
# Enumeration Report

# Tsunami TRA/IDA

MARCH 2017

A member of the SA SDI Alliance

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Western Cape Government
Human Settlements

C·O·R·C

SA SDI ALLIANCE

# CONTENTS

# LIST OF TABLES



# LIST OF FIGURES

# LIST OF ACRONYMS AND ABBREVIATIONS

**CoCT** – City of Cape Town (referring to the municipality)
**CORC** – Community Organisation Resource Centre
**The Department** – Department of Human Settlements
**ECD** – Early Childhood Development
**EPWP** - Expanded Public Works Programme
**FEDUP** – Federation of the Urban and Rural Poor
**GIS** – Geographical Information Systems
**GPS** – Global Positioning System
**IDA** – Incremental Development Area
**ISN** – Informal Settlement Network
**MEC** – Member of the Executive Council
**NGO** – Non-Governmental Organisation
**Province** – The Western Cape Government
**PSC** – Project Steering Committee
**SC** – Sub-Council
**SA SDI Alliance** – South African Slum Dwellers International Alliance
**SDI** – Slum Dwellers International
**StatsSA** – Statistics South Africa
**TRA** – Temporary Relocation Area

# GLOSSARY

**Enumeration:**

An enumeration entails the gathering of socio-economic data and shack numbering for all households in informal settlement pockets.

**Household:**

A group of people under one structure sharing one common area. If the structure is divided and a different door is used to enter the next area and the common area is not shared, then that can be considered as a different household.

**Household head:**

The household head is a person who is recognized as such by the household. She or he is generally the person who bears the chief responsibiloty for managing the affairs of the household and takes decisions on behalf of the household. This person does not necessarily have to be the breadwinner.

**Temporary Relocation Area (TRA)/ Incremental Development Area (IDA):**

TRA or IDA is a site developed in terms of the Emergency Housing Programme or prior to the roll-out of a housing project where households are accommodated in prefabricated shelters on a temporary basis, and have access to basic municipal services on a shared basis.

# PREFACE

The Community Organisation Resource Centre is a support NGO linked to the global network of the urban poor, known as Slum Dwellers International). In its role as a support NGO, CORC supports the social processes of two poor-people's movements, the Federation of the Urban and Rural Poor and the Informal Settlement Network. CORC assists FEDUP and ISN to develop strategies for inclusive cities. This includes facilitating engagements with key role players like the state, and supporting the development of savings, information gathering and community-led development strategies. A second NGO called the uTshani Fund serves the role of providing finance facilities for the urban poor. Together these two social movements, along with the two support NGOs, form the South African SDI Alliance. One of the alliance's most important tools over the past two decades has been information collection through the profiling and enumeration of informal settlements. This report is a reflection of community-driven data collection processes implemented by the alliance, that over time have proven to be far more effective in gathering accurate data about informal settlement communities.

**Overview of Tsunami**

# EXECUTIVE SUMMARY

Tsunami is the colloquial name of Delft Temporary Relocation Area 1 and 2, located in Section 8 of Delft. TRAs are also called Incremental Development Areas in the latest municipal documentation of the City of Cape Town. These terms are used interchangeably in this report. Tsunami was founded to provide temporary relief for households affected by a fire, which destroyed large informal settlements in Langa in January 2005.

The Western Cape Government Department of Human Settlements appointed CORC, through a competitive tender process, to conduct an in-depth enumeration of Tsunami IDA/TRA, which forms part of the Airport Informal Settlement Precinct consisting of ten (10) informal settlements, namely Barcelona, Gxagxa, Lusaka, Kanana, Vukuzenzele, Europe, Thabo Mbeki, KTC, Tsunami IDA/TRA, and Hlazo Village. Kosovo was also enumerated as a priority project in the southern corridor. CORC works in partnership with FEDUP and ISN, who mobilised, trained and provided on-going support to Tsunami community members to act as enumerators in this study.

A total of 1742 dwellings were numbered, and a response rate of 93% was achieved. Overall, 96% of respondents to the enumeration questions were household heads, which means that the most reliable sources of information related to households were obtained. Of all households enumerated, 52% were two-person households while 22% were single-person households. Single person households were mostly male (75%) and 78% of households were younger than 35 years old. Of these single households, 90% have never been married and are potentially without dependents. Given the youthfulness of the general population, it is not surprising that 36% is younger than 13 years old. Of children aged 0 to 5 years old, 54% do not attend any form of schooling. This could highlight the need for Early Childhood Development. Virtually no youngsters are enrolled in tertiary education institutions.

**Panorama view of back end of Tsunami**

TRAs/IDAs are constructed within pre-determined budgets and service standards outlined in the Emergency Housing Programme. It is therefore not surprising that 81% of dwellings are single rooms and that three-quarters of all dwellings are less than 30 square meters in size. However, a surprising statistic about Tsunami is the length of time that residents have reported living in their dwelling; 53% reported to have lived in their dwellings for less than five years. This is surprising because the TRA/IDA was founded in 2005 and is therefore roughly 12-years-old.

Spatial analysis conducted in this enumeration study provides some insights into this phenomenon. By 2007, the TRA/IDA was built out, and in 2010, the eastern section was cleared for a housing development. Urban morphology analysis of Google Earth satellite images also confirmed that the period 2013 – 2016 was characterised by an intensive period of infill building coverage. Hence, it can be concluded that the age of dwellings can be traced to a period where dwellings were erected or where extensions to existing dwellings encroached on open spaces. At the same time, 99% of residents claimed to own their dwellings, which is an important factor to consider when dealing with tenure issues.

The development of Tsunami was uncertain for many years since the land was reserved as a cemetery for Delft. This could explain why for 12 years no electricity grid was extended to the TRA/IDA. Water and sanitation services were increasingly lacking as the community grew over the years. Currently, 130 households share one tap, while 18 households share one toilet.

Development prospects are changing, however. Tsunami has been included in the City of Cape Town and Western Cape Government's "southern corridor" initiative, including communities in the airport precinct and settlements bordering the N2. Future development in Tsunami needs to take into account new tenure arrangements, densification typologies and improved services.

This enumeration outlines and details evidence in support of future development. The use of community data not only improves the evidence base from which settlement planning occurs, but also builds the capacity of informal settlement residents as central partners in upgrading initiatives.

## STRUCTURES

NUMBERED **1724**[1]

ENUMERATED **1611**

## HOUSEHOLDS **1685**

## SANITATION **1:18**

**Toilet to household ratio**

## WATER **1:130**

**Tap to household ratio**

## ELECTRICITY

PREPAID **0%**

ILLEGAL CONNECTION **0%**

NO ELECTRICITY **0%**

## DISASTERS AND RISKS

**Fires, illness, rats and bad drainage**

## UNEMPLOYMENT RATE **63%**

## MAIN PRIORITIES

**Housing, sanitation, water, electricity access and waste collection**

1 All information reflected in this report is based on the analysis of data collected during the enumeration exercise, unless otherwise stated

# 1. INTRODUCTION

## 01 Introduction

South Africa, like other developing countries, has seen a rapid rise of informal settlements in major cities.[2] This increase is attributed to a number of factors which can be grouped under two broad categories i.e. urbanisation and population growth. In terms of urbanisation, people migrate into cities in search of greener pastures. Upon arrival, they find it near impossible to secure affordable housing and are often forced to find accommodation in informal settlements. With respect to population growth, census figures have shown a consistent increase in the population size and growth rates of the country. In addition, there is a growing phenomenon of young adults who split from families, in order to set up home elsewhere in pursuit of independence. This further compounds the problems associated with housing demand.[3]

It is expected that housing would be affected by increases in population size and the decline of household size, which puts an additional strain on the state's available resources to provide adequate housing for the population.

**Trends in population increase and growth in informal settlements**

The Western Cape accounts for 11.2% of SA's total population with 5 823 000 residents; of this the CoCT metropolitan area is home to 64% of the province's residents (Statistics South Africa 2011). The population size in the province increased by 2.6p% per year between 2001 and 2011, while the average household size declined from 4 (rooms?) in 1990 to 3.4 (rooms?) in 2011, placing increased pressure on the demand for services and housing.

Informal settlements are home to millions of people in developing countries. Between 1994 and 2011, the number of informal settlements in SA increased from approximately 300 to about 2 700, and it is estimated that 1.25 million households live in these settlements (NDHS, 2014). According to StatsSA, 142 706 households lived in shacks (not in backyards) and informal settlements in the Western Cape at the time of the 2001 census. This figure increased to 191 668 for 2011 census (HDA, 2013:11). In 2013, approximately 193 000 households lived in 204 informal settlement areas in CoCT and this number increases each year. These statistics clearly illustrate that the government needs to address informal settlements as a matter of priority. As a starting point, policy and implementation need to align to the Department's strategic direction of allocating more resources to the Upgrading of Informal Settlements Programme in order to improve the living conditions of informal settlement dwellers and those living in backyards who continue to wait for a housing opportunity.

**Catalytic projects – creating opportunities at scale**

In 2014, the national Minister of Human Settlements announced that the Department would embark on the delivery of catalytic human settlement projects to capitalise on the economies of scale of such projects. Subsequently, the Minister of the Western Cape Department of Human Settlements (WCDHS), Bonginkosi Madikizela announced in his 2015 budget speech that the Department had identified five catalytic and nine priority projects in the province, which would be funded and jointly implemented with the National Department of Human Settlements (NDHS).

2 Informal Settlements in South Africa (2013). Research Report published by Housing Development Agency. http://www.thehda.co.za/uploads/images/HDA_South_Africa_Report_lr.pdf

3 Cross, C., Todes, A., van Zyl, J., & Wentzel, M., (2010), Contemporary South African Urbanisation Dynamics. http://wiredspace.wits.ac.za/bitstream/handle/10539/11643/Todes%2051989542.pdf?sequence=1

# 01 Introduction

The Southern Corridor Integrated Human Settlements Project is one of the catalytic projects and is comprised of several projects within the CoCT's area of jurisdiction. The Airport Informal Settlement Precinct and Kosovo are two projects that will be implemented through the Southern Corridor Integrated Human Settlements Project.

The Airport Informal Settlement Precinct consists of ten (10) informal settlements, namely Barcelona, Gxagxa, Lusaka, Kanana, Vukuzenzele, Europe, Thabo Mbeki, KTC, Tsunami IDA/TRA, and Hlazo Village. These settlements form a strip of between 200 and 500 metres wide along the southern border of the N2. The majority of settlements border Steve Biko Street to the northwest and Borcherds Quarry Road to the southeast, stretching 2.5km in a northwest-southeast direction. Barcelona, Gxagxa, Lusaka, Kanana, Vukuzenzele, and Europe were enumerated in the first phase of the government contract. Thabo Mbeki, KTC, Tsunami IDA/TRA, and Hlazo Village were enumerated in the second phase and also form part of the Airport Precinct. Kosovo was also enumerated in this government contract as a priority project in the Southern Corridor.

It is in this context that the Department commissioned an enumeration study across each of these informal settlements, appointing the Community Organisation Resource Centre (CORC) through a competitive bidding process, to undertake this task.

**Overall purpose of the study**

The overall purpose of the enumeration study was to gather data and information at household level in order to understand the profile of the households, social networks and the level of services in the informal settlements that form part of the Southern Corridor. The data and information gathered will assist the Department in understanding the status quo of each informal settlement in order to develop credible profiles which will assist with determining the needs per household, informing decision making, and future planning for the informal settlements.

**The project deliverables of the study were to:**

- Negotiate, design, implement and manage a stakeholder participatory process
- Conduct a household level enumeration exercise
- Conduct GIS mapping of all households
- Analyse the data collected for each settlement
- Record existing social infrastructure and socio-economic opportunities
- Develop a database which will provide a profile of each household and each informal settlement

**Process undertaken in the enumeration of Tsunami**

The study was conducted by CORC. The Tsunami enumeration process unfolded over a period of one month and started with shack numbering and mapping, which was conducted in October 2016. The enumeration training occurred on 25 October 2016. Data collection occurred from 26 October – 26 November 2016 and lasted for 30 days. Each of the eleven settlements was exposed to the same methodology. The only difference related to the length of time required for gathering data, which was based on the settlements' varying sizes. The use of a common methodology ensured that information and data across the settlements studied could be compared. This particular report is the outcome of a community-led data collection process that will better equip the CoCT and the Province through updated information about Tsunami.

# 2. LOCATION AND CONTEXT OF THE SETTLEMENT

## 02 Location and context of the settlement

Tsunami was founded in 2005 and classifies as a TRA/IDA as defined in the latest CoCT municipal documentation (Integrated Development Plan and Built Environment Performance Plan), Tsunami is located in Delft Section 9 within the airport district, described in the introduction to this report, and is bounded by Symphony Way/M171 to the west, Sarah Baartman Road to the north, and Sering Street to the east and south.

## 02 Location and context of the settlement

Although Tsunami is the colloquial name of this TRA/IDA, it is formally also known as Delft TRA Sections 1 and 2 (or Delft TRA 1 and 2). Residents named the TRA/IDA Tsunami after news broke that an earthquake in the Indian Ocean created a tsunami that struck South East Asia (Sumatra, Indonesia, Sri Lanka, India, Thailand, Maldives and Malaysia) in December 2004. The need for a TRA arose after a fire in Langa left 2400 families homeless in January 2005, and these families were relocated to the TRA/IDA prepared in Delft Section 9.

### COMMUNITY VOICES

*"We fought for that and eventually the human settlements minister heard our cry and said that this land now belongs to us and if we want houses, they will be build here. We and the department of Human Settlements reached an agreement that in the 2016 and 2017 budget, Tsunami is included to be part of the southern corridor project. So that is a vital agreement"*

The establishment of Tsunami has not been without contention. In 2007 the Development Action Group conducted a study at Tsunami, which attested the following points:

- The peripheral location of Tsunami (compared with centrally located Langa) increased the vulnerability of households affected by the Joe Slovo fire
- Resettlement caused heightened community conflict
- The costly establishment of Tsunami could not be justified in light of alternative accommodations

The status of the land presents a complication for upgrading and improving service levels (e.g. there are no legal electricity connections in Tsunami). Originally planned as Delft cemetery, the future of Tsunami is unclear. In June 2015, community leaders submitted a memorandum to the Department demanding improved services. The Department acknowledged the demands raised, and alluded that the status of the settlement was uncertain with the Province working in partnership with the CoCT and the Housing Development Agency to resolve the matters raised (Damba and Feni 2015). The inclusion of Tsunami in the southern corridor could lead to improved services and the building of houses.

**Proximity of Tsunami to cemetery (right)**

## 02 Location and context of the settlement

**Leadership structure**

At present the community has a leadership structure of seven members:

- Chairperson - Kwanele Mcaleni
- Deputy chairperson - Thembani Macosinca
- Treasurer - Sibulelo Ntlakaza
- Secretary - Thandiwe Maqungo
- Deputy secretary - Nikiswa Cengimbo
- Additional member - Mxolisi Jezile
- Additional member- Mthetheleli Khulwini

This committee is reported to have well-established links with the police, who are contacted when criminal activity is reported to leaders. The committee is reported to have ended their relationship with the local South African National Civic Organisation affiliate due to alleged corruption.

**Some representatives of Tsunami's leadership**

Xolani Ndongeni is the Councillor for Ward 106, which incorporates Delft sections 5, 6, 7, 9 and Delft South, which includes TRAs in the area such as Symphony Way TRA (also known as 'Blikkiesdorp') and Delft TRA 1 & 2 (i.e. Tsunami). The area is also part of Sub-Council 5, where Martin Julie is the Sub Council manager and Courtney van Wyk is the Chairperson. As part of accessing the area, CORC engaged Councillor Ndongeni. who served as a critical entry point to the area and was instrumental in introducing the CORC engagement team to the leadership committee mentioned above. The leadership committee members meet once a week and discuss various issues related to the settlement.

## 02 Location and context of the settlement

**COMMUNITY VOICES**

*"We don't make decisions that affect the community alone. Whenever there's an issue that affects the community, we call up a meeting and discuss the matter and we all reach a decision."*

The growth of Tsunami is illustrated in the Google Earth satellite images below. The earliest available satellite images show that the land was vacant in 2002 and that neither Symphony Way/ M171 nor large parts of Delft South were constructed at the time. After fire outbreaks in Langa in January 2005, a TRA/IDA was prepared and the first phase was completed in July 2005, soon after which occupation occurred. By February 2007, the majority of Tsunami was completed, along with Symphony Way/M171 and internal circulation roads, while a new housing development in Delft South was completed in February 2009. Delft cemetery was also established to the west of the settlement between 2007 and 2009. After families were resettled in the first and second phases of the N2 Gateway project in Langa, a large part of the eastern section of Tsunami was cleared and housing development started. Satellite images confirm that the period 2013 to 2016 can be characterised as a time of intense building and an encroachment of shelters on remaining open spaces, sidewalks and parts of internal roads can be observed.

September 2002

July 2005

February 2007

February 2009

November 2010

October 2013

November 2015

May 2016

# 3. METHODOLOGY

03 Methodology

## 3.1. STAKEHOLDER PARTICIPATION AND ENGAGEMENT

The first phase of the study involved stakeholder engagement and developing deep participation with regards to community structures.[4] This is summarised in Figure 1:

4 A detailed stakeholder participation and engagement plan has been prepared by CORC and contains the finer details of this phase of the project.

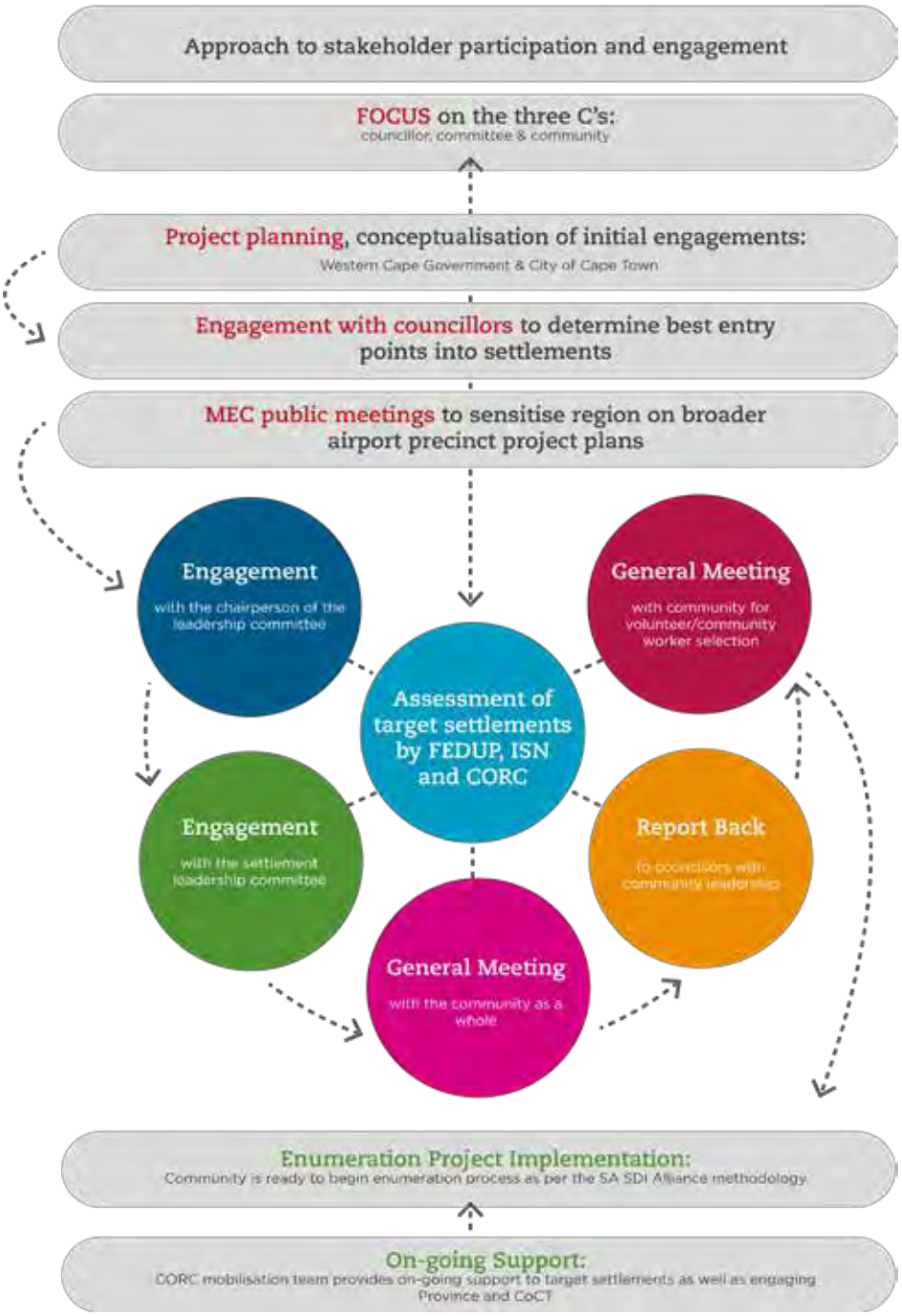


**Figure 1: SA SDI Alliance stakeholder participation & engagement strategy**

# 03 Methodology

## 3.2. PRE-IMPLEMENTATION AND FIELD WORK

This section describes the methodology utilised in the enumeration study.[5] The following diagram connects with the previous process at engagement level. The diagram outlines the process followed once implementation and fieldwork began. It must be noted that the collection of data in the field was conducted utilising the CoCT Trimble devices. Along with these devices, GPS devices were utilised for mapping purposes. The data from the Trimble devices was uploaded in the field directly to the CoCT's database. This meant that no post-enumeration data capturing was required and that the CoCT effectively received updated enumeration data after each upload.

5 A detailed pre-implementation and fieldwork plan has been prepared by CORC containing the finer details of this phase of the project.

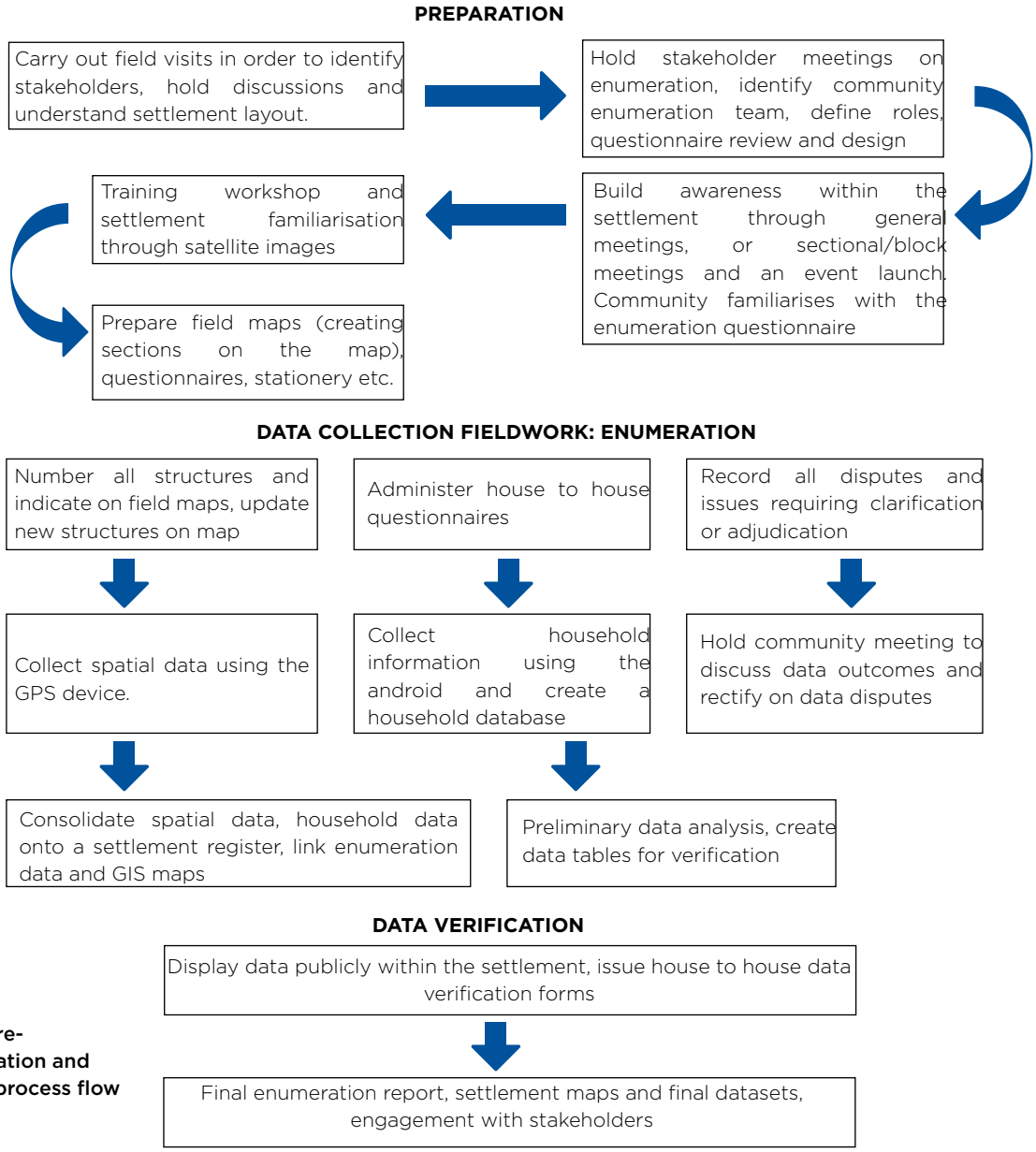


**Figure 2: Pre-implementation and field work process flow chart**

## 3.3. VALUE ADD TO THE PROJECT – EMPLOYMENT OPPORTUNITIES

***COMMUNITY VOICES***

*"The lack of basic services like the shortage of taps, sanitation, waste collection and unemployment are the core things that we usually engage the municipality about. We want our municipality to come up with job opportunities because most of us here are not employed and have no income."*

A key approach used by CORC and the SA SDI Alliance is that community members form the main teams for mapping, data collection, shack numbering and verification in their own settlements. This improves data accuracy and allows for wider coverage as a settlement's residents are more open to other members of their own settlement. In the case of Tsunami, the enumeration study created short-term employment opportunities for community members.


**Impression of a numbered structure in Tsunami**

In order to accurately map Tsunami, all structures had to be numbered. A team of eight residents from Tsunami carried out this critical numbering process over the course of seven days. Each numbered structure was linked to its digitised GIS data, which meant that all information collected per structure could be mapped spatially. The data collection exercise was implemented over 30 days with a team of 20 Tsunami residents who were employed by CORC and a further 20 residents employed by the CoCT through the Expanded Public Works Programme to handle the Trimble devices. The verification exercise in Tsunami entailed residents checking whether their data was captured accurately. A mapping team comprised of eight Tsunami residents mapped the settlement in one day. In total 60 employment opportunities of varying lengths (five days up to 30 days) were created in Tsunami.

# 4. COVERAGE OF THE ENUMERATION AND RESPONSE RATES

04 **Coverage of the enumeration and response rates**

The following section details the coverage of the enumeration with respect to the estimated structure counts and estimated population from the CoCT, compared to information that was collected in Tsunami. Overall the aim of this chapter is to provide the reader with a picture of the extent of the enumeration as well as deliver response rates on a few key variables. The data and spatial analysis generated through the enumeration provides a fair and accurate representation of the settlement at this particular point in time. Response rates will also be reflected again to provide the reader with a sense of how well or poorly people responded to questions during the enumeration.

## 4.1. COVERAGE OF THE ENUMERATION

The enumeration exercise entailed the linking of data collected inside each structure to the structure's specific GPS coordinates on the ground. This means that different sets of information about the residents of each structure could be spatially mapped. Figure 3 highlights all structures that were enumerated in Tsunami.

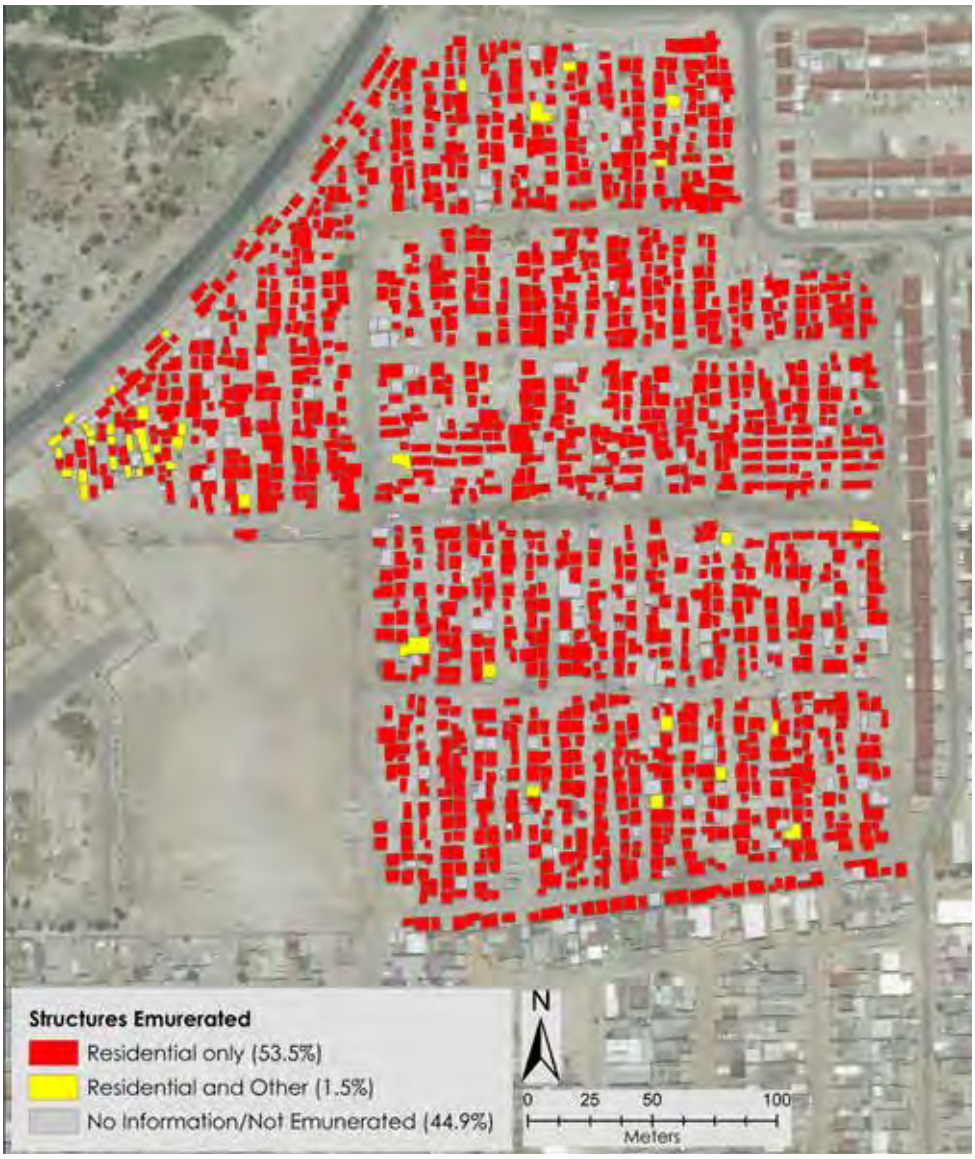


**Figure 3: Map of all structures in Hlazo Village, indicating the coverage of the enumeration**

## 04 Coverage of the enumeration and response rates

Figure 3 above illustrates the spread of structures enumerated in Tsunami. In total 1724 structures were numbered of which 1611 structures were enumerated. In percentage terms, this equates to 93% of the total numbered structures. Due to unavailability of occupants and/or unwillingness of occupants to participate in the enumeration, 113 structures were not enumerated. For the rest of this report, wherever structure level data is presented, it will reference the 1611 structures enumerated in this study. Where missing information was encountered, special mention will be made.

Data was collected house-to-house, and through an interviewing process, enumerators spoke to the household head. CORC is of the view that the household head or a person closely associated with the affairs of the household (e.g. spouse or partner) has the best understanding of the household. Therefore, this was a measure to ensure that the best quality of information about the household could be collected. Figure 4 illustrates the percentage breakdown of respondents.

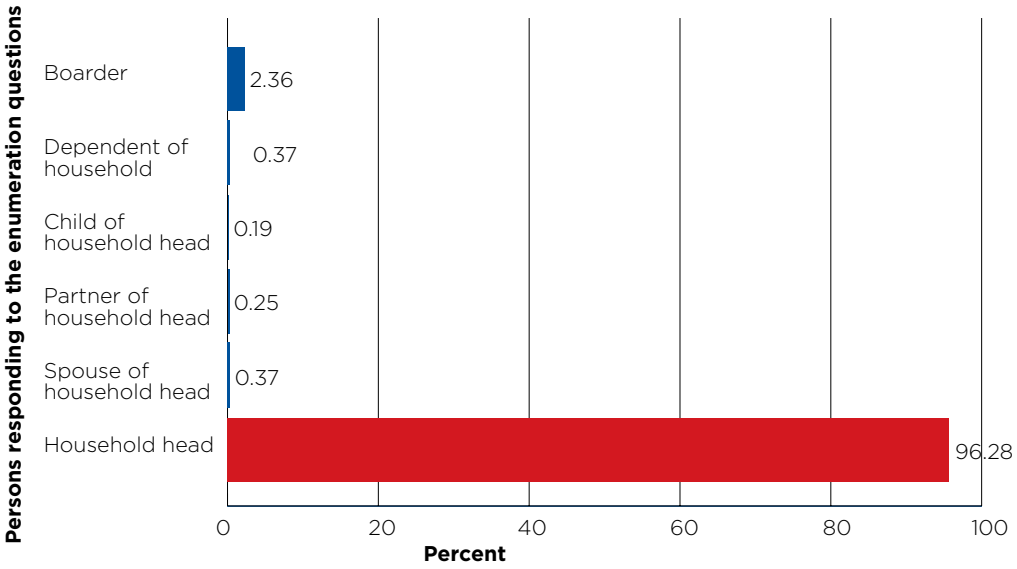


**Figure 4: Percentage breakdown per respondent type for Tsunami**

Figure 4 above shows that the vast majority of respondents (96%) considered themselves as the head of the household. Boarders (or tenants) accounted for 2.4% of respondents. The high frequency of household heads as primary respondents to the enumeration means that the information supplied is likely to be the most accurate information related to living conditions in a particular structure.

## 04 Coverage of the enumeration and response rates

Table 1 presents the settlement population based on respondents' accounts of how many people live in each structure. This can be used to help estimate the population size of Thabo Mbeki based on per structure resident estimates.

| People living in structure stated | Frequency count | Percent | Cumulative percent | People count |
|---|---|---|---|---|
| 1 | 325 | 20.17 | 20.17 | 325 |
| 2 | 864 | 53.63 | 73.81 | 1728 |
| 3 | 283 | 17.57 | 91.37 | 849 |
| 4 | 100 | 6.21 | 97.58 | 400 |
| 5 | 28 | 1.74 | 99.32 | 140 |
| 6 | 9 | 0.56 | 99.88 | 54 |
| 8 | 1 | 0.06 | 99.94 | 8 |
| 10 | 1 | 0.06 | 100 | 10 |
| **Total** | **1611** | **100** | | **3514** |

**Table 1: Total population of Tsunami derived from stated number of people living inside each structure**

The data was tabulated and the occupant count per structure varied from one person to a maximum of 10 people. By multiplying the number of occupants per structure by the frequency count, the resultant "people count", or derived population count, is 3514 people living in Tsunami.

The data presented in table 2 is derived from counting the actual number of people enumerated per structure. This differs from table 1 and results in an actual population count for the settlement based on the enumeration results.

| People enumerated | Frequency count | Percent | Cumulative percent | People count |
|---|---|---|---|---|
| 1 | 340 | 21.10 | 21.10 | 340 |
| 2 | 850 | 52.76 | 73.87 | 1700 |
| 3 | 281 | 17.44 | 91.31 | 843 |
| 4 | 101 | 6.27 | 97.58 | 404 |
| 5 | 27 | 1.68 | 99.26 | 135 |
| 6 | 10 | 0.62 | 99.88 | 60 |
| 8 | 1 | 0.06 | 99.94 | 8 |
| 10 | 1 | 0.06 | 100. | 10 |
| **Total** | **1611** | **100** | | **3500** |

**Table 2: Total population of Tsunami based on actual number of persons enumerated per structure**

## 04 Coverage of the enumeration and response rates

Table 2 indicates that the actual number of persons recorded in the enumeration is 3500. A small variance of 0.4% is observed between the number of occupants per structure (3514) and the number of people recorded (3500). This variance can be attributed to respondents incorrectly indicating the number of occupants per structure. For the purposes of this analysis the figures and population count reflected in Table 2 will be used, which confirms the population of Tsunami to be 3500 people. Figure 5 in the next section illustrates the spatial distribution of the number of people living in dwellings.

Each respondent was asked to indicate how many households live inside each structure. This was based on the definition of a household as a group of people living in a structure, sharing one common area or eating from the same pot. This method allows for the recording of more than one household per structure. Household count is presented in table 3.

| Households stated | Frequency count | Percent | Cumulative percent | Household count |
|---|---|---|---|---|
| 1 | 1527 | 94.79 | 94.79 | 1527 |
| 2 | 77 | 4.78 | 99.57 | 154 |
| 3 | 6 | 0.37 | 99.94 | |
| 4 | 1 | 0.06 | 100 | 4 |
| **Total** | **1611** | **100** | | **1685** |

**Table 3: Total households for Tsunami derived from stated number of households**

According to the respondents, a total of 1685 households live in 1611 dwellings. Single person households are the most prevalent and constitute 94,8% of households in Tsunami. There are 84 dwellings that indicate the company and/or co-habitation of more than one household.

04 Coverage of the enumeration and response rates

## 4.2. RESPONSE RATES

The majority of respondents were the head of the household. This is indicated by 96% of respondents[6] defining themselves as household heads.

Questions around structure ownership, main reasons for moving to the settlement, main use of the structure, electricity supply, sanitation usage, water access, health access, number of people and number of households received a 100% response rate. Other questions were not fully responded to:

- 81% responded to reasons why people have moved out of the settlement
- 97% responded to household income questions
- 99% responded to grant recipient questions
- 99% responded to current educational enrolment questions
- 99% responded to marital status questions

6 It must be noted that for certain variables the term "respondent" is used, this refers specifically to a person responding to questions. These questions could be individual in nature but where they refer to household-level information, this data shall be referenced as such.

**Street view of Tsunami**

## 04 Coverage of the enumeration and response rates

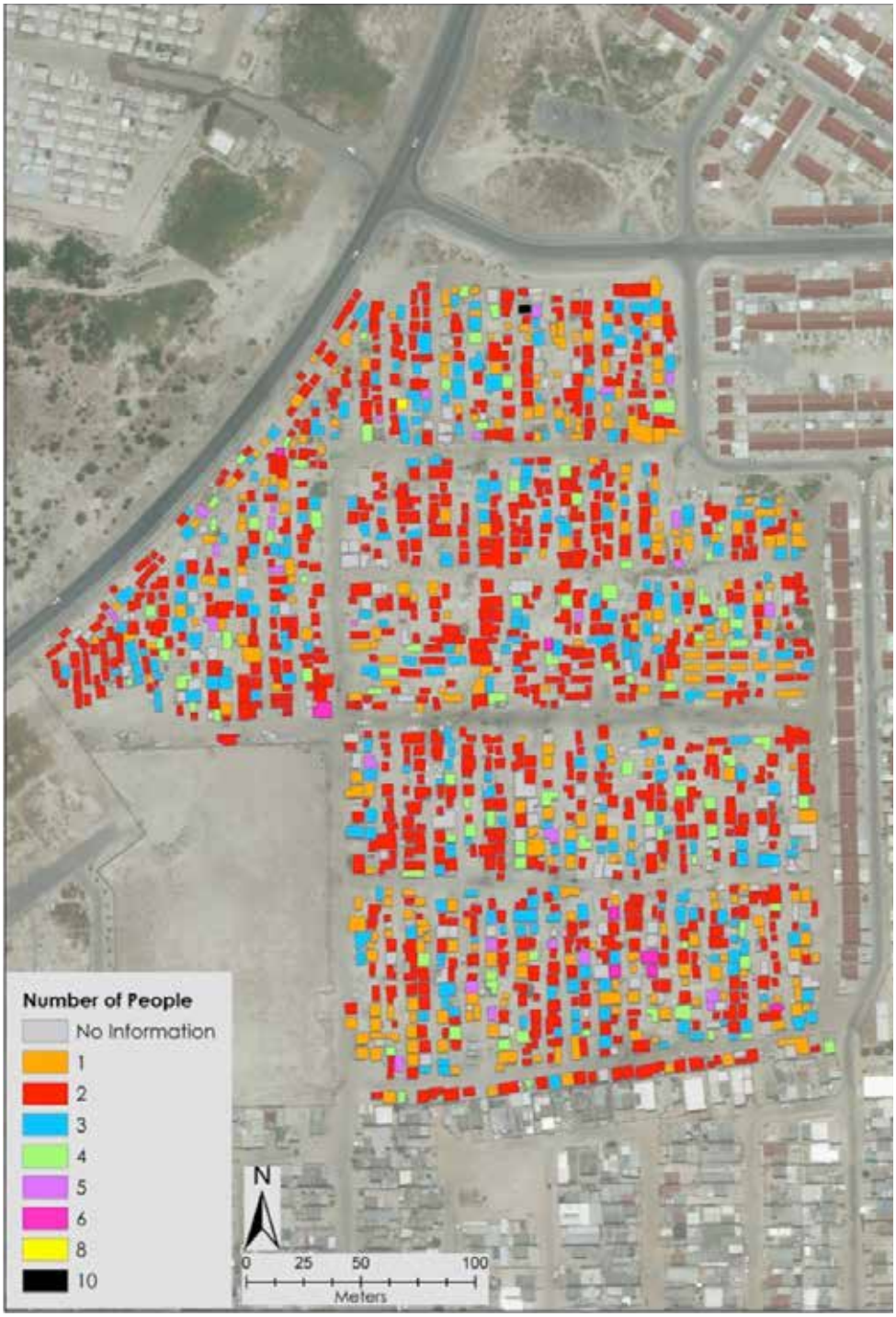


Figure 5: Spatial perspective of people per dwelling

# 5. SUMMARY FINDINGS

## 05 Summary findings

This section presents a high-level summary of the findings of the enumeration study and provides a sneak peek into the analysis to follow.

| TSUNAMI SUMMARY FINDINGS | |
|---|---|
| Age of settlement | 12 years (founded in 2005) |
| Types of structures | Shacks built predominantly from zinc, wood and plastic |
| Land occupied | 10 hectares |
| Density (dwelling units/ha) | 172 du/ha |
| Population | 3500 |
| Average household size | 2.1 |
| Total structures numbered | 1724 |
| Total structures enumerated | 1611 |
| Total males | 1611 |
| Total females | 1874 (15 instances of gender not recorded) |
| Female household heads | 54% |
| Total children under 18 years of age | 1437 |
| Number of toilets | 93 |
| Toilet to people ratio | 1:38 |
| Toilet to household ratio | 1:18 |
| Number of taps | 13 |
| Tap to people ratio | 1:269 |
| Tap to household ratio | 1:130 |
| Electricity coverage | No electricity |
| Unemployment rate | 63% (Expanded definition) |
| Main priorities | Housing, sanitation, water, electricity access and waste collection |
| Disasters experienced by residents | Fires, illness, rats and bad drainage |
| South African residents | 99% |
| Non-South African residents | 1% |

# 6. ANALYSIS

06 Analysis

In this section a more detailed analysis of the enumeration data for Tsunami is presented. The focus of this section is on data collected at the individual level, priorities and migration. Data on access to various basic services and ranking of priorities is also presented. Finally, the last part of this section presents data on demographics of the population and potential housing subsidy qualifiers in the settlement.

## 6.1. STRUCTURE ANALYSIS

The study sought to determine structure ownership levels within the settlement. This is an important consideration for tenure arrangements, because bypassing existing informal property arrangements might complicate longer-term development prospects. Each respondent was asked to indicate whether they owned the structure, paid rent or lived in it rent-free.

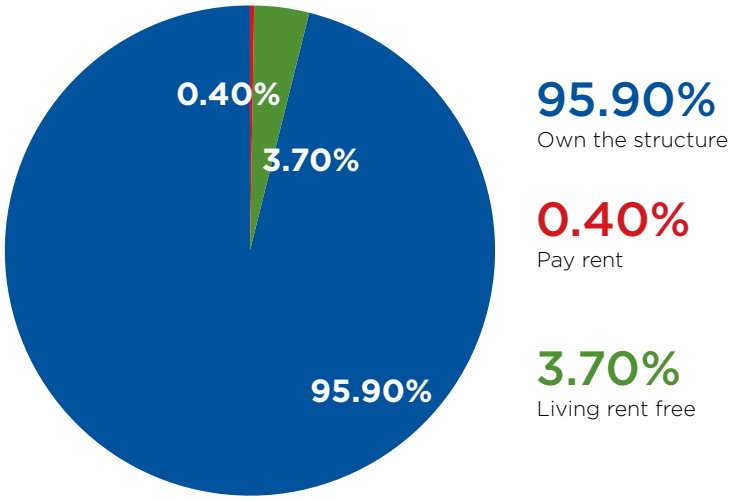


**Figure 6: Percentage breakdown of structure ownership**

Figure 6 illustrates that 95,9% of respondents reported that current occupants own their structures, that 3.7% report to live rent-free while a minor 0.4% pay rent to a landlord. Those living rent-free could also be a dependent or members of the household head's family.

**Impression of structures in Tsunami**

## 06 Analysis

Figure 7 below illustrates the spatial distribution of dwelling ownership.


**Figure 7: Spatial perspective of structure ownership**

## 06 Analysis

To better understand the living arrangements for residents, a question was asked about the number of rooms in the structure. Table 4 provides an overview of rooms per structure.

| Number of rooms | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| 1 | 1305 | 81.01 | 81.01 |
| 2 | 274 | 17.01 | 98.01 |
| 3 | 31 | 1.92 | 99.94 |
| 4 | 1 | 0.06 | 100. |
| **Total** | **1611** | **100** | |

**Table 4: Number of rooms per structure**

Table 2 presented earlier confirmed that 52.8% of households consisted of two people, followed by 21% of single households. Data presented in table 4 above confirms that 81% of dwellings have one room. Only 32 dwellings have three or four-rooms. The configuration of living space is therefore constrained by the available space in a pre-planned TRA/IDA, which in turn is determined by available funding and accompanying standards outlined in the Emergency Housing Programme. The spatial analysis presented in section 2 indicated the possibility that the majority of newly -constructed dwellings in open spaces and backyards occurred in the period 2013 to 2016.

Table 5 provides a deeper insight into the total number of people living inside each structure in the settlement based on the enumeration results. It also provides the frequency count per incidence of structure population size.

| People enumerated | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| 1 | 340 | 21.10 | 21.10 |
| 2 | 850 | 52.76 | 73.87 |
| 3 | 281 | 17.44 | 91.31 |
| 4 | 101 | 6.27 | 97.58 |
| 5 | 27 | 1.68 | 99.26 |
| 6 | 10 | 0.62 | 99.88 |
| 8 | 1 | 0.06 | 99.94 |
| 10 | 1 | 0.06 | 100 |
| **Total** | **1611** | **100** | |

**Table 5: Number of people per structure**

## 06 Analysis

When reading tables 4 and 5 together, it is apparent that single and two-person households (cumulatively accounting for 73% of households) tend to live in single-room dwellings (81% of dwellings).

The floor areas of the dwellings were calculated from GIS data following the mapping of dwellings from an aerial photograph. This is the most accurate data available in the study, but could be an overestimation of actual floor size because the overhangs of the roofs could be larger than the floor area. In order to better understand the average available floor space per household, the net floor areas were added together and divided by the population. Table 6a below presents this data.

| Floor area of structure categorised | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| 2sqm or less | 2 | 0,12 | 0,12 |
| 2.01 - 5sqm | 8 | 0,50 | 0,62 |
| 5.01 - 10sqm | 92 | 5,71 | 6,34 |
| 10.01 - 15sqm | 404 | 25,09 | 31,43 |
| 15.01 - 20sqm | 302 | 18,76 | 50,19 |
| 20.01 - 25sqm | 200 | 12,42 | 62,61 |
| 25.01 - 30sqm | 199 | 12,36 | 74,97 |
| 30.01 - 35sqm | 267 | 16,58 | 91,55 |
| 35.01 - 40sqm | 45 | 2,80 | 94,35 |
| 40.01 - 50sqm | 61 | 3,79 | 98,14 |
| 50.01 - 60sqm | 16 | 0,99 | 99,13 |
| greater than 60sqm | 14 | 0,87 | 100 |
| **Total** | **1610** | **100** | |

**Table 6a: Square metres of floor space**

## 06 Analysis

In Tsunami, 75% of all residents live in structures smaller than 30sqm. This data however does not take into account the number of occupants per structure, which can be a measure of overcrowding. In Figure 8, total floor space per dwelling was divided by the number of occupants to arrive at a floor space per person ratio.

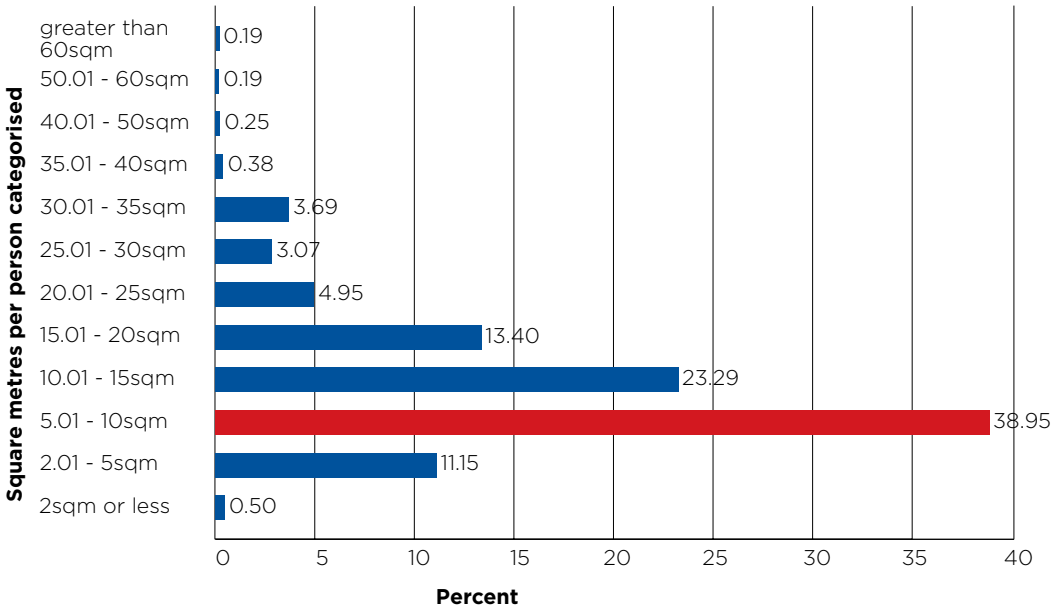


**Figure 8: Percentage breakdown for square metres per person of floor area provided by a structure, categorised**

This analysis indicates that 73% of residents have access to less that 15sqm floor space, and 39% of residents have access to 5 to 10sqm floor space. Table 6b excludes structures with only one occupant to better reflect square metres per person in structures with multiple occupants.

***COMMUNITY VOICES***

*"Our area is full of gangsters that steal cars. That's what is running our area. They get killed and it's affecting our community. People even steal cars from other places and come and drop those cars in our settlement."*

**Abandoned vehicle in Tsunami**

## 06 Analysis

| Square metres of floor space per person categorized | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| 2sqm or less | 8 | 0,63 | 0,63 |
| 2.01 - 5sqm | 175 | 13,73 | 14,35 |
| 5.01 - 10sqm | 595 | 46,67 | 61,02 |
| 10.01 - 15sqm | 275 | 21,57 | 82,59 |
| 15.01 - 20sqm | 154 | 12,08 | 94,67 |
| 20.01 - 25sqm | 47 | 3,69 | 98,35 |
| 25.01 - 30sqm | 12 | 0,94 | 99,29 |
| 30.01 - 35sqm | 6 | 0,47 | 99,76 |
| 35.01 - 40sqm | 1 | 0,08 | 99,84 |
| 40.01 - 50sqm | 1 | 0,08 | 99,92 |
| 50.01 - 60sqm | 1 | 0,08 | 100 |
| **Total** | **1275** | **100** | |

**Table 6b: Square metres of floor space categorised available per person excluding structures with one occupant**

When the total floorspace of a dwelling is divided by the number of occupants, more than half of all residents excluding single person households have about 5 to 15 sqm to themselves. This data table represents 73% of households. Small (and often single room) dwellings are therefore not limited to single households.

| Structure main use | Frequency count | Percent |
|---|---|---|
| Residential only | 1567 | 97,27 |
| Residential and other | 44 | 2,73 |
| **Total** | **1611** | **100** |

**Table 7: Main use of structures**

The majority of respondents in the enumeration indicated that their dwellings were used for residential purposes only. Secondary uses were recorded in 44 dwellings, and such uses include activities such as spaza shops, places of worship, crèches, shebeens and hairdressers. Two mechanics and one furniture shop were also recorded. It should be noted that residents were concerned that some so-called mechanics could be a front for chop-shops (i.e. illegal dismantling of vehicles to sell off parts).

## 06 Analysis

Residents were asked to indicate the age of dwellings, and this was transposed in GIS maps. This is reflected in figure 9 below.

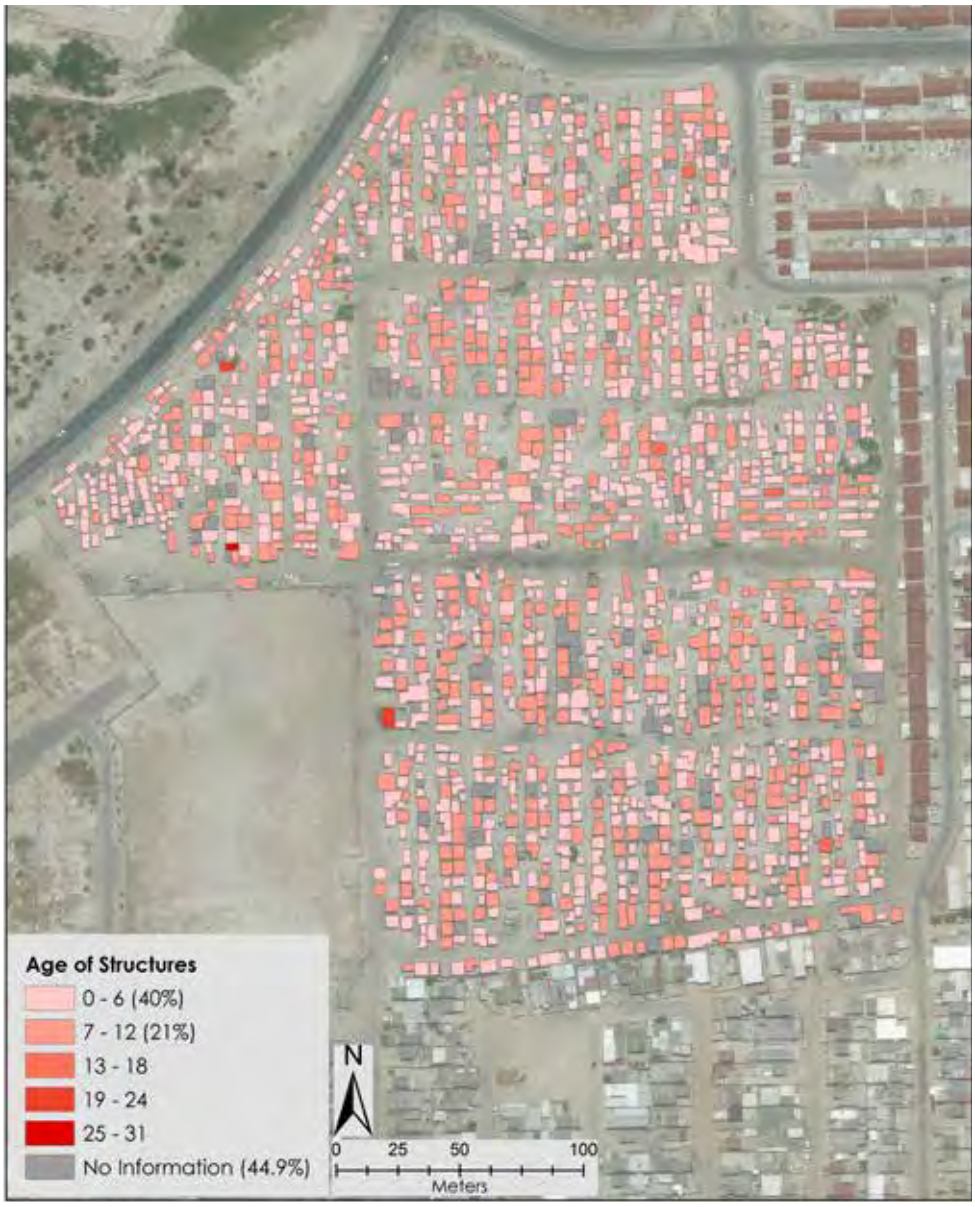


**Figure 9: Map indicating age of structures categorised**

The spatial map presented in figure 9 above shows that the majority of dwellings are between 0 to 5 years and 6 to 10 years old. This is a surprising statistic because by 2007 (i.e. 10 years ago) the majority of Tsunami was completed. There are three ways to interpret this phenomenon of dwellings completed in the last 0 – 5 years.

## 06 Analysis

Firstly, as deducted from Google Earth images in section 2, the period 2013 to 2016 was characterised by an intensification of infill construction and building coverage. Secondly, spatial analysis also revealed that in 2007 Tsunami was expanded three times the size of phase 1, and by 2010 the eastern section was cleared for housing development. Hence, households that moved from the eastern section could have been resettled internally. Lastly, another way to interpret figure 9 above is to differentiate between the age of the dwelling and the time households spent in the dwelling. Often TRA/IDAs are characterised by a high turnover of newcomers following disasters or evictions.

When reading the analysis of "urban morphology" (e.g. the change in urban form over time) presented in Google Earth satellite images in section 2 against the general age of dwellings, it can be deducted that a period of more intensive building coverage characterised the period 2013 to 2016. Moreover, data represented much later in figure 19 in chapter 6 confirms that 53% of residents have lived in Tsunami for less than five years. Hence, in the last five years new dwellings were constructed on the western periphery of the TRA/IDA, and infill builds throughout the settlement. The first reason motivated above is therefore the most likely reason for 0 to 5 year age of majority of dwellings.

The dwellings located in Tsunami are arguably in a better condition compared to informal settlements in the near vicinity due to the quality of materials utilised with funding from the Emergency Housing Programme, but are still vulnerable due to being exposed to adverse weather including sun, wind and rain.

**Materials used in Tsunami's structures**

06 Analysis

## 6.2. DEMOGRAPHICS OF TSUNAMI POPULATION

### COMMUNITY VOICES

*"What I like about staying here is to be surrounded by people and feel the warmth. It feels good because I'm not paying rent and unlike a backyarder, there is no landlord that tells me what time I should be inside the premises. I do what I like and it's good for me that I don't pay rent because I'm not even employed. There's no discrimination here, we live as one family."*

### 6.2.1. Age distribution

Enumeration data confirms that the majority of Tsunami residents are people younger than 30-years-old. Indeed, only 30% is older than 30 years. Half of the community (50%) is aged between 19 and 40-years-old. There is a significant group of infants (19%) and children younger than 13 years (18%). In figure 10 below, the split of the age groups is presented.

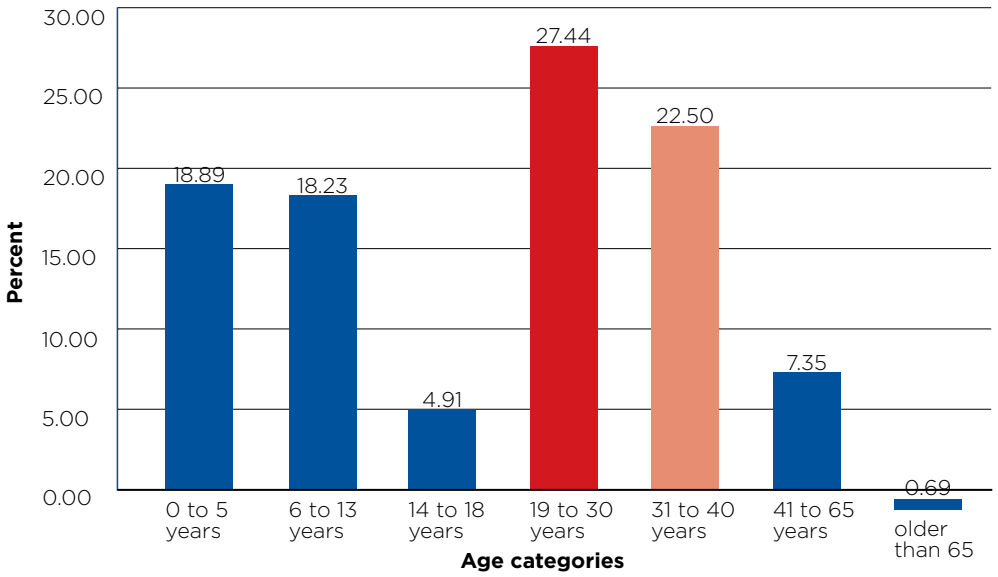


**Figure 10: Age distribution of Tsunami population**

## 06 Analysis

Due to the significant number of single person households, it was necessary to examine the age distribution of this population. Table 8 below provides the age distribution of single person households categorised.

| Age Categories | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| 14 to 18 years | 1 | 0,31 | 0,31 |
| 19 to 25 years | 80 | 24,84 | 25,16 |
| 26 to 30 years | 90 | 27,95 | 53,11 |
| 31 to 35 years | 80 | 24,84 | 77,95 |
| 36 to 40 years | 30 | 9,32 | 87,27 |
| 41 to 50 years | 34 | 10,56 | 97,83 |
| 51 to 60 years | 5 | 1,55 | 99,38 |
| 61 to 65 years | 2 | 0,62 | 100 |
| **Total** | **322** | **100** | |

**Table 8: Age distribution of single person households**

It was established earlier that 21% of households (or 322 households) are single person households. Table 8 provides further insight into the composition of this group, of which 77% are younger than 30 years old. The age groups 19 to 25, 26 to 30 and 31 to 35 are almost equally represented at roughly 25% per group. These demographic trends will be explored in greater detail in the section covering housing subsidy criteria analysis.

### 6.2.1.1 A profile of youth

Since 77% of residents are younger than 30 years, it becomes necessary to examine youth in the settlement in more detail. Table 9 explores self-assessed employment status of respondents aged 19 to 30 years old.

| | Gender | | |
|---|---|---|---|
| Employment status | Male (%) | Female (%) | Total |
| Employed | 177 | 127 | 304 |
| Self-employed | 16 | 25 | 41 |
| Unemployed | 237 | 371 | 608 |
| **Total** | **430** | **523** | **953** |

**Table 9: Employment status by gender for Tsunami residents aged 19 to 30 years**

Table 9 indicates that 63% of youth (19 to 30 years old), who make up 77% of the settlement population, are unemployed. Women are particularly vulnerable to the shocks related to low incomes, since 61% of the unemployed youth are females.

## 06 Analysis

A total of 42% of youth earn no income at all. The dynamics associated with a young population, high unemployment, and precarious livelihoods create conditions of high vulnerability, especially for women. In other circumstances, this could be an opportunity for entrepreneurial activity, but only 4% of working youth reported being self-employed.

| Household income | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| No income | 338 | 42,73 | 42,73 |
| R1 - R400 | 34 | 4,30 | 47,03 |
| R401 - R800 | 86 | 10,87 | 57,90 |
| R801 - R1500 | 175 | 22,12 | 80,03 |
| R1501 - R3500 | 150 | 18,96 | 98,99 |
| R3501 - R7500 | 8 | 1,01 | 100,00 |
| **Total** | **791** | **100** | |

**Table 10: Income distribution for age group 19 to 30-years-old**

Of the potentially economically active youth aged 19 to 30, table 10 shows that more than 80% of the working youth earn less than R1500 per month and that almost 19% earn between R1501 and R3500.

**Young people in Tsunami**

06 Analysis

### 6.2.2. Gender breakdown

The enumeration covered a broad spectrum of demographic data. Figure 11 provides us with the gender breakdown of the settlement population.

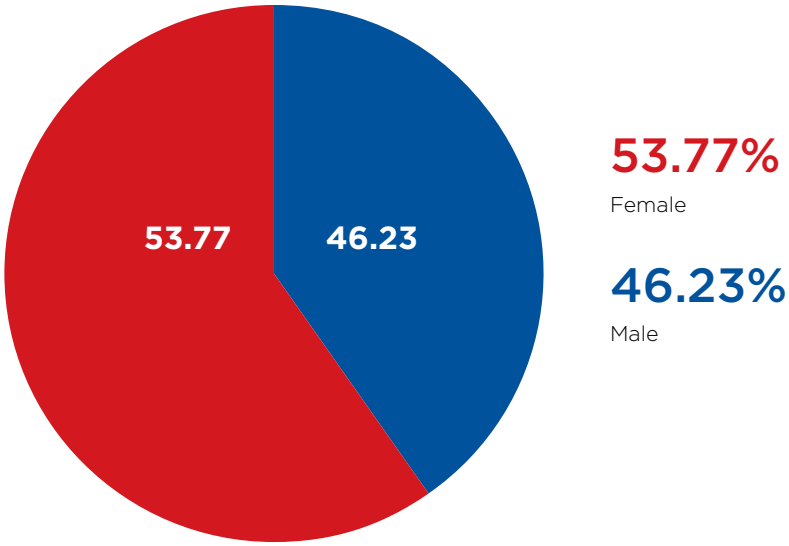


**Figure 11: Gender breakdown**

Figure 11 illustrates that 54 out of every 100 people are women. This is slightly higher than the national average of 52 women per every 100 people (StatsSA, Census 2011).

Table 11 provides important insights into the demographics associated with small families of two person households living in small one and two-room shacks. In this table, gender split of the household size for all structures enumerated is presented.

| Number of people enumerated per structure | Gender | | |
|---|---|---|---|
| | Male (%) | Female (%) | Total |
| 1 | 30,6 | 9,13 | 19,06 |
| 2 | 46,36 | 58,22 | 52,76 |
| 3 | 15,36 | 21 | 18,38 |
| 4 | 5,96 | 7,99 | 7,05 |
| 5 | 1,06 | 2,74 | 1,96 |
| 6 | 0,53 | 0,68 | 0,61 |
| 8 | 0 | 0,11 | 0,06 |
| 10 | 0,13 | 0,11 | 0,12 |
| | **100** | **100** | **100** |
| | **n = 1632** | | |

**Table 11: Number of people enumerated per structure by gender of household heads (column percentages)**

## 06 Analysis

Single person households are predominantly male, while females make up the majority of two and three-person households. In table 9 the employment status of people between 19 and 30 was presented. Table 12 takes a wider look at settlement dynamics related to employment.

| Employment status 16 years and older | Gender | | |
|---|---|---|---|
| | Male | Female | Total |
| Employed | 57,19 | 42,81 | 100 |
| Self-employed | 48,94 | 51,06 | 100 |
| Unemployed | 38,98 | 61,02 | 100 |
| **Total** | **45,23** | **54,77** | **100** |
| **n=2116** | | | |

**Table 12: Employment status by gender for respondents 16 years and older (row percentages)**

Women are the least economically active with a high prevalence of unemployment at 61%. Of all respondents who identified their status as “employed”, 57% were males while only 43% were females.


**Example of self-employment initiative**

06 Analysis

### 6.2.3. Education enrolment and school attendance

***COMMUNITY VOICES***

*"We as the people of Tsunami, we want safety in our community and clean crèches for our children. We are all sick of the dirtiness of Tsunami. We want our place to look like other settlements. We want to be recognised like other people."*

In keeping with the young age profile of Tsunami residents, it is not surprising that the majority of children are currently enrolled in primary school. Table 13 provides a cross tabulation of school going age by enrolment.

| Age categorised | Pre-school | Primary school | Secondary school | College | University | Not in any school | Total |
|---|---|---|---|---|---|---|---|
| 0 to 5 years | 283 | 17 | 0 | 0 | 0 | 358 | 658 |
| 6 to 13 years | 76 | 532 | 6 | 0 | 0 | 21 | 635 |
| 14 to 18 years | 0 | 46 | 108 | 2 | 1 | 14 | 171 |
| **Total** | **359** | **595** | **114** | **2** | **1** | **393** | **1464** |

**Table 13: Age categorised by school enrolment for individuals aged 0 to 18-years-old**

Overall, 40% of children are in primary school, followed by 24% in pre-school while 54% of children aged 0 – 5-years-old are not in pre-schools. This might affect their performance in primary school. Early Childhood Development may be an intervention required in Tsunami when holistic social services are considered. This has major implications since nearly 20% of the population is younger than 5-years-old. College and university attendance is also extremely low. A total of 74% of school goers are reportedly enrolled in the Delft area. There is also a high proportion of children (7% or 87 children) who attend school outside Cape Town.

**Children playing near the roadside in Tsunami**

06 Analysis

### 6.2.4. Employment

There are 2091 residents in Tsunami that can be classified as working age (19 to 64-year-olds). The majority of residents is unemployed as only 37% are either employed or self-employed.. Unemployment in Tsunami is double the national figure of 26.7%.[7]

In table 9 it was established that youth unemployment is extremely worrying at more than 68% of people aged 19 – 30-years-old. Table 14 provides a cross tabulation of age by self-assessed employment status to better understand unemployment trends within different age groups.

7 Stats SA, 2016

| Age categories | Employed | Self-employed | Un-employed | Total |
|---|---|---|---|---|
| 14 to 18 years | 0 | 0 | 99 | 99 |
| Row % | 0,00 | 0 | 100 | 100 |
| 19 to 25 years | 101 | 21 | 294 | 416 |
| Row % | 24,28 | 5,05 | 70,67 | 100 |
| 26 to 30 years | 204 | 20 | 314 | 538 |
| Row % | 37,92 | 3,72 | 58,36 | 100 |
| 31 to 35 years | 192 | 27 | 293 | 512 |
| Row % | 37,50 | 5,27 | 57,23 | 100 |
| 36 to 40 years | 103 | 13 | 156 | 272 |
| Row % | 37,87 | 4,78 | 57,35 | 100 |
| 41 to 50 years | 65 | 11 | 109 | 185 |
| Row % | 35,14 | 5,95 | 58,92 | 100 |
| 51 to 60 years | 11 | 1 | 36 | 48 |
| Row % | 22,92 | 2,08 | 75,00 | 100 |
| 61 to 65 years | 0 | 1 | 20 | 21 |
| Row % | 0,00 | 5 | 95,24 | 100 |
| Total | 676 | 94 | 1321 | 2091 |
| Row % | 32,33 | 4,50 | 63,18 | 100 |

**Table 14: Age by employment status (row frequencies & percentages)**

More than 50% of the potentially economically active working class is represented by 26 to 35-year-olds. Table 14 above also indicates that people aged 26 to 35 make up the age group with the highest number of unemployed people (607 of 1321 people unemployed, or 46%). On the other hand, 26 – 30-year-olds are the most economically active.

## 06 Analysis

Table 12 provided a cross tabulation of employment status by gender but looking at row percentages allowing for comparison between different employment statuses. Table 15 provides the same cross tabulation but with column percentages allowing for a deeper comparison between genders with regards to employment status.

| Employment status 16 years and older | Gender | | |
|---|---|---|---|
| | Male | Female | Total |
| Employed | 40,59 | 25,37 | 32,3 |
| Self-employed | 4,84 | 4,21 | 4,5 |
| Unemployed | 54,57 | 70,41 | 63,21 |
| **Total** | **100** | **100** | **100** |
| **n = 2090** | | | |

**Table 15: Employment status by gender for respondents 16 years and older (column percentages)**

Table 15 shows that the majority of Tsunami residents are unemployed (63%) and that women are worse affected by low incomes (70% of the unemployed category). It was established that for the youth (younger than 30-years-old) unemployment stands at 66% and that there are very few secondary and tertiary school goers. Entrepreneurial activity is very low at 4.5%, and concerns were raised earlier of businesses in the settlement potentially fronting criminal activities (e.g. mechanics disguised as chop-shops).

All residents who indicated that they worked were asked to provide their area of work as well as the main transport type used to get to work. Figure 12 provides the percentage split for different modes of transport used to travel to work.

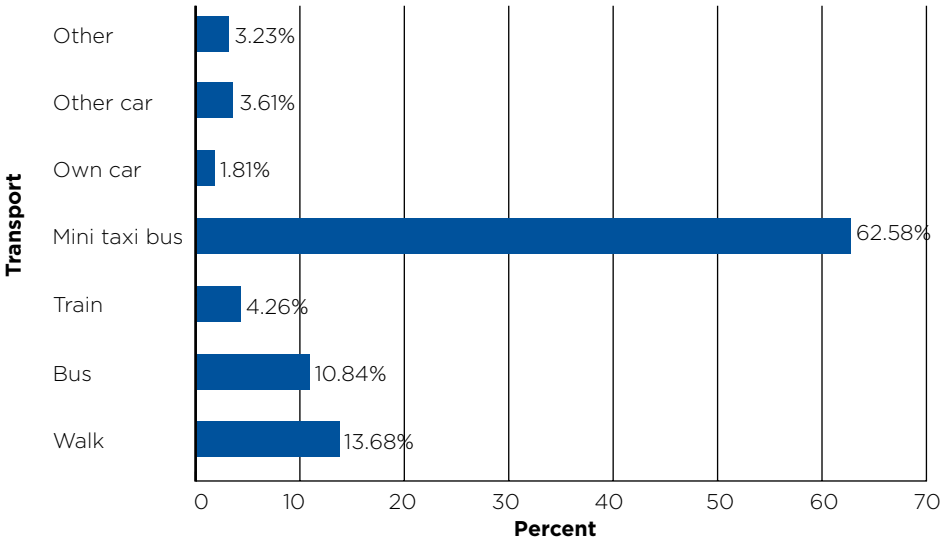


**Figure 12: Percentage breakdown of main transport type to work**

Commuting patterns indicate the centrality of Delft within the wider Cape Town transport network. From Delft station, the majority of urban centres can be reached within one or two transfers. A total of 63% of commuters travel by mini-bus taxi, following by pedestrian movement and busses. All residents who indicated that they worked were also asked to estimate the travel time to their place of employment. Table 16 provides a breakdown of this estimation.

06 Analysis

| Travel time to work | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| Work from home | 23 | 2,97 | 2,97 |
| Less than 15 minutes | 57 | 7,36 | 10,34 |
| 15 to 29 minutes (just under half an hour) | 315 | 40,70 | 51,03 |
| 30 to 59 minutes (just under an hour) | 283 | 36,56 | 87,60 |
| 60 to 89 minutes (just under an hour and a half) | 70 | 9,04 | 96,64 |
| 90 minutes and more | 19 | 2,45 | 99,10 |
| Don't know | 7 | 0,90 | 100 |
| **Total** | **774** | **100** | |

**Table 16: Travel time to work**

Table 16 illustrates the travel times of residents. The majority of commuters (41%) travel between 15 and 29 minutes while a large proportion (37%) travel up to an hour.

### 6.2.5. Household income and expenditure

Questions about household income were aimed primarily at the household head. Almost all respondents (97%) replied to questions on household income and expenditure. In the cases where the household head was not the primary respondent, people close to the day-to-day activities, such as the spouse or partner, accounted for the questions related to income and expenditure. Questions related to social security grants were directed at all household members.

| Income categories | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| No Income | 641 | 39,28 | 39,28 |
| R1 - R400 | 61 | 3,74 | 43,01 |
| R401 - R800 | 155 | 9,50 | 52,51 |
| R801 - R1500 | 402 | 24,63 | 77,14 |
| R1501 - R3500 | 354 | 21,69 | 98,84 |
| R3501 - R7500 | 18 | 1,10 | 99,94 |
| R7501 - R15000 | 1 | 0,06 | 100 |
| **Total** | **1632** | **100** | |

**Table 17: Income distribution**

Table 17 above provides important information about the income levels of the settlement and tabulates 1632 responses. Ovvrall,77% of respondents reported to earn less than R1500 per month, while a very large proportion of 39% reported to earn no income. There is a high dependency on government grants, which is presented in figure 14. A total of 1309 people, or 38% of respondents, reported to receive a child support grant.

## 06 Analysis

| Expenses categorised | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| No expenses | 270 | 16,54 | 16,54 |
| R1 - R400 | 137 | 8,39 | 24,94 |
| R401 - R800 | 367 | 22,49 | 47,43 |
| R801 - R1500 | 559 | 34,25 | 81,68 |
| R1501 - R3500 | 283 | 17,34 | 99,02 |
| R3501 - R7500 | 13 | 0,80 | 99,82 |
| Greater than R7500 | 3 | 0,18 | 100 |
| **Total** | **1632** | **100** | |

**Table 18: Expenses distribution**

Table 18 presents the flip side of household finance. The majority of respondents (82%) reported spending up to R1500 per month. There is a close connection with the previous data set of household income. Therefore it is most likely that Tsunami residents break even every month, with no money left over for savings. It should be noted that the 270 households were reported to have no expenses could be an indication that such households could be dependent on other households for basic goods.

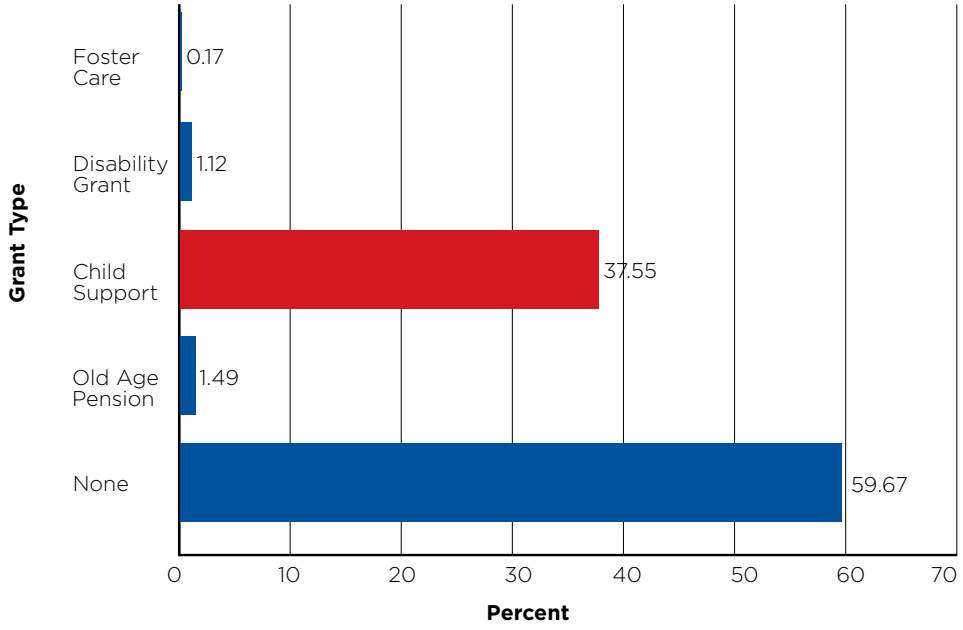


**Figure 13: Percentage distribution of grant type**

Figure 13 shows that a high proportion of residents (1309 people) receive a child support grant from government. There are 1293 children (36.8% of the total settlement population) in Tsunami under the age of 13-years-old. Currently the value of the child support grant is R350 per month, the foster child grant is R890 per month, the disability grant is R1500 per month and the old age pension grant is R1500 per month. According to the enumeration data, there are only 52 pensioners (1.4% of population) who receive the old age grant. Only 39 respondents (1.1% of the population) indicated receiving the disability grant.

06 Analysis

## 6.3. ACCESS TO SERVICES

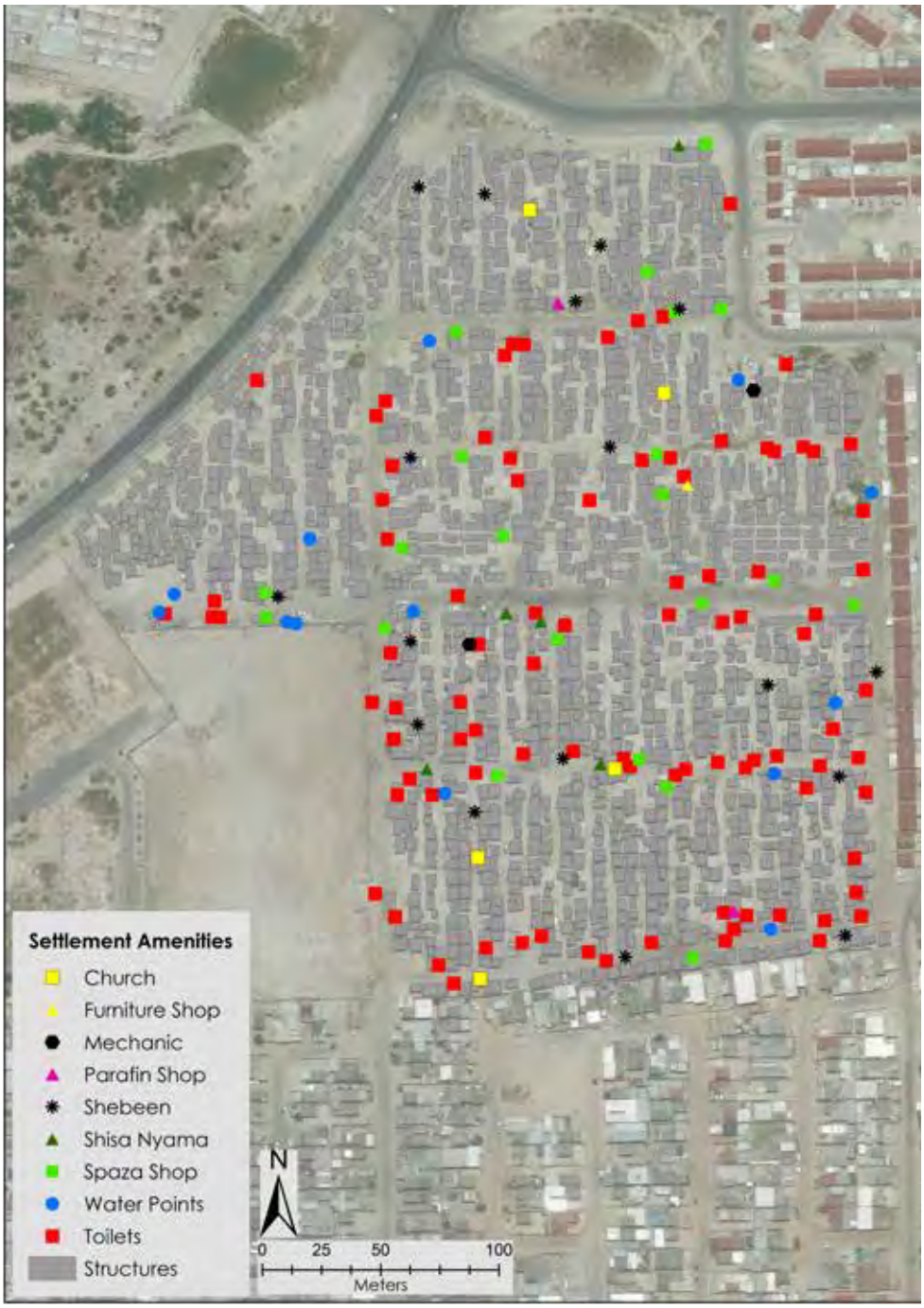


Figure 14: Tsunami amenities

06 Analysis

### 6.3.1. Water access

In total, 13 taps was mapped in Tsunami settlement. This results in a ratio of 1:129 households per tap. The CoCT has a standard of one water tap for 25 households and hence Tsunami is underserviced in terms of access to clean water. Water points are marked in blue with a 25m radius circle indicating a comfortable walk with heavy buckets in figure 14 above and figure 15 below. It is clear from the spatial analysis that the most pressing need for access to clean water is concentrated in the central areas in each block, where very few services are located.


**Figure 15: Map of Tsunami water points with 25m radius**

## 06 Analysis

**Water taps in Tsunami**

### 6.3.2. Sanitation

**COMMUNITY VOICES**

*"We want the chemical toilets to be removed. We want flush toilets. But the municipality is trying their best to clean the toilets almost every day."*

**Service provider cleaning toilets in Tsunami**

In Tsunami 93 toilets were mapped during the enumeration, which results in a ratio of 18 households per toilets. A large portion of respondents (80%) said that their primary sanitation was a chemical or temporary toilet. Residents raised concerns that chemical / temporary toilets are not well serviced, and that many prefer flush/ waterborne sanitation above chemical / temporary toilets.

## 06 Analysis

| Access to toilets | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| Communal use | 1193 | 74,05 | 74,05 |
| Household use only | 89 | 5,52 | 79,58 |
| Limited to a few families | 329 | 20,42 | 100 |
| **Total** | **1611** | **100** | |

**Table 19: Percentage distribution of sanitation access**

Table 19 above provides insight into the usage of toilet facilities. While the majority of residents share toilets, there is a small portion of households who have secured exclusive use to toilets (5.5%) and also a high proportion of a few families sharing a toilet (20%). The exclusivity of toilet use has positive and negative consequences. On the positive side, households who retain control over the use of toilets can maintain them better, while on the negative side, conditions may arise where some households are denied access to decent sanitation, which can cause considerable conflict. This is especially true where service levels are below the target of one toilet for five households.


**Impression of sanitation in Tsunami**

## 06 Analysis

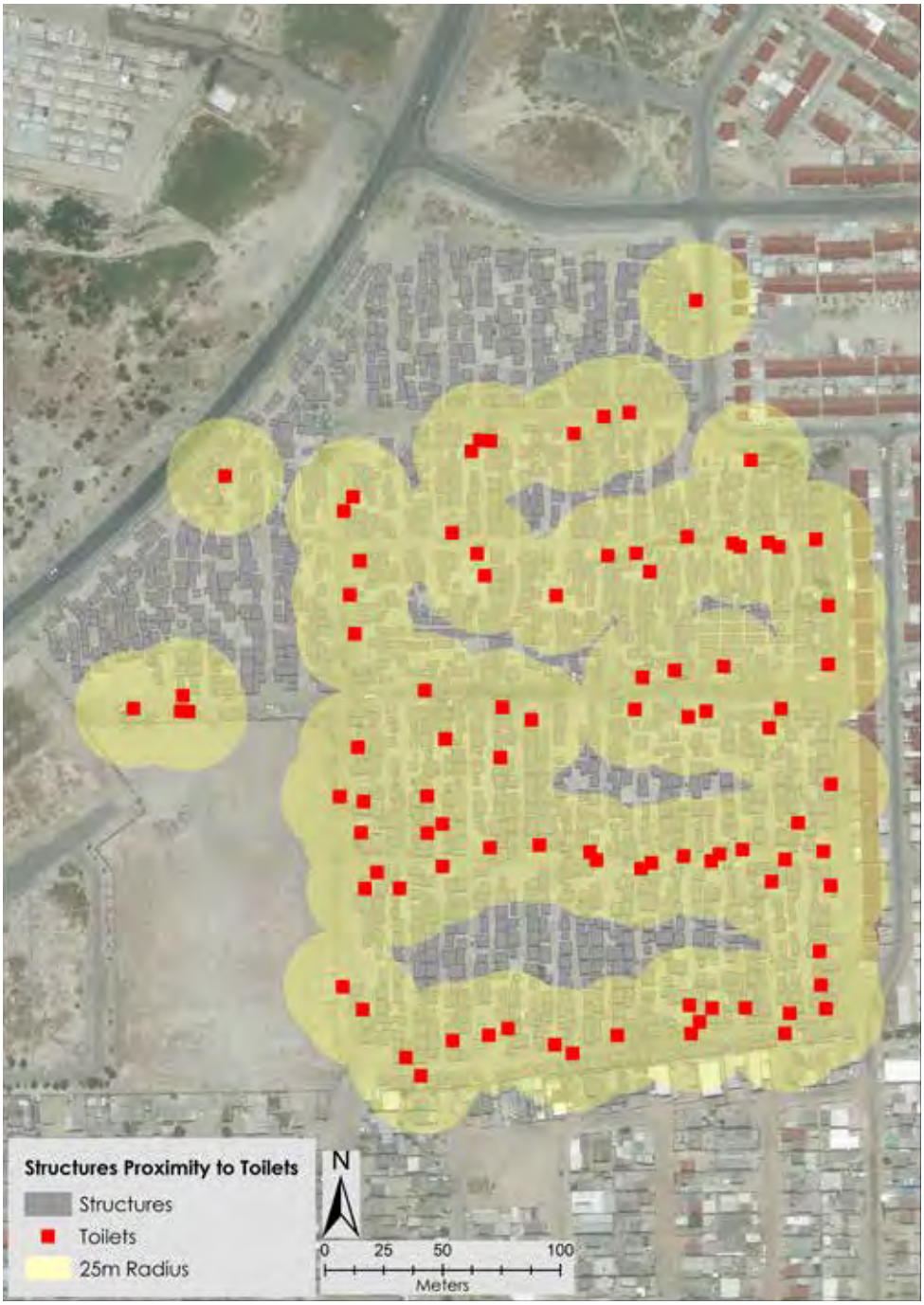


**Figure 16: Map showing sanitation access with 25m radius**

The location of toilets is presented in figure 16, with the same 25m radius circles used to determine the accessibility of water services presented earlier. This shows that Tsunami residents have better access to sanitation than water services. The northern section, which is an established section in the TRA/IDA, is poorly serviced judging by the spatial analysis presented.

06 Analysis

### 6.3.3. Electricity

Electrification of Tsunami is still outstanding. Earlier it was mentioned that the status of the TRA/IDA is still unclear, considering the land was reserved for Delft, which might explain the absence of a formal electricity grid. Figure 17 presents a spatial analysis of access to electricity, and indicates that all except one household reported having no electricity.

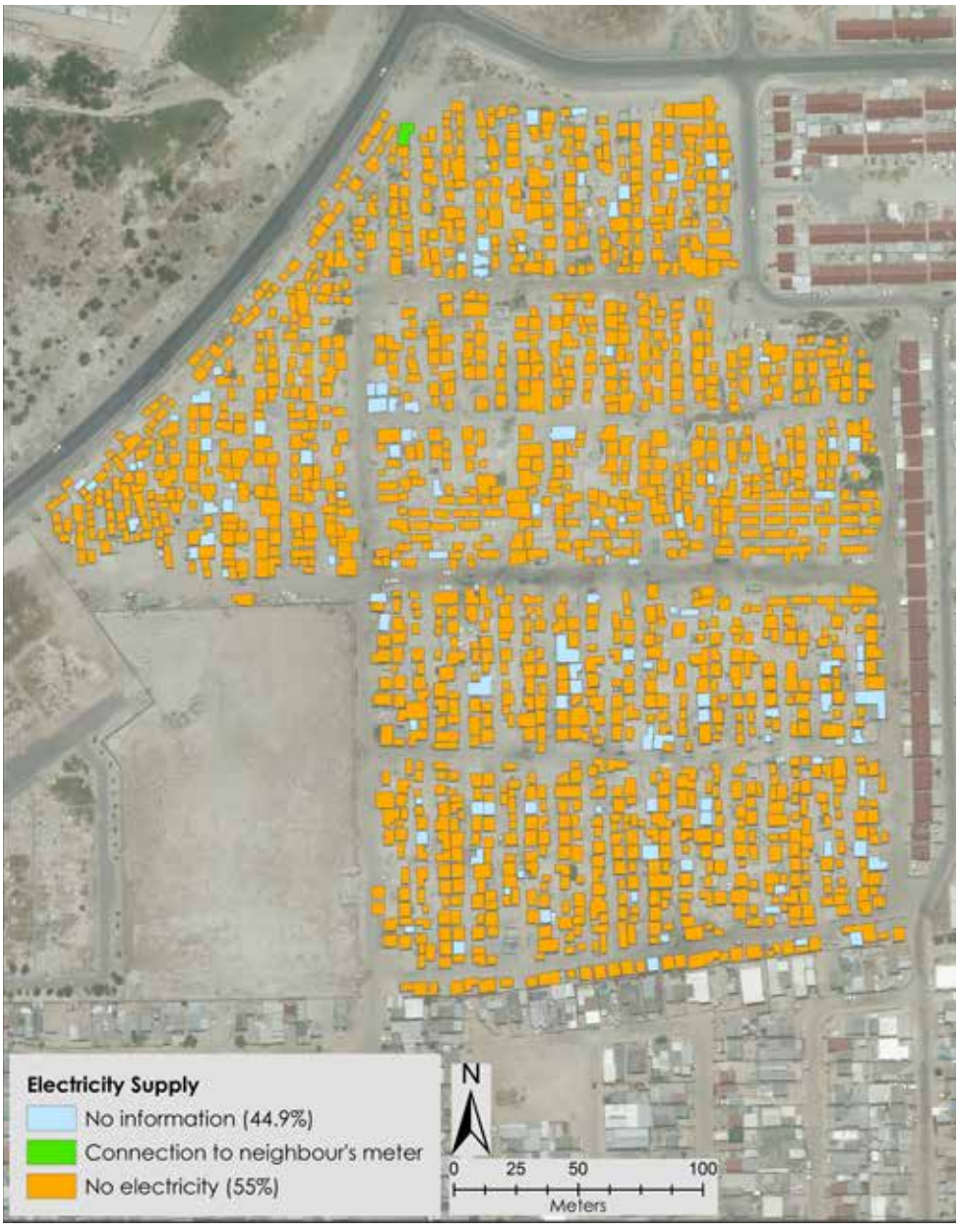


**Figure 17: Map showing electricity access in Tsunami**

In the past, the media (Damba and Feni 2015) reported that Tsunami residents tapped electricity from streetlights, but these illegal connections have subsequently been severed. One potential reason for the delay in electrification of the TRA/IDA is the future status of the area, which was originally designated as Delft cemetery. The inclusion of Tsunami in the southern corridor signals a time of improved services and eventually housing consolidation.

## 06 Analysis

**Impression of street lighting in Tsunami**

### 6.3.4. Community services and local business

***COMMUNITY VOICES***

*"We called a meeting for shebeen owners and told them to close at least at 11pm but they said "never" because their business starts running at around 10pm so they would lose money. In almost all those shebeens there have been killings and people get severe damages. If they can close in time, the level of crime or deaths would decrease here because people kill others in shebeens or on their way home from those shebeens. Delft CPF structure doesn't function anymore so we are trying to rebuild it and there's someone here in the leadership who is responsible for safety and security."*

Although the informal economy is a significant economic force in a settlement characterised by such high unemployment, adverse impacts can also be an outcome. This is particularly true of the impact of shebeens. Figure 13, presented earlier, indicates that there are at least three to six shebeens in each of the "urban blocks" in Tsunami. During the enumeration 17 shebeens were counted.

However, 20 spaza shops were also counted during the enumeration. Even though there may be high competition between the shops for potential clientele, access to basic goods are within a short 5 minute walk. Table 20 below shows that 93% of residents are able to walk to a spaza shop.

| Type of service accessed | Number of structures accessing | Percentage of structures |
|---|---|---|
| Structures with occupants accessing community halls | 184 | 11,42 |
| Structures with occupants accessing creche | 171 | 10,61 |
| Structures with occupants accessing spaza shops | 1496 | 92,86 |
| Structures with occupants accessing shebeens | 353 | 21,91 |
| Structures with occupants accessing sport grounds | 17 | 1,06 |
| Structures with occupants accessing playgrounds | 20 | 1,24 |
| Structures with occupants accessing religious strucutres | 349 | 21,66 |
| Structures with occupants accessing health facilities | 45 | 2,79 |

**Table 20: Accessing community facilities inside or within walking distance to settlement**

## 06 Analysis

Tuck shop in Tsunami


A pre-school in Tsunami


Income generation through hairdressing

## 6.4. HEALTH AND DISASTERS

***COMMUNITY VOICES***

*"We have a problem with the drains. The children get sick of that water because the water is not clean. We also have a big problem with fire, especially on weekends. But the community helps when your house is on fire. The wind even blows the houses down. But when your house has burned down, disaster [management] helps our community to repair the structures. There are also big rats that bite the children and even the adults."*

**Flooding and waste situation in Tsunami**

The quote above is illustrative of life in Tsunami. TRA/IDAs often enjoy better levels of standards because provisions are made in the Emergency Housing Programme. However, due to pressure on well-located and available land, the proximity to services can be worse than originally experiences in a better-located informal settlement. Moreover, high youth unemployment paired with a very dense settlement, and constraints for longer term development make Tsunami a challenging settlement to upgrade. Table 21 presents residents' responses relating to access to medical services.

## 06 Analysis

The distribution of services (see Figure 14) also shows that there are very few health facilities in Tsunami. Most residents (91%) access health services outside the settlement and a further 7% access a public hospital.

| Accessing medical services | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| Mobile clinic | 8 | 0,50 | 0,50 |
| Public hospital | 123 | 7,64 | 8,13 |
| Private doctor | 1 | 0,06 | 8,19 |
| Sangoma | 3 | 0,19 | 8,38 |
| Other | 1476 | 91,62 | 100 |
| **Total** | **1611** | **100** | |

**Table 21: First port of call for medical assistance**

### 6.5. SETTLEMENT DYNAMICS

The majority of households report to have lived in the settlement for less than five years, according to data presented in figure 9. Figure 18 provides an overview of the number of years lived in the settlement. This was asked of every structure occupant.

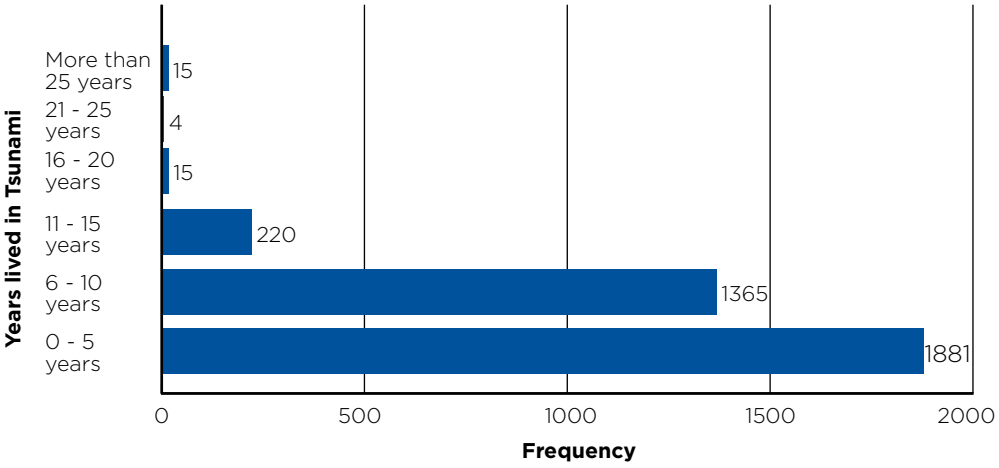


**Figure 18: Number of years lived in Tsunami categorised**

The majority of residents indicated that they have lived in their shelters for less than five years. Earlier it was argued that the period 2013 to 2016 was characterised by an intensification of building coverage. Spatial data confirmed that the split between households reporting to have lived in the settlement 0 to 5 and 6 to 10 years were almost equal.

## 6.6 SETTLEMENT PRIORITIES

Respondents in Tsunami were asked to identify their current main priorities in the settlement. They were asked to do this by ranking these priorities in order of importance. Prioritisation of development goals could reflect which current physical factors require action and could point to community-held values to inform future development and current needs.

| Household main priorities | 1 | 2 | 3 | 4 | 5 | Total |
|---|---|---|---|---|---|---|
| Waste collection | 20,19 | 11,90 | 17,04 | 13,07 | 37,81 | 100 |
| Access to toilets | 6,38 | 30,26 | 25,71 | 25,17 | 12,48 | 100 |
| Access to formal housing | 73,46 | 7,99 | 9,37 | 5,37 | 3,80 | 100 |
| Access to water | 2,73 | 25,25 | 35,31 | 27,32 | 9,39 | 100 |
| Access to health care | 2,65 | 20,62 | 17,75 | 24,37 | 34,62 | 100 |
| Addressing crime | 11,49 | 12,64 | 11,88 | 28,74 | 35,25 | 100 |
| Access to electricity | 12,42 | 28,32 | 15,12 | 20,45 | 23,69 | 100 |
| Addressing flooding | 8,61 | 6,70 | 7,66 | 17,70 | 59,33 | 100 |
| Preventing shack fires | 14,78 | 14,78 | 17,39 | 20,00 | 33,04 | 100 |
| Addressing evictions | 45,16 | 9,68 | 9,68 | 19,35 | 16,13 | 100 |
| Total | 20,70 | 20,42 | 19,87 | 19,59 | 19,41 | 100 |

**Table 22: Main household priorities by ranking (row percentages)**

Table 22 provides an overview of the priorities of Tsunami settlement as ranked by structure level respondents. Access to formal housing again appears as a major priority having been ranked at number one 73% of the time, trailed closely by waste collection services at 20%. Secondly, access to better sanitation features highly. It was established earlier that the current coverage is 1:18 toilets per household, which is lower than the CoCT's ideal standard of 1:5. Concerns have been raised with regard to the quality of services and the safety of units. Electrification of the settlement trails closely as a second priority.

**Children play in proximity to waste site**

## 06 Analysis

The third highest priority is access to water. Only 35% of respondents deemed this their third priority. However, when taking into account that current services are 219 households per tap, it is understandable that access to clean water features as the third highest priority. Greater emergencies such as crime and shack fires surprisingly only feature very weakly as fourth and fifth priorities. Addressing localised flooding also features strongly as the fifth priority. It was established earlier that the community expressed concern over poor drainage in Tsunami.

As part of the study design, questions were developed to determine under which conditions people would be willing to move from Tsunami. Respondents were asked to rank their main reasons for wanting to move out of the settlement. The ranking system employed was from one to five with one being seen as the most important reason.

| Rank reasons to move out of the settlement | 1 | 2 | 3 | 4 | 5 | Total |
|---|---|---|---|---|---|---|
| To access work opportunities | 218 | 561 | 247 | 204 | 265 | 1495 |
| To access better education facilities | 52 | 242 | 451 | 327 | 194 | 1266 |
| To access better health facilities | 49 | 458 | 394 | 403 | 148 | 1452 |
| To access a formal house | 1211 | 145 | 81 | 113 | 46 | 1596 |
| Improved transport access | 39 | 147 | 211 | 323 | 523 | 1243 |
| Family or relationship reasons | 67 | 76 | 198 | 192 | 332 | 865 |
| Total | 1636 | 1629 | 1582 | 1562 | 1508 | 7917 |

**Table 23: Reasons to move out of settlement by ranking order**

Table 23 provides the main reasons to move out of the settlement against the ranking scored by respondents. Access to a formal house was ranked as the number one reason to move out of Tsunami. Access to better work opportunities featured prominently as a second reason.

| Rank reasons to move out of the settlement | 1 | 2 | 3 | 4 | 5 | Total |
|---|---|---|---|---|---|---|
| To access work opportunities | 14,58 | 37,53 | 16,52 | 13,65 | 17,73 | 100 |
| To access better education facilities | 4,11 | 19,12 | 35,62 | 25,83 | 15,32 | 100 |
| To access better health facilities | 3,37 | 31,54 | 27,13 | 27,75 | 10,19 | 100 |
| To access a formal house | 75,88 | 9,09 | 5,08 | 7,08 | 2,88 | 100 |
| Improved transport access | 3,14 | 11,83 | 16,98 | 25,99 | 42,08 | 100 |
| Family or relationship reasons | 7,75 | 8,79 | 22,89 | 22,20 | 38,38 | 100 |
| Total | 20,66 | 20,58 | 19,98 | 19,73 | 19,05 | 100 |

**Table 24: Reasons to move out of the settlement by ranking (row percentages)**

Settlement upgrading and economic development are therefore the two most important issues that need to be addressed in the medium and longer term, with improved access to services dominating shorter term priorities.

06 Analysis

## 6.7. IMPLICATIONS OF FINDINGS FOR HUMAN SETTLEMENTS

One of the ultimate objectives of the enumeration study was to gather data that could affect the future planning of human settlements in the area. Respondents were asked a number of questions related to the housing subsidy and other human settlement factors and this section will unpack some of the information collected in this regard.

### 6.7.1. Planning considerations

**Single-person households**

| Marital status | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| Married | 84 | 5,94 | 5,94 |
| Cohabiting/ partners | 2 | 0,14 | 6,09 |
| Divorced or separated | 31 | 2,19 | 8,28 |
| Never married | 1273 | 90,09 | 98,37 |
| Traditional/Customary | 18 | 1,27 | 99,65 |
| Widow/widower | 5 | 0,35 | 100 |
| **Total** | **1413** | **100** | |

**Table 25: Relationship status of single person households**

It was established that 21% of households in Tsunami are single person households (see table 5), of which 75% are male-headed. Moreover, 77% of these single person households are younger than 35 years old. What makes matters more complex is that the land is allocated as Delft cemetery, but the inclusion of Tsunami in the southern corridor could mean a period of improved services. A total of 90% of persons living on their own indicated that they had never been married.

**Household size**

| Age categories | Frequency count | Percent | Cumulative percent |
|---|---|---|---|
| 14 to 18 years | 1 | 0,31 | 0,31 |
| 19 to 25 years | 80 | 24,84 | 25,16 |
| 26 to 30 years | 90 | 27,95 | 53,11 |
| 31 to 35 years | 80 | 24,84 | 77,95 |
| 36 to 40 years | 30 | 9,32 | 87,27 |
| 41 to 50 years | 34 | 10,56 | 97,83 |
| 51 to 60 years | 5 | 1,55 | 99,38 |
| 61 to 65 years | 2 | 0,62 | 100 |
| Total | 322 | 100 | |

**Table 26: Age distribution of single-person households**

## 06 Analysis

Of all households, 53% are two person households and therefore either couples or parents and siblings. Only one household resides in 94% of structures. It was also established that 36% of the population is younger than 13-years-old. The majority of households earn less than R1500 per month. There is a high level of dependency on the small group of people in full time employment. Since there are very few foreigners in the settlement (less than 1%), many households could potentially qualify for a government housing subsidy.

In Tsunami there are approximately 1685 households living in 1611 shelters. This represents 93% of the total number of structures numbered during the enumeration exercise. By counting the number of people per household, the settlement population is 3500 people, with an average household size of 2.1 persons.

### Age profile

| Employment status 16 years and older | Gender | | |
|---|---|---|---|
| | Male | Female | Total |
| 14 to 18 years | 0 | 1 | 1 |
| 19 to 25 years | 65 | 15 | 80 |
| 26 to 30 years | 67 | 23 | 90 |
| 31 to 35 years | 54 | 26 | 80 |
| 36 to 40 years | 26 | 4 | 30 |
| 41 to 50 years | 24 | 10 | 34 |
| 51 to 60 years | 2 | 3 | 5 |
| 61 to 65 years | 1 | 1 | 2 |
| **Total** | **239** | **83** | **322** |

**Table 27: Gender split of single person household age groups**

As discussed above, the age profile of Tsunami points to a relatively young population as 78% of the population is younger than 35 years. From a planning perspective this is quite important as the Department has indicated that it would prioritise persons 40 years and older in terms of allocation of housing opportunities.

06 Analysis

**Social cohesion**

The residents of Tsunami show a very strong link to the local area as 74% of school or college going residents attend school or college in Delft. More than 76% of these residents reported that their commute is by walking or minibus while 50% reported that their commute is less than 30 minutes. Residents in Tsunami also indicated the use of facilities inside or near to the settlement. Over 90% of structures accessed consumable goods from a spaza shop within walking distance.

**Income and expenditure**

Most households (98%) indicated incomes of R3500 or less while 39% of households indicated no income. A similar majority of households (98%) indicated expenditures of R3500 or less. This data points to the overall income profile of Tsunami residents as falling within the housing subsidy qualification range. Moreover, the high prevalence of two and three person households with dependents might be pre-screened requirements for accessing the housing subsidy.

**6.7.2. Pathway to qualification**

This section provides information about the process for subsidy qualification and highlights what criteria is considered by the Department of Human Settlements.

**Subsidy qualification criteria**

You qualify for a housing subsidy if:

- You are a South African citizen or have a permanent-residence permit;
- You are 18 years or older;
- You are married or living with a partner;
- You are single or divorced and have proven financial dependents permanently residing with you (military veterans without any financial dependents can apply);
- Your maximum monthly household income is R3 500 or less before deductions (military veterans earning up to R10 416 per month can apply);
- You or your partner are not current or previous property owners;
- Your or your partner have never received a subsidy from the government

The following section provides information on the various subsidy programmes offered by the Department of Human Settlements.

## 06 Analysis Pathway to Qualification

**Subsidy programmes**

Housing and services are delivered under subsidy programmes. Potential beneficiaries may apply directly to the Department for an individual subsidy or a Finance Linked Individual Subsidy (FLISP).

| Subsidy Programme | Gross Monthly Household Income Category | Subsidy Amount |
|---|---|---|
| Individual Subsidy | | |
| The subsidy can be used to:<br>• Buy an existing house<br>• Buy a house on a plot-and-<br>• plan basis; or<br>• To finish an incomplete house<br>You must have been on the municipal housing demand database for a minimum period of 10 years. | R0 - R3 500<br><br><br>Aged, disabled or medical condition:<br><br>R0 - R3 500 | R160 573<br><br><br>Purchase price up to R160 573<br><br>plus disability variance |
| Finance Linked Individual Subsidy (FLISP) | | |
| • Assists you by providing a subsidy to reduce your home loan and therefore makes your monthly instalment lower.<br>• Please refer to the table at the end of the document for the FLISP scales. | R3 501 - R15 000 | R20 000 - R87 000<br><br>on a fixed scale, depending on your income. |

Potential beneficiaries cannot apply directly to the Department for subsidies for the programmes below. These programmes are used by a developer (who may either be the Municipality or the Province) to deliver houses and services. Grant funding is made available to the developer for each project. The developer will apply for a subsidy on behalf of the beneficiaries.

| UPGRADING OF INFORMAL SETTLEMENTS PROGRAMME (UISP) |
|---|
| This programme seeks to upgrade the living conditions of poor families living in informal settlements by providing secure tenure and access to basic services and housing. |

| Subsidy Programme | Gross Monthly Household Income Category | Subsidy Amount |
|---|---|---|
| Individual Subsidy | | |
| • It provides funding for the construction of houses on those serviced sites that were received before 1994.<br>• You can apply for this subsidy if you already own a serviced site and wish to construct a house, or upgrade/complete a non-subsidised house.<br>• An application must be done on a project basis via your municipality. | R0 - R3 500 | R109 947 |
| Enhanced Peoples Housing Process (EPHP) | | |
| • Assists households who want to participate in building their own home.<br>• The consolidation subsidy (see above) can be accessed through EPHP.<br>• Community contribution before and during the project includes, but is not limited to sweat equity.<br>• Technical assistance to build the house is available as facilitation and establishment grants. | R0 - R3 500 | R110 947 |
| Integrated Residential Development Programme (IRDP) | | |
| • Provides for the acquisition of land, servicing of stands and construction of houses. | R0 – R3 500 (abled persons) | R160 573 – qualify for a serviced site and a 40 m2 house. |
| | R0 – R3 500<br><br>(disabled persons) | R160 573 plus disability variance– qualify for a serviced site and a 45 m2 house. |
| | R3 501 – R7 000 | Persons who are unable to qualify for a home loan may receive a free serviced site. |

| Subsidy Programme | Gross Monthly Household Income Category | Subsidy Amount |
|---|---|---|
| Military Veterans Subsidy | | |
| • This programme is a joint venture between the Departments of Human Settlements and Military Veterans.<br>• You must be on the Department of Military Veterans' (DMV) database. | R0 - R10 416 | R188 884<br><br>(R110 947 + DMV contribution) |
| Enhanced Extended Discount Benefit Scheme (EEDBS) | | |
| Supports the transfer of pre-1994 housing stock to qualifying occupants that:<br>• have a direct housing arrangement with the provincial department or municipality;<br>• have not benefited from any other housing subsidy or programme; or<br>• have an outstanding debt with the municipality or the provincial department. | R0 - R3 500<br><br>R3 501 - R7 000<br><br>R 7001 - R15 000 | The entire debt is written off.<br><br>R7 500 + 50% of the debit is written off.<br><br>A maximum of R7 500 is written off. |
| Social, Institutional and Community Residential Unit Programmes | | |
| • These programmes cater for persons opting to rent.<br>• Institutional programme makes provision for a rent-to-buy option. | R1 501 - R7 500 | Rental amount varies in terms of programme and income. |

| FLISP scale: | | |
|---|---|---|
| Upper limit | | R 87 000 |
| Lower limit | | R 20 000 |
| Subsidy increment | | R 1 175 |
| **Step** | **Increment band** | |
| | Lower | Higher | Amount |
| 1 | 3 501 | 3 700 | 87 000 |
| 2 | 3 701 | 3 900 | 85 825 |
| 3 | 3 901 | 4 100 | 84 650 |
| 4 | 4 101 | 4 300 | 83 475 |
| 5 | 4 301 | 4 500 | 82 300 |
| 6 | 4 501 | 4 700 | 81 125 |
| 7 | 4 701 | 4 900 | 79 950 |
| 8 | 4 901 | 5 100 | 78 775 |
| 9 | 5 101 | 5 300 | 77 600 |
| 10 | 5 301 | 5 500 | 76 425 |
| 11 | 5 501 | 5 700 | 75 250 |
| 12 | 5 701 | 5 900 | 74 075 |
| 13 | 5 901 | 6 100 | 72 900 |
| 14 | 6 101 | 6 300 | 71 725 |
| 15 | 6 301 | 6 500 | 70 550 |
| 16 | 6 501 | 6 700 | 69 375 |
| 17 | 6 701 | 6 900 | 68 200 |
| 18 | 6 901 | 7 100 | 67 025 |
| 19 | 7 101 | 7 300 | 65 850 |
| 20 | 7 301 | 7 500 | 64 675 |
| 21 | 7 501 | 7 700 | 63 500 |
| 22 | 7 701 | 7 900 | 62 325 |
| 23 | 7 901 | 8 100 | 61 150 |
| 24 | 8 101 | 8 300 | 59 975 |
| 25 | 8 301 | 8 500 | 58 800 |
| 26 | 8 501 | 8 700 | 57 625 |
| 27 | 8 701 | 8 900 | 56 450 |

| Step | Increment band | | |
|---|---|---|---|
| | Lower | Higher | Amount |
| 28 | 8 901 | 9 100 | 55 275 |
| 29 | 9 101 | 9 300 | 54 100 |
| 30 | 9 301 | 9 500 | 52 925 |
| 31 | 9 501 | 9 700 | 51 750 |
| 32 | 9 701 | 9 900 | 50 575 |
| 33 | 9 901 | 10 00 | 49 400 |
| 34 | 10 101 | 10 300 | 48 225 |
| 35 | 10 301 | 10 500 | 47 050 |
| 36 | 10 501 | 10 700 | 45 875 |
| 37 | 10 701 | 10 900 | 44 700 |
| 38 | 10 901 | 11 100 | 43 525 |
| 39 | 11 101 | 11 300 | 42 350 |
| 40 | 11 301 | 11 500 | 41 175 |
| 41 | 11 501 | 11 700 | 40 000 |
| 42 | 11 701 | 11 900 | 38 825 |
| 43 | 11 901 | 12 100 | 37 650 |
| 44 | 12 101 | 12 300 | 36 475 |
| 45 | 12 301 | 12 500 | 35 300 |
| 46 | 12 501 | 12 700 | 34 125 |
| 47 | 12 701 | 12 900 | 32 950 |
| 48 | 12 901 | 13 100 | 31 775 |
| 49 | 13 101 | 13 300 | 30 600 |
| 50 | 13 301 | 13 500 | 29 425 |
| 51 | 13 501 | 13 700 | 28 250 |
| 52 | 13 701 | 13 900 | 27 075 |
| 53 | 13 901 | 14 100 | 25 900 |
| 54 | 14 101 | 14 300 | 24 725 |
| 55 | 14 301 | 14 500 | 23 550 |
| 56 | 14 501 | 14 700 | 22 375 |
| 57 | 14 701 | 14 900 | 21 200 |
| 58 | 14 901 | 15 000 | 20 000 |

# 7. CONCLUSION

## 07 Conclusion

The enumeration study of Tsunami covered 93% of the 1742 numbered structures and revealed some surprising statistics about the settlement overall. There are a number of trends that should centrally inform future planning and decision-making

- 22% of households are single, of which 75% are male, 78% are younger than 35 years old and 90% have never been married (and potentially live without dependents)
- 81% of dwellings are single rooms
- 61% of all dwellings are less than 10 square meters in size
- 53% of residents reported to have lived in their dwellings for less than five years
- 99% of residents claim to own their dwellings
- 66% of youth are unemployed
- 99% of residents are South Africans

It was also established that 36% of the population is younger than 13-years-old and that 54% of children are aged 0 to 5-years-old and do not attend any form of schooling. This could highlight the need for ECD.

Delft Temporary Relocation Area (TRA) 1 & 2, also called an IDA, was founded in 2005 after fires ravaged informal settlements in Langa. The community gave the settlement the nickname “Tsunami” following the devastating earthquakes and tsunamis in South East Asia in December 2004. By 2007, the TRA was built out and in 2010, the eastern section was cleared for a housing development. Urban morphology analysis of Google Earth satellite images also confirmed that the period 2013 – 2016 was characterised by an intensive period of infill building coverage.

The future development prospects of Tsunami are unclear, even though 73% of respondents list housing development as their first priority. The land used to be designated for Delft cemetery. The Province is liaising with the CoCT and the Housing Development Agency regarding the future of the site. This might be one of the primary reasons why Tsunami has not received full services, including increased water points, improved sanitation solutions or electricity. Access to improved services ranks highly as second, third and fourth priorities. The inclusion of Tsunami in the southern corridor could translate into a period of improved services.

In order to attain the high densities of 170 dwelling units per hectare over 10 hectares and cause minimal disruption to the population, a sensitive upgrading strategy needs to cater to the needs of a highly mobile and changing demographic. The high density of the settlement will require innovative tenure types and consolidation housing might need to consider smaller apartments in higher density housing typologies. There are limited options for ground-level extensions, and therefore multi-storey options need to be investigated. However, addressing the needs through the conventional housing package will clearly be unrealistic given the current plot sizes, often smaller than 15sqm.

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# 9. LIST OF CORE TEAM MEMBERS

## 09 List of core team members

| Team Member | Institution |
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| Mr. Thando Mguli | HOD: WC Department of Human Settlements |
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| Mr. Jeffrey Williams | City of Cape Town |
| Mr. Michael Webster | WC Department of Human Settlements |
| Mr. Mbongi Gubuza | WC Department of Human Settlements |
| Mr. Kenneth Kirsten | WC Department of Human Settlements |
| Mr. Bongani Ngcombolo | City of Cape Town: Councillor Ward 40 |
| Mr. Siphiwo Nqamnduku | City of Cape Town: Councillor Ward 88 |
| Mr. Sithembiso Mzobe | City of Cape Town: Councillor Ward 33 |
| Mr. Khaya Yozi | City of Cape Town: Councillor Ward 39 |
| Mr. Anthony Moses | City of Cape Town: Councillor Ward 44 |
| Mr. Mzwakhe Nqavashe | Previous Ward Councillor Ward 40 |
| Mr. Nico Mzalisi | Previous Ward Councillor Ward 88 |
| Ms. Noxolo Kabane | WC Department of Human Settlements |
| Mr. Lindilizwi Mngxekeza | Housing Development Agency |
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