IDSP data etc.

Each of the indicators is then scored on a scale of 0-2, depicting its status where 0 stands for least vulnerable and 2 indicates most vulnerable. The ranking table is shown below:

Category	Score
Least vulnerable	0
Moderately Vulnerable	1
Most vulnerable	2

For each slum of the city, scores are then assigned on all the 22 indicators<sup>1</sup> with the help of the scoring key and the cumulative score for each slum is then calculated. Based on the cumulative score the slums can be categorized into the following three categories:

Cumulative Score	Category	Color Coding
0-15	Least vulnerable	
16-30	Moderately Vulnerable	
31-44	Most vulnerable	

Most vulnerable slums require urgent attention and indicate that their population is exposed to several health related risks.

## **I. Slum characteristics**

### **3. Authorization status of the slum**

- 0 Slum listed/registered
- 1 Slum un-listed/not registered (Less than 1000 households)
- 2 Slum un-listed/not registered (1000 households and above)

### **4. Location of the slum**

- 0 Own land/ Authorized quarters
- 1 Unauthorized Settlement/ Land belonging to local authority/ Leased Land
- 2 Homeless shelters/ Roadside/ Along Railway tracks/ Dumping ground/ Polluted water/Near Airport/ Near Gas line/ Under high tension wires

### **3. Migration status**

- 0 Living in the slum for more than two years
- 1 Recent migration (less than two years)
- 2 Seasonal migration

### **4. Number of NGOs/CBOs operating in the slum**

- 0 3 or more
- 1 1 – 2
- 0 None

### **5. Condition of approach road to the slum**

- 0 All weather road in a good condition
- 1 All weather road in a bad condition
- 2 No road/Kachha road

## **II. Housing and basic amenities**

### **6. Housing**

- 0 Pacca/ Permanent structure
- 1 Semi-pacca
- 2 Kutcha

### **7. Basic Amenities- Toilet**

- 0 Individual toilet
- 1 Community toilet/ Shared toilet
- 2 No toilet, defecation in the open by all-men, women and children

### **8. Basic Amenities- Water Supply**

- 0 Individual piped water supply
- 1 Use community based piped water connections
- 2 No piped water supply (people use hand pumps, dug wells, tankers etc.)

### 9. Basic Amenities- Drainage

- 0 Underground drainage, with regular maintenance/no clogging
- 1 Drainage without concrete structure/maintenance/clogged/overflowing
- 2 No drains, clogged drains with open pits

### 10. Basic Amenities- Electricity

- 0 Legal electricity connections
- 1 Illegal electricity connection
- 2 No electricity connection at all

## III. Socio-economic and demographic profile of the slum

### 11. Percentage of minority population- religious <sup>2</sup>

- 0 <10%
- 1 10 – 49%
- 2 >50%

### 12. Percentage of BPL Households

- 0 <10%
- 1 11- 49%
- 2 >50%

### 13. Percentage of population not having any identity proof

- 0 <10%
- 1 11- 79%
- 2 >80%

### 14. Percentage of literate population in the slum (male + female)

- 0 > 65%
- 1 10 – 64%
- 2 <10%

### 15. Occupational Conditions

- 0 Private or government regular job with regular monthly wages, shopkeepers
- 1 Engaged in unskilled and semi-skilled jobs like street vendors, painters, carpenters, tailors, auto drivers, maids, security guards,
- 2 Hazardous working conditions like rag picking, sex trade, mining, recycling waste products, construction workers, manual rickshaw pullers

### 16. Percentage of children engaged in child labour

- 0 No child labour
- 1 0 – 10% children engaged in child labour
- 2 >10% children engaged in child labour

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<sup>2</sup>Percentage non-Hindu population in the slum

## **IV. Status of Health and Health Services**

### **17. Number of primary health care facilities within the slum**

- 0 3 or more
- 1 1-2
- 2 None

### **18. Health/ Care Seeking Behavior**

- 0 Take treatments from public health facility within half a km of the slum
- 1 Take treatment from public health facility more than 2 km away from the slum or a private qualified provider within or outside slum
- 2 Take treatment from private unqualified providers within or outside the slum

### **19. Service Coverage**

- 0 >80% institutional delivery
- 1 50 – 79% Institutional delivery
- 2 <50% institutional delivery

### **20. Outreach services**

- 0 Frequent Outreach (Once a week)
- 1 Irregular outreach (once a month or even less)
- 2 No outreach

### **21. Number of functional Anganwadis within the slum**

- 0 3 or more
- 1 1-2
- 2 None

### **22. Disease Outbreaks in the past one year**

- 0 None
- 1 1
- 2 2 or more





Tamil Nadu Urban Sanitation Support Programme (TNUSSP) supports the Government of Tamil Nadu and cities in making improvements along the entire urban sanitation chain.

The TNUSSP is implemented by a consortium of organisations led by the Indian Institute for Human Settlements (IIHS), in association with CDD Society, Gramalaya and Keystone Foundation.