

SLUM ASSESSMENT FOR MAKASSAR CITY

Situation Assessment Report

TA-9513 REG:
Advancing Inclusive and Resilient
Urban Development
Targeted at the Urban Poor

December 2021
Revised February 2022





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PREFACE

The team of Livable Settlements Investment Project consultants supported by TA-9513 REG: Advancing Inclusive and Resilient Urban Development Targeted at the Urban Poor would like to acknowledge the valuable contributions of numerous institutions and individuals who supported this report.

First and foremost, we would like to thank the Asian Development Bank (ADB), particularly the Southeast Asia Urban Development and Water Division; the Sustainable Development and Climate Change Department; and the Indonesia Resident Mission. The strategic guidance from our team leaders, Joris van Etten and Anastasia Carolina, has been invaluable to the project.

We would also like to thank Arghya Sinha Roy and the team administering TA-9513. Ongoing urban research in Makassar City and Cirebon City has been generously supported through this technical assistance (TA). The TA itself is funded by the Urban Climate Change Resilience Trust Fund, a \$150 million multi-donor trust fund administered by ADB under the Urban Financing Partnership Facility. With funding from the Rockefeller Foundation and the Governments of Switzerland and the United Kingdom, it aims to support fast-growing cities in Asia reduce risk of floods, storms, and droughts for the poor and vulnerable by helping to better plan and design resilient infrastructure.

The team further wishes to thank associated consultant teams for their efforts to coordinate and collaborate on project deliverables. The work carried out by Ramboll consultants supported through the ASEAN-Australia Smart Cities Trust Fund provided useful context for the team's research in Makassar City.

Lastly, the team would like to thank the governments and residents of Makassar City and Cirebon City who met with us and supported the data collection process, in person and virtually. Their support and generosity of time have been invaluable in helping us learn about and understand their cities.

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URBAN CLIMATE
CHANGE RESILIENCE
TRUST FUND
Asian Development Bank



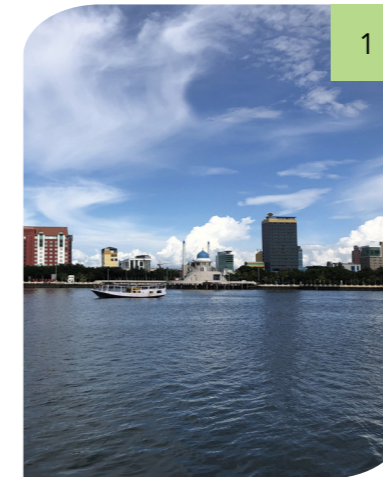
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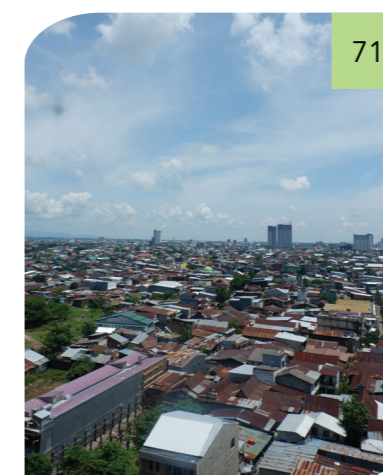
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Lego-Lego is an esplanade featuring culinary and recreational activities and the 99 Domes Mosque (Masjid 99 Kubah). Asian Development Bank.

GLOSSARY

| | | |
|------------------|---|---|
| AASCTF | ASEAN-Australia Smart Cities Trust Fund | |
| ADB | Asian Development Bank | |
| BAPPEDA / BP4D | Regional Development Planning Agency / Regional Development Planning, Research and Development Agency | <i>Badan Perencanaan Pembangunan Daerah / Badan Perencanaan Pembangunan, Penelitian dan Pengembangan Daerah</i> |
| DTKS | Integrated Social Welfare Database | <i>Data Terpadu Kesejahteraan Sosial</i> |
| GOI | Government of Indonesia | <i>Pemerintah Republik Indonesia</i> |
| <i>Kecamatan</i> | Sub-district, an administrative unit below city or regency level | |
| <i>Kelurahan</i> | Urban village, an administrative unit below sub-district level | |
| KOTAKU | Cities without Slums Program | <i>Program Kota Tanpa Kumuh</i> |
| LSIP | Livable Settlements Investment Project | |
| MBR | Low-income households | <i>Masyarakat Berpenghasilan Rendah</i> |
| MoASP | Ministry of Agrarian Affairs and Spatial Planning/National Land Agency | <i>Kementerian Agraria dan Tata Ruang/BPN</i> |
| MPWH | Ministry of Public Works and Housing | <i>Kementerian Pekerjaan Umum dan Perumahan Rakyat</i> |
| Renstra PUPR | Ministry of Public Works and Housing Strategic Plan | <i>Rencana Strategis PUPR</i> |
| RKPKP | Urban Slum Settlement Area Plan | <i>Rencana Kawasan Permukiman Kumuh Perkotaan</i> |
| RT | Neighborhood unit, a subnational administrative unit below community level | <i>Rukun Tetangga</i> |
| RP2KPKP | Urban Slum Settlements Prevention and Quality Improvement Plan | <i>Rencana Pencegahan dan Peningkatan Kualitas Permukiman Kumuh Perkotaan</i> |
| RP3KP | Housing and Settlement Area Development Plan | <i>Rencana Pembangunan dan Pengembangan Perumahan dan Kawasan Permukiman</i> |
| RPJMD | Regional Medium-Term Development Plan of Makassar City | <i>Rencana Pembangunan Jangka Menengah Daerah Kota Makassar</i> |

| | | |
|------------|--|--|
| RPJMN | National Medium-Term Development Plan | <i>Rencana Pembangunan Jangka Menengah Nasional</i> |
| RTRW | Regional Spatial Plan | <i>Rencana Tata Ruang Wilayah</i> |
| RUSUNAMI | Public housing flats for sale | <i>Rumah Susun Sederhana Milik</i> |
| RUSUNAWA | Public rental housing flats | <i>Rumah Susun Sederhana Sewa</i> |
| RUSUS | Special-purpose houses | <i>Rumah Khusus</i> |
| SIAP | Slum Improvement Action Plan | |
| SK Kumuh | Mayoral Decree on Slums | <i>Surat Keputusan Walikota tentang Permukiman Kumuh</i> |
| Urban poor | Herein defined as populations in the bottom 40% of national income distribution. | |



Losari Beach is a popular tourism destination in Makassar City. Asian Development Bank.

CHAPTER 1

INTRODUCTION

The Livable Settlements Investment Project (LSIP) is a technical assistance project financed by the Asian Development Bank (ADB) to support the Government of Indonesia's efforts to strengthen infrastructure to support economic development and basic services.¹

The persistence of human settlements with inadequate urban infrastructure and services has multidimensional root causes. Although focused on urban infrastructure and services, the project takes a holistic approach to assessing urban resilience in anticipation that physical infrastructure alone will not be enough to build citywide urban resilience. The project's framework includes four key dimensions:

1. built capital: access to basic services and housing in slum areas;
2. human capital: social and livelihood resilience for the urban poor;
3. natural capital: resilience of natural resources for the urban poor; and
4. social capital: capacity of local government and communities to plan, deliver, operate, and maintain basic services and livelihood support programs for the urban poor.

1.1 PURPOSE AND INTENT

The Slum Assessment for Makassar City is a technical assistance report prepared by the LSIP consultant team for ADB. Its purpose is to provide a needs assessment of slum communities in Makassar City to: 1) complement the Ramboll team's development of the Makassar Livable City Plan; and 2) to provide the Government of Makassar City with key data and tools to prepare urban investment project proposals toward creating a livable city. The report's intent is to take a neutral and inclusive approach to this task.

The report begins with an introduction to the research in Chapter 1. Chapter 2 will introduce slum settlements in Makassar City, including city-level and settlement-level profiles using slum indicators from the national slum upgrading program, City without Slums (KOTAKU). The report concludes in Chapter 3 with an analysis of implications across the dimensions of built, human, natural, and social capital, as well as a synopsis of potential approaches to consider in prioritizing investments.

1.2 METHODOLOGY AND LIMITATIONS

DATA COLLECTION

As primary data collection and stakeholder engagement has been severely limited due to travel and health restrictions related to the COVID-19 pandemic, the consultant team relied extensively on secondary data and qualitative field observations from local experts. These methods and sources include:

- literature reviews of relevant urban resilience journal articles, including technical assistance reports provided by the associated TA-9513;
- policy reviews of relevant national and subnational regulations;
- analysis of quantitative data from the Government of Indonesia, including Statistics Indonesia (BPS), the Integrated Social Welfare Database (DTKS); and baseline data from KOTAKU;
- analysis of geospatial data from governments and various open-source data using ArcGIS and ur-scape; and
- qualitative field observations from the team's local experts based in each city.

1. Government of Indonesia. 2020. *National Medium-Term Development Plan 2020-2024*. Development Priority (*Prioritas Pembangunan*) 5 (PN-5).

In addition to research limitations imposed by COVID-19, the report's findings are limited by the availability and reliability of existing datasets. In Makassar City, KOTAKU geospatial data for several RT/RW are still in progress as of this writing. The team also found discrepancies between baseline data prior to slum upgrading and their corresponding geospatial files. The ur-scape reachability dataset, which enables analysis on travel times, was also limited to Makassar City's mainland area and did not include all inhabited islands. Therefore, area calculations are illustrative in nature and should be considered in light of these limitations.

CITY ANALYSIS FRAMEWORK

In efforts to gain a comprehensive and multidimensional understanding of Makassar City, the LSIP consultant team developed a city analysis framework to assist with project concept development. The city analysis framework includes three components:

1. Framework: To structure the project's data collection and presentation, the framework divides a city into four dimensions for investment: built, human, natural, and social. Each dimension is further subdivided, with a total of nine goals and 25 solutions for investments (Figure 1.1).
2. Assessment: To conduct stakeholder consultations across these areas, the framework then translates these dimensions, goals, and solutions into an initial rapid assessment, intended

for local stakeholders such as governments and communities.

3. Analysis: To analyze solutions, the framework incorporates PESTLE,²

2. PESTLE traditionally analyzes the Political, Economic, Social, Technological, Legal, and Environmental factors influencing a proposed policy or program.



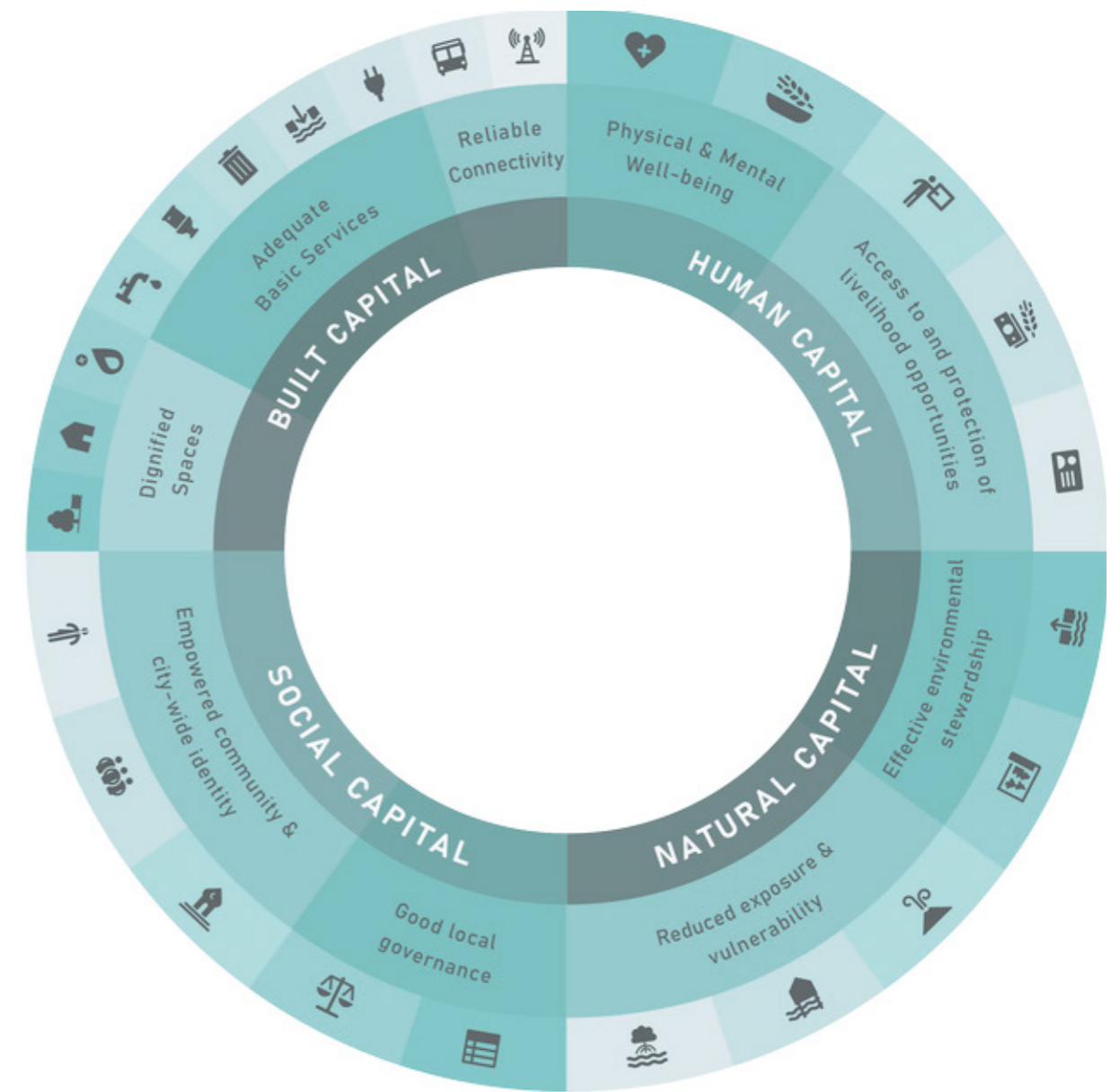
Participatory Slum Mapping (SKS, Survey Kampung Sendiri)

Baseline data prior to slum upgrading is conducted in a community-led, participatory manner in urban slum villages, or kampung. The process is typically facilitated by the local Community Self-Help Organization (BKM, Badan Keswadayaan Masyarakat), a government-recognized community empowerment body that coordinates various poverty reduction programs and funds from development partners including governments, NGOs, and private sector. Collectively, teams of residents survey the kampung to identify and document locations of infrastructure problems using simple GPS coordinates and photo applications such as Notecam.

While the SKS process allows for data transparency and consensus-building, it also introduces challenges. Some baseline data on slums prior to upgrading are biased due to sampling errors. Moreover, the collected data cannot be combined with available poverty data due to incompatible administrative units. These data limitations create challenges for evaluating the impact of slum improvements.

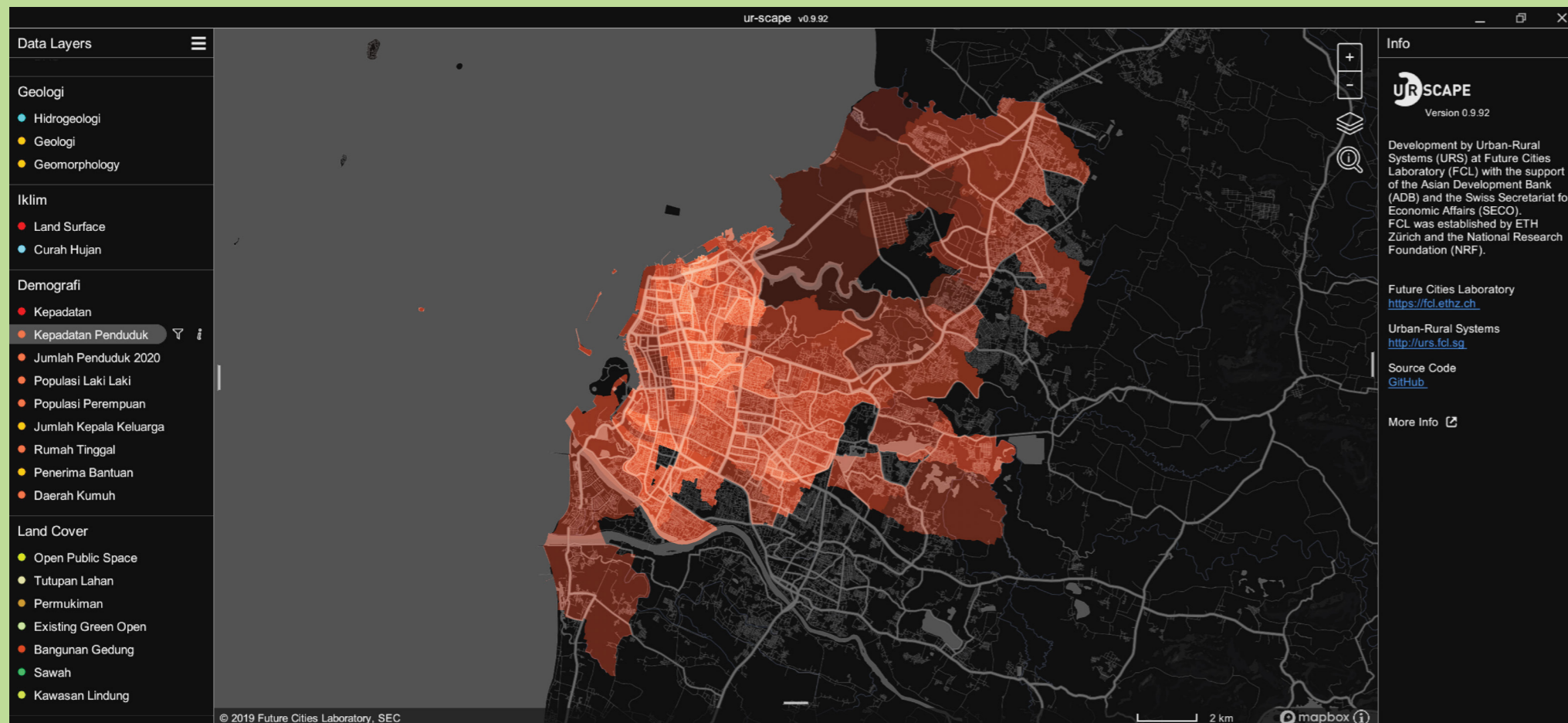
For our work in Makassar City, the LSIP consultant team began to engage with local BKM groups to verify infrastructure data in priority slum areas. However, shifting priorities related to housing and slum improvement at the central government level led us to postpone further direct engagement.

an analysis that examines external factors that would influence potential investments or solutions.



Source: authors

Figure 1.1 City Analysis Framework



1.3 ABOUT UR-SCAPE

ur-scape is an open-source spatial planning tool designed to support sustainable futures in rapidly developing urban and rural regions, where data is often difficult to access and uneven in quality and where development needs are especially urgent and challenging. ur-scape does this by bringing diverse kinds of data together and encouraging people to explore the data intuitively and in real-time.

ur-scape helps city makers—be they governments, businesses, or communities—improve the quality of planning and design decisions. It helps develop livable neighborhoods; build responsive towns; reduce city ‘stress points’ (e.g., flooding, traffic snarls, poverty); enhance ‘sweet spots’ (e.g., accessibility,

equity, economic vibrancy); and progress toward strategic development goals (e.g., regional, national, and SDGs).

Developed by the Urban-Rural Systems (URS) team at Future Cities Laboratory (FCL), ur-scape is supported by ADB and the Swiss Secretariat for Economic Affairs (SECO). Pilot implementation of the ur-scape tool is supported by the municipal planning authorities of the city of Bandung, the Indonesian Ministry of Agrarian Affairs and Spatial Planning (Kemen ATR/BPN), and the Bauhaus Weimar University.

Data import to ur-scape is supported by a third-party software called QGIS. It is a free and open-source cross-platform desktop geographic information system application that supports visualization, editing, and analysis of geospatial data. ur-scape can

accommodate data in raster format (geoTIFF) and vector format (shapefile).

With support from ADB, World Bank, and SECO, ur-scape has been piloted and is currently used in the following cities: Bandung, Makassar, Palembang, and Semarang, Indonesia; and HCMC, Vietnam. Makassar City has installed ur-scape in the city’s “war room” to support city departments in various capacities. Through previous ADB and FCL engagements in Makassar, the city has also received a series of trainings on how to use ur-scape. Currently, FCL is using ur-scape to analyze the spatial patterns of COVID-19 transmissions in the city.

UR-SCAPE FOR LIVABLE CITIES

In the context of the Livable Settlements Investment Project, ur-scape spatial data analysis is used to support citywide situation assessments of Cirebon City and Makassar City, based on site observations, secondary data aggregations, and literature reviews. Various data layers are cross-analyzed and intersected to identify vulnerable locations, including slums and urban poverty, and reveal potential challenges such as environmental quality, disaster risk, access to basic infrastructure and services, mobility using a combination of the best available data acquired from public domain, local governments, and the national slum upgrading program, KOTAKU. Data formats include

geoTiff, shapefile, and CSV, comprising data of various administrative levels (*kelurahan* and *kecamatan*) as well as slum area (*kawasan kumuh*).

ADB and FCL intend to share the consolidated and updated databases with respective cities of Cirebon and Makassar upon completion of the assessments through digital data-transfer.

More about ur-scape: <https://ur-scape.sec.sg/en/home>

Left: ur-scape interface. Highlighted area in red indicates population density of Makassar.
Top Right: ur-scape workshop in Singapore.
Bottom Right: ur-scape workshop in Makassar.

Source: authors

(FCL) FUTURE CITIES LABORATORY





Lorong Sombere (roughly, Kind Walkways) is a neighborhood beautification program piloted by the Makassar City Government to make slum neighborhoods clean and green by planting vegetables along walkways to support food access and culinary tourism. Asian Development Bank.

CHAPTER 2

SLUM SETTLEMENTS

The Government of Indonesia defines slums as areas that do not meet physical infrastructure criteria in seven sectors: water supply, sanitation, solid waste management, drainage, roads, fire-protection, and housing. At the city-level, neighborhood units (RT, *rukun tetangga*) are surveyed by household, measuring each household against 16 standardized indicators across the seven infrastructure criteria. From this survey, a baseline percentage value is calculated for each indicator and then assigned a corresponding score of either 1, 3, or 5.³ These scores are then totaled, and each *rukun tetangga* is assigned a corresponding level of High, Moderate, or Low to indicate the severity of slum conditions.⁴ Officially, there are also five slum types: 1) over water; 2) on the water; 3) in the lowlands, 4) in the highlands; and 5) in disaster-prone areas.⁵ Other determining factors for slum area designation include strategic value of the location; social, economic, and cultural conditions; and land ownership.

2.1 SLUM DEVELOPMENT

HISTORY. Slums along the coast and the Tallo River originally developed from dense fishing settlements, while slums in the city center later developed from 19th century settlements.⁶

Flood mitigation infrastructure is believed to have contributed to the coastal slum development.⁷ In the early 20th century, the city government began to build a flood embankment to mitigate tidal flooding in the Kecamatan Mariso coastal area. Stretching southward from Losari Beach to the Tanjung Bunga reclamation area, the embankment caused fish catches to decline. In response, fishing communities may have begun to shift their livelihoods into informal sector work.⁸

The flood embankment may have also contributed to changes in the physical character of the coastal communities. While residents of the area's traditional stilt houses

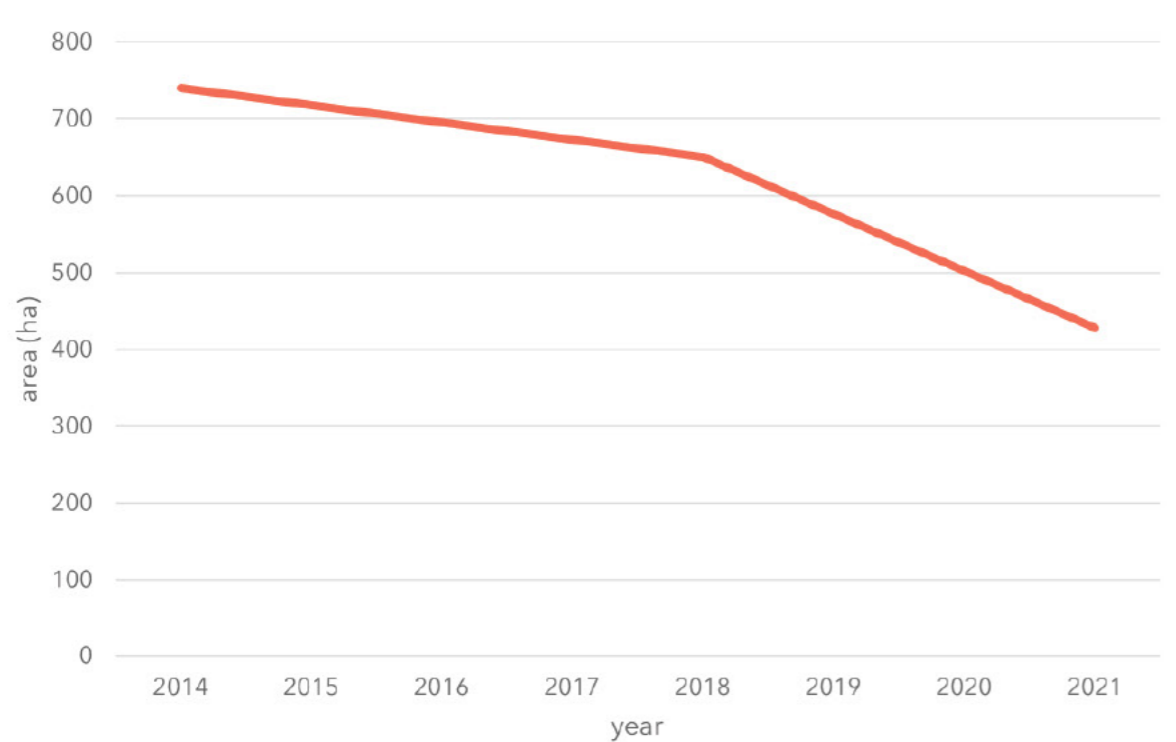
(*rumah panggung*), originally used the space under the house (*bagian bawah rumah*) for socializing and mooring boats, many adapted to the change in livelihood by converting the space to suit informal vending.⁹ This change in function may be correlated with the increase in improperly disposed garbage in these spaces.

In addition to the coast, slum areas have also developed along the banks of the Jeneberang River, causing much environmental degradation.¹⁰

TRENDS. Slum development figures thus far suggest positive outcomes from government programs. At a city-level, KOTAKU program data from 2021 show that Makassar's slum areas have decreased by 58% since 2014.¹¹ With investment support from central and provincial governments as well as private enterprises, slums areas have decreased from 740 ha in 2014 to 428 ha in 2021 (Figure 2.1).¹²

However, KOTAKU has also identified 8,260 ha of potential new slum areas in 62 *kelurahan* across 14 *kecamatan*. Kecamatan Biringkanaya has the most area vulnerable to becoming slums, followed Tamalanrea, and Manggala.¹³ Thus, while Makassar's KOTAKU program monitoring is showing some signs of success at reducing slums, more longitudinal data will be needed to evaluate program impacts.

4. Out of a possible score of 80: High = ≥ 60 ; Moderate = 38-59; Low = 16-37; Not Slum = ≤ 15 .
5. Government of Indonesia. 2018. Ministerial Regulation of Public Works and Housing (Permen) No. 14/2018 on Slum Upgrading and Prevention. Type 1 slums include those with stilt housing or similar structures. Type 2 slums include those with structures in riparian or coastal areas.
6. Government of Makassar City. 2016. *Slum Improvement Action Plan (SIAP)*. Makassar City. Slum areas in the city center are built in the local vernacular style with wood and bamboo.
7. Ibid.
8. Ibid.
9. Ibid.
10. Ibid.
11. Calculations based on 2021 KOTAKU data.
12. Ibid.
13. Government of Makassar City. 2021. Mayoral Decree (SK) No.1301/050.13/2021 on Determination of Locations for Slum Upgrading and Prevention in Makassar City.



Source: authors

Figure 2.1 Slum area in Makassar City, 2014-2021.

2.2 SLUM LOCATIONS AND TYPES

The 2021 Mayoral Decree on Slums (SK Kumuh) has designated 20 areas of the city as slums, totaling 428 hectares (Table 2.1)—a 58% reduction in slum areas since 2014.¹⁴ Slum areas designated for alleviation are administratively located across 91 *kelurahan*, divided into 329 RT. These areas are often located across multiple *kelurahan*. The SK Kumuh further classifies slum areas according to two types: in lowland areas and in lowland riparian areas.¹⁵

Slum areas listed in the 2021 decree are categorized as “light” or “moderate,” with

none categorized as “heavy” slum.¹⁶ Fifteen RT along the Jongaya Canal (Kawasan Bantaran Kanal Jongaya) have been listed as the top priority for slum alleviation. Another 65 RT along the Jeneberang River (Kawasan DAS Jeneberang) and on the Sangkarang Islands (Kawasan Pulau Terpadu) are ranked second in priority.

14. Government of Makassar City. 2021. Mayoral Decree (SK) No.1301/050.13/2021 on Determination of Locations for Slum Upgrading and Prevention in Makassar City. In 2014, the city had identified 740 hectares of slums.

15. Ibid.

16. The decree identifies 302 RT as “light” and 27 RT as “moderate.”

| No. | Slum Name | Kecamatan | Kelurahan | Slum Type | 2021 Area (Ha) | 2021 Total Area (Ha) |
|-----|---------------------------------|-------------|------------------|--------------------|--------------------|----------------------|
| 1 | Kawasan Das Jeneberang | Tamalate | Balang Baru | Lowland | 3.22 | 54.92 |
| | | | Parang Tambung | Lowland & Riparian | 5.77 | |
| | | | Mangasa | Lowland | 1.42 | |
| | | | Tanjung Merdeka | Lowland & Riparian | 38.46 | |
| 2 | Kawasan Pelabuhan Baru | Tallo | Tallo | Lowland | 6.05 | 21.62 |
| | | | Buloa | Lowland | 0.31 | |
| | | | Kaluku Bodoa | Lowland | 0.80 | |
| | | | Pannampu | Lowland | 13.28 | |
| | | Ujung Tanah | Gusung | Lowland | 1.18 | |
| | | | Cambaya | Lowland & Riparian | 1.97 | |
| 3 | Kawasan Bantaran Kanal Jongaya | Tamalate | Maccini Sombala | Lowland | 1.50 | 14.58 |
| | | | Mamajang | Sambung Jawa | Lowland & Riparian | |
| | | Mariso | Bontorannu | Lowland & Riparian | 2.90 | |
| | | | Tamarunang | Lowland & Riparian | 6.11 | |
| 4 | Kawasan Mariso | Mariso | Kunjung Mae | Lowland | 2.08 | 2.77 |
| | | | Panambungan | Lowland | 0.69 | |
| 5 | Kawasan Pelabuhan Terpadu | Ujung Tanah | Tabaringan | Lowland | 0.42 | 3.62 |
| | | | Tamalabba | Lowland | 0.42 | |
| | | Wajo | Pattingalloang | Lowland | 1.95 | |
| 6 | Kawasan Bantaran Kanal Pannampu | Makassar | Maradekaya | Lowland & Riparian | 0.91 | 18.46 |
| | | | Maradekaya Utara | Lowland & Riparian | 0.93 | |
| | | | Maricaya Baru | Lowland & Riparian | 1.43 | |
| | | | Bara-Baraya | Lowland & Riparian | 1.57 | |
| | | | Barana | Lowland & Riparian | 2.59 | |
| | | Bontoala | Tompo Balang | Lowland & Riparian | 4.63 | |
| | | Rappocini | Rappocini | Lowland & Riparian | 6.40 | |

Table 2.1 Slum Settlement Areas in Makassar City

| No. | Slum Name | Kecamatan | Kelurahan | Slum Type | 2021 Area (Ha) | 2021 Total Area (Ha) |
|-----|-------------------------------|----------------------|--------------------|-------------------|----------------|----------------------|
| 7 | Kawasan Makassar-Rappocini | Rappocini | Ballaparang | Lowland | 0.79 | 2.72 |
| | | | Buakana | Lowland | 1.32 | |
| | | Makassar | Maradekaya Selatan | Lowland | 0.61 | |
| 8 | Kawasan Pulau Terpadu | Kepulauan Sangkarang | Barrang Caddi | Lowland& Riparian | 27.69 | 54.19 |
| | | | Barrang Lompo | Lowland& Riparian | 14.43 | |
| | | | Kodingareng | Lowland& Riparian | 9.19 | |
| | | Ujung Pandang | Lae-Lae | Lowland& Riparian | 2.88 | |
| 9 | Kawasan Tallo-Panakkukang | Tallo | Kalukuang | Lowland | 0.65 | 43.29 |
| | | | Rappojawa | Lowland | 3.63 | |
| | | | Tammua | Lowland | 15.29 | |
| | | | Wala-Walaya | Lowland | 0.61 | |
| | | | Rappokalling | Lowland | 10.02 | |
| | | | Ujung Pandang Baru | Lowland | 7.44 | |
| | | Panakkukang | Karuwisi Utara | Lowland | 5.65 | |
| 10 | Kawasan Panakkukang-Makassar | Panakkukang | Karuwisi | Lowland | 2.17 | 9.20 |
| | | | Sinri Jala | Lowland | 3.10 | |
| | | | Tamamaung | Lowland | 0.70 | |
| | | Makassar | Maccini Parang | Lowland | 1.70 | |
| | | | Maccini | Lowland | 0.95 | |
| | | | Bara-Baraya Timur | Lowland | 0.58 | |
| 11 | Kawasan Manggala-Panakkukang | Manggala | Antang | Lowland | 1.60 | 18.88 |
| | | | Bangkala | Lowland | 1.81 | |
| | | | Borong | Lowland | 4.58 | |
| | | Panakkukang | Panaikang | Lowland | 7.49 | |
| | | | Tello Baru | Lowland | 3.40 | |
| 12 | Kawasan Panakkukang-Rappocini | Rappocini | Banta-Bantaeng | Lowland | 0.38 | 29.21 |
| | | | Gunung Sari | Lowland | 2.97 | |
| | | | Kassi-Kassi | Lowland | 3.48 | |
| | | | Karunrung | Lowland | 3.64 | |
| | | | Tidung | Lowland | 1.66 | |
| | | Panakkukang | Masale | Lowland | 2.40 | |
| | | | Pandang | Lowland | 14.68 | |
| 13 | Kawasan Bisnis Ujung Pandang | Ujung Pandang | Losari | Lowland | 0.53 | 5.52 |
| | | | Pisang Utara | Lowland | 2.66 | |
| | | | Lajangiru | Lowland | 2.33 | |

Table 2.1 Slum Settlement Areas in Makassar City (cont.)

| No. | Slum Name | Kecamatan | Kelurahan | Slum Type | 2021 Area (Ha) | 2021 Total Area (Ha) |
|---------------------------------|---------------------------------|---------------|---------------------|-------------------|----------------|----------------------|
| 14 | Kawasan Bontoala-Tallo | Bontoala | Baraya | Lowland | 2.04 | 35.52 |
| | | | Bontoala Parang | Lowland | 1.56 | |
| | | | Bontoala Tua | Lowland | 0.91 | |
| | | | Bunga Ejaya | Lowland | 18.76 | |
| | | | Layang | Lowland | 1.75 | |
| | | Parang Layang | Lowland | 2.84 | | |
| | | Tallo | Bunga Eja Beru | Lowland | 1.05 | |
| | | | Lembo | Lowland | 4.17 | |
| Suwangga | Lowland | | 2.44 | | | |
| 15 | Kawasan Tamalanrea-Biringkanaya | Biringkanaya | Katimbang | Lowland | 2.84 | 41.96 |
| | | | Paccerakang | Lowland | 2.44 | |
| | | | Bakung | Lowland | 0.63 | |
| | | Tamalanrea | Tamalanrea | Lowland | 1.97 | |
| | | | Tamalanrea Indah | Lowland | 21.93 | |
| | | | Tamalanrea Jaya | Lowland | 9.50 | |
| | | | Bira | Lowland | 2.65 | |
| 16 | Kawasan Mamajang-Mariso | Mamajang | Pa'Batang | Lowland | 2.56 | 13.42 |
| | | | Parang | Lowland | 0.40 | |
| | | | Bonto Lebang | Lowland | 2.08 | |
| | | | Mandala | Lowland | 1.38 | |
| | | | Baji Mappakasung | Lowland | 2.50 | |
| | | | Maricaya Selatan | Lowland | 1.15 | |
| | | | Tamparang Keke | Lowland | 1.35 | |
| | | Mariso | Mario | Lowland | 2.00 | |
| 17 | Kawasan Tamalate | Tamalate | Jongaya | Lowland | 0.82 | 3.50 |
| | | | Mannuruki | Lowland | 2.68 | |
| 18 | Kawasan Pampang | Panakkukang | Pampang | Lowland | 21.20 | 21.20 |
| 19 | Kawasan Maritim | Tamalate | Barombong | Lowland | 12.85 | 12.85 |
| 20 | Kawasan Konservasi Das Tallo | Tallo | Lakang | Lowland& Riparian | 11.57 | 11.57 |
| Total Citywide Slum Area | | | 91 kelurahan | | | 427.77 |

Table 2.1 Slum Settlement Areas in Makassar City (cont.)

| No | Criteria | Indicator | Description | Unit |
|----|------------------------|--------------|---|--|
| 1 | Building | Irregularity | Refers to residential buildings that do not meet: 1) regulations in the zoning code (RDTR) and urban design guidelines (RTBL) including shape, size, location, and placement of the building on a lot; and 2) regulations for building layout in RTBL, including block, lot, height, floors, site orientation, and frontage | households (<i>rumah tangga</i>) |
| | | Density | Refers to residential buildings that: 1) exceed Building Coverage Ratio (KDB) stipulated in RDTR and/or RTBL; 2) exceed Floor Area Ratio (KLB) stipulated in RDTR and/or RTBL | Hectares |
| | | Quality | Refers to residential buildings that do not meet: 1) building layout requirements, such as location designation and building density; and 2) building structural requirements, such as fire, life safety, and comfort | households (<i>rumah tangga</i>) |
| 2 | Roads | Access | Refers to neighborhood road network that does not connect between or within residential areas | Meters |
| | | Quality | Refers to existing neighborhood roads where all or part of the road has visible damage, including cracks and changes in shape | Meters |
| 3 | Water Supply | Access | Refers to families that cannot access safe drinking water that meets quality requirements in accordance with laws and regulations | families (KK, <i>kepala keluarga</i>) |
| | | Adequacy | Refers to families that have less than the minimum daily requirement for water needs of 60 (sixty) liters / person / day | families (KK, <i>kepala keluarga</i>) |
| 4 | Drainage | Access | Refers to tertiary drainage channels and/or local channels that are not available, and/or are not connected to other channels (primary, secondary) | Meters |
| | | Inundation | Refers to neighborhood drainage network that is unable to accommodate runoff, causing inundation with a height of more than 30 cm for more than 2 (two) hours, with incidence of more than twice a year | Hectares |
| | | Quality | Refers to neighborhood drainage system with open drains or visible damage | Meters |
| 5 | Sanitation | Access | Refers to families that do not have access to private or shared latrines or toilets | families (KK, <i>kepala keluarga</i>) |
| | | Quality | Refers to latrines or toilets that are not connected to either a septic tank or sewage treatment system | families (KK, <i>kepala keluarga</i>) |
| 6 | Solid Waste Management | Access | Refers to families that lack access to garbage collection points for domestic waste | families (KK, <i>kepala keluarga</i>) |
| | | Quality | Refers to families that do not follow solid waste management standards, such as: 1) domestic sorting; 2) neighborhood waste collection; 3) neighborhood waste transportation; and 4) neighborhood waste processing | families (KK, <i>kepala keluarga</i>) |
| 7 | Fire Protection | Access | Refers to residential buildings that lack fire protection infrastructure, such as: 1) water supply; 2) neighborhood roads that allow access to fire fighting vehicles; 3) communication system for fire notification; 4) easily accessible data on environmental fire protection systems | households (<i>rumah tangga</i>) |
| | | Means | Refers to residential buildings that lack fire protection facilities, such as: 1) fire extinguisher; 2) fire fighting vehicles | households (<i>rumah tangga</i>) |

Source: Ministerial Regulation of Public Works and Housing (Permen) No. 14/2018.

Table 2.2 Physical Conditions of Slum Communities

| No | Criteria | Indicator | Description | Unit |
|----|--------------------|-------------------|---|------------------------------------|
| 1 | Security of Tenure | Building | Refers to households that have a government-issued building permit (IMB) for their residential structure. | households (<i>rumah tangga</i>) |
| | | Land | Refers to households that have a government-issued land title (SHM / HGB / <i>surat</i>) for their residential lot. | households (<i>rumah tangga</i>) |
| 2 | Energy | Potential usage | Refers to households' electricity tariff category. Used as a proxy measure for poverty, as households in tariff category <450 W receive government subsidized electricity. Low-income households in tariff category 900 W also receive subsidized electricity. | households (<i>rumah tangga</i>) |
| 3 | Poverty | Social assistance | Refers to households that receive government subsidized housing (MBR). Used as a proxy measure for poverty. Governments are required to facilitate the construction and acquisition of houses through a gradual and sustainable housing development planning program. | households (<i>rumah tangga</i>) |
| 4 | Livelihoods | Type | Refers to main livelihood of the head of household. Trade and services may be a proxy measure for informal traders and vendors. | households (<i>rumah tangga</i>) |
| 5 | Health | Access | Refers to main type of healthcare facility used by the household. | households (<i>rumah tangga</i>) |
| 6 | Education | Access | Refers to proximity of education facility for households with school-aged children. Figures do not include households without school-aged children. | households (<i>rumah tangga</i>) |

Source: Local Regulation (Perda) No. 9/2017.

Table 2.3 Non-Physical Characteristics of Slum Communities

2.3 SLUM PROFILES

The characteristics of slum settlements in Makassar City are broadly similar, including overcrowding, inadequate basic infrastructure, and high levels of poverty. Across all slum areas, sanitation services are the highest, with 87% of families in slums with access to latrines and 75% of latrines connected to either a septic tank or centralized wastewater treatment system. Fire protection infrastructure is the lowest across all slum areas, with only 63% of residential buildings accessible by fire protection services and 9% of residential buildings equipped with fire protection equipment. Eighty-seven percent of slum households prefer to access healthcare at public health centers (*puskesmas*), while 98% of school-aged children in slums attend school.

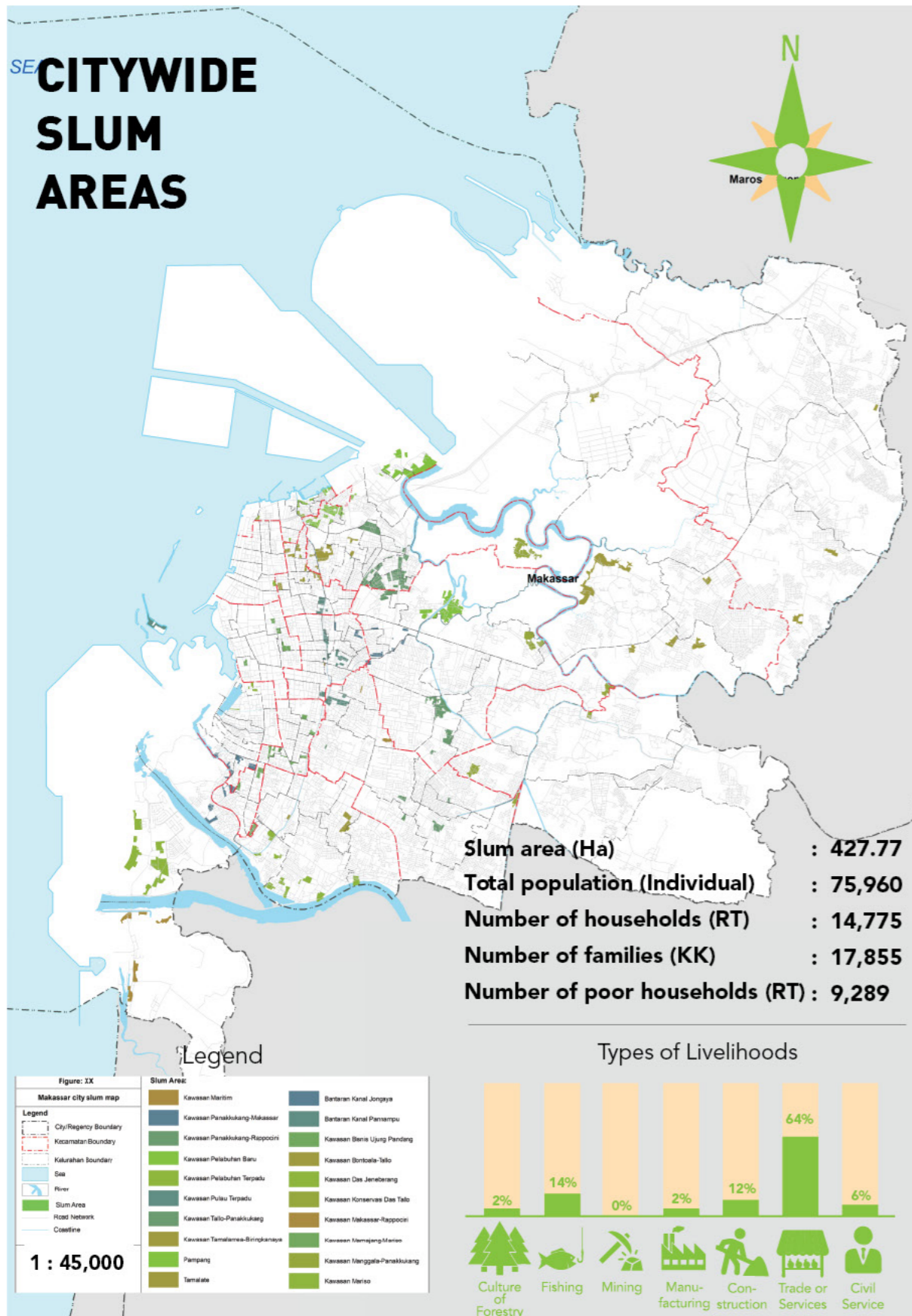
The livelihoods of slum dwellers in Makassar City are generally informal. Across all slum areas, nearly two-thirds (64%) of households are employed in trade and services,¹⁷ including woodworking, pedicab services, and a variety of street vending. The next most common livelihoods across all slum areas are fishing (14%) and construction (12%).¹⁸ The highest shares of households in trade and services are in Kawasan Tamalate and Kawasan Bisnis Ujung Pandang, with 93% and 92% of households employed in the sector, respectively. The highest shares of households in fishing are in Kawasan Pulau Terpadu and Kawasan Konservasi Das Tallo, with 82% and 53% respectively. Construction is more widely distributed, with the highest share of households in Kawasan

Bantaran Kanal Jongaya, at 24%. These figures suggest that livelihood activities may be correlated with slum location, with construction perhaps occurring more evenly throughout the city.

To visualize the existing conditions and characteristics of slum communities more effectively, the following slum profiles illustrates the 2021 KOTAKU dataset as infographics for each slum area designated by the current SK Kumuh. The infographics cover all 16 slum indicators across the seven infrastructure criteria (Table 2.2). Additionally, the infographics also illustrate non-physical characteristics of each slum area to present a more comprehensive snapshot of each slum community (Table 2.3).

17. Makassar City KOTAKU data. 2021.

18. Ibid.



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).



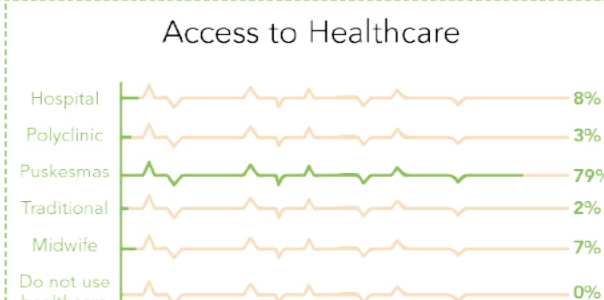
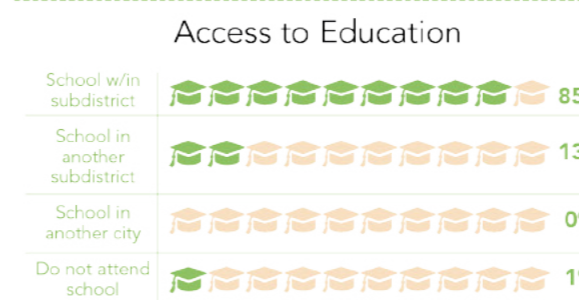
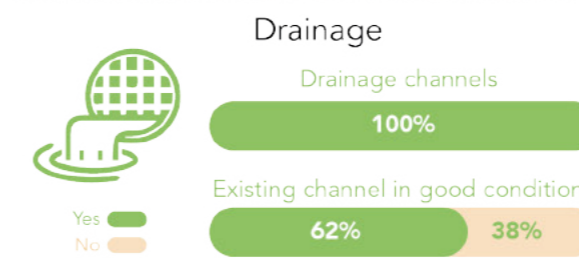
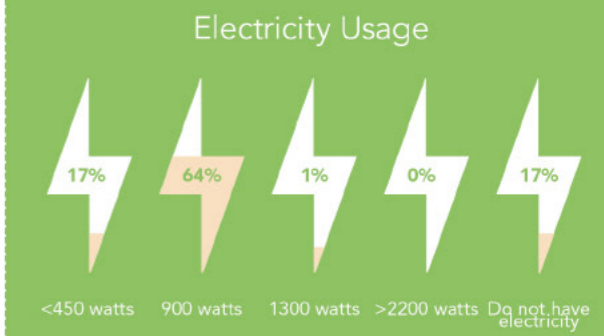
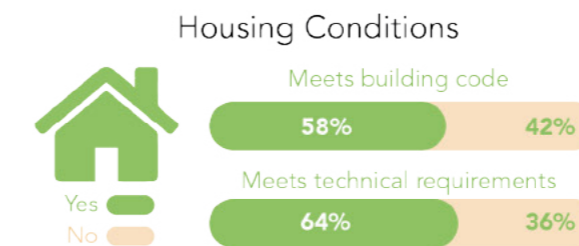
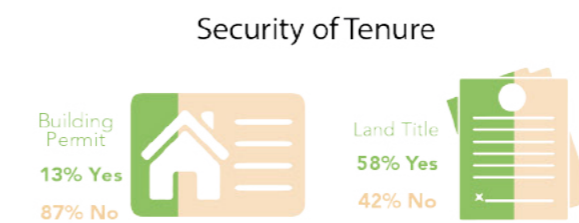
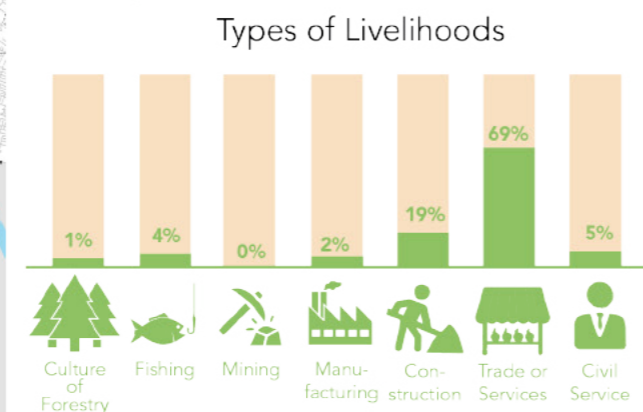
Children in the Kawasan Das Jeneberang slum area in Kelurahan Mangasa. Asian Development Bank.

KAWASAN DAS JENEBERANG



Source: Makassar City KOTAKU (2021).

| | |
|--------------------------------|---------|
| Slum area (Ha) | : 54.92 |
| Total population (Individual) | : 5,849 |
| Number of households (RT) | : 1,260 |
| Number of families (KK) | : 1,366 |
| Number of poor households (RT) | : 815 |



Source: Makassar City KOTAKU (2021).

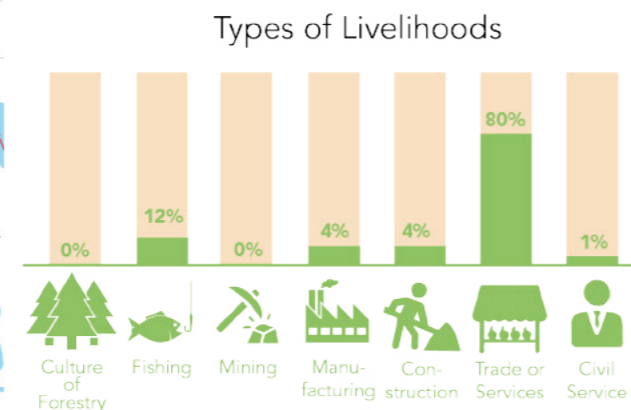


Children playing together in the Kawasan Pelabuhan Baru slum area in Kelurahan Pannampu. Asian Development Bank.

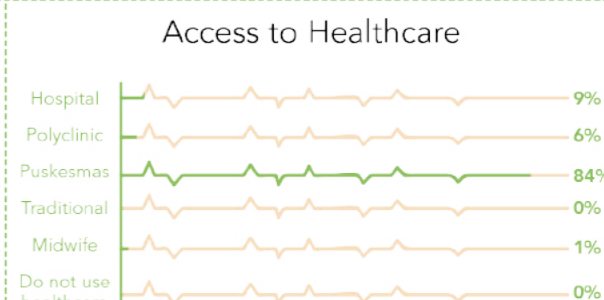
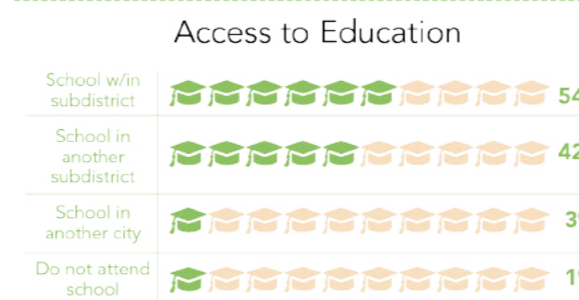
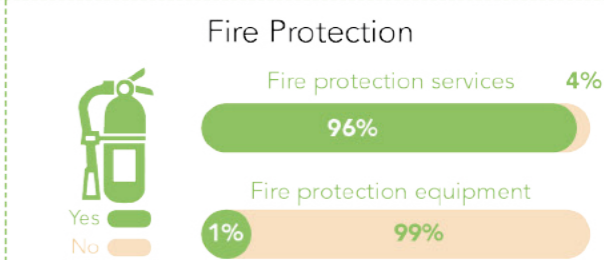
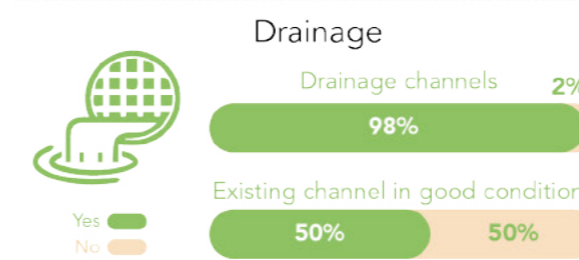
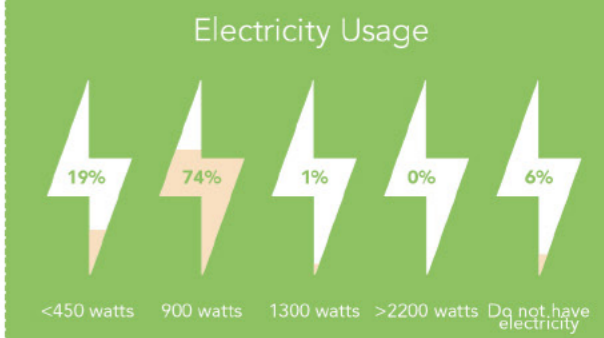
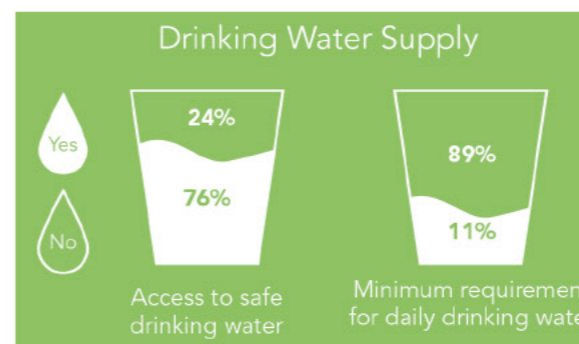
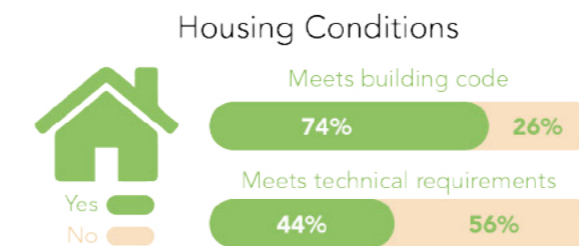
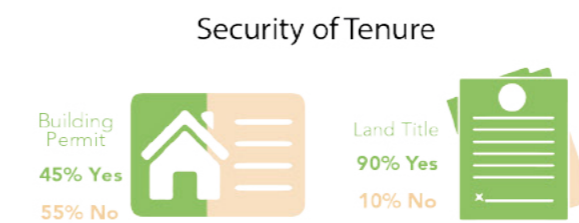
KAWASAN PELABUHAN BARU



Slum area (Ha) : 30.39
 Total population (Individual) : 10,460
 Number of households (RT) : 2,110
 Number of families (KK) : 2,334
 Number of poor households (RT) : 1,262



Source: Makassar City KOTAKU (2021).

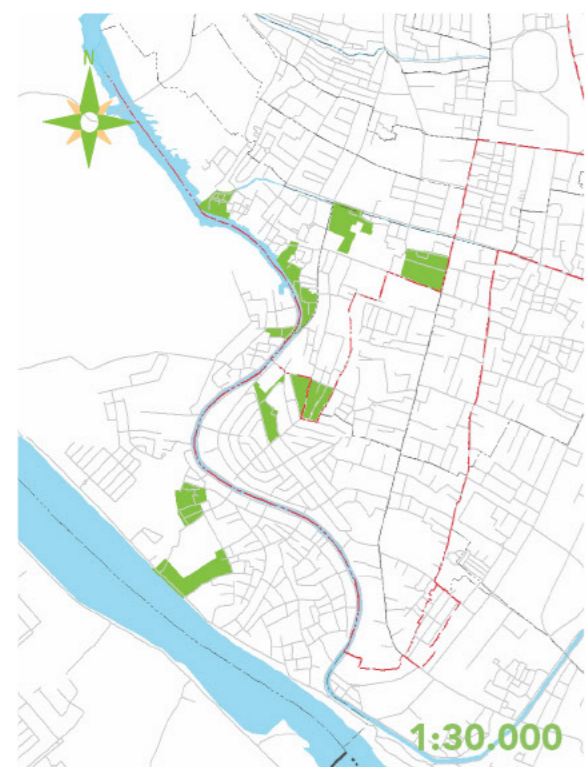


Source: Makassar City KOTAKU (2021).



Slum settlements along the Jongaya Canal (Bantaran Kanal Jongaya) in Kelurahan Bontorahnu. Asian Development Bank.

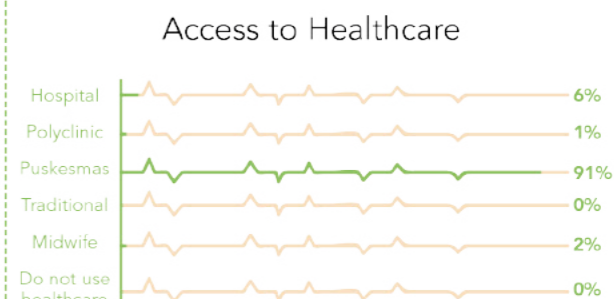
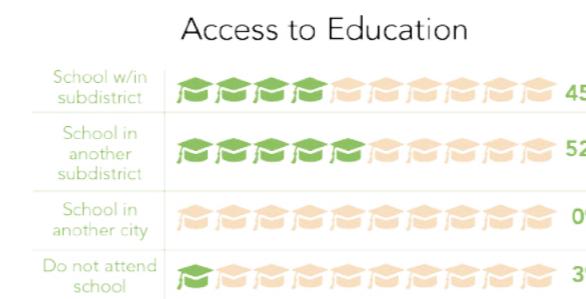
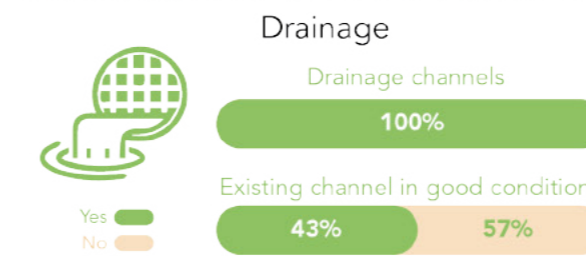
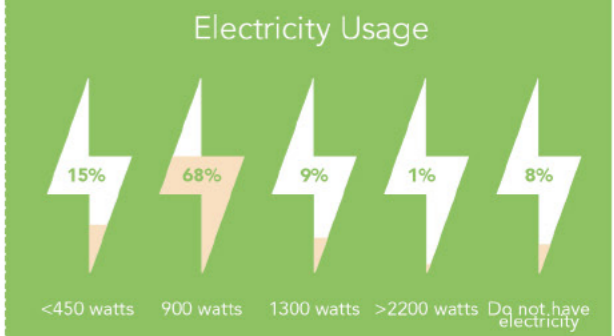
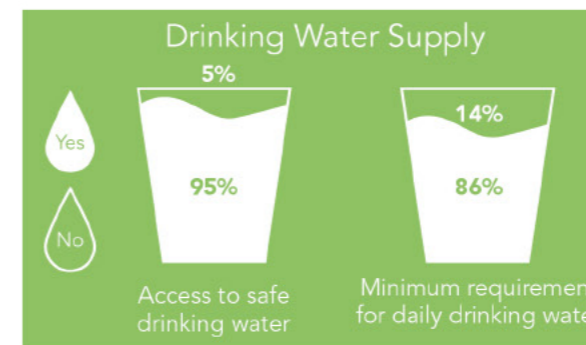
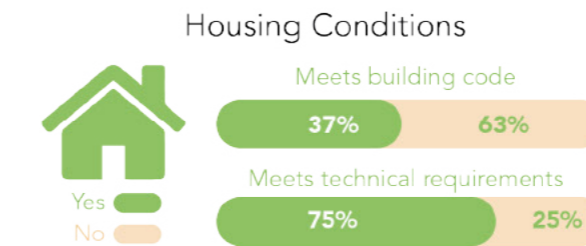
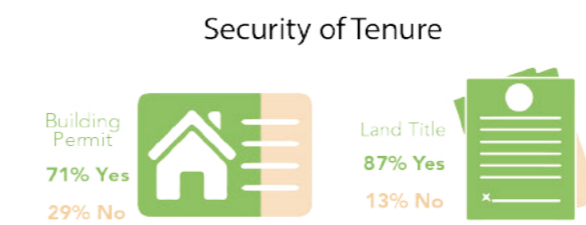
KAWASAN BANTARAN KANAL JONGAYA



| | |
|--------------------------------|---------|
| Slum area (Ha) | : 14.58 |
| Total population (Individual) | : 3,779 |
| Number of households (RT) | : 690 |
| Number of families (KK) | : 893 |
| Number of poor households (RT) | : 572 |



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).

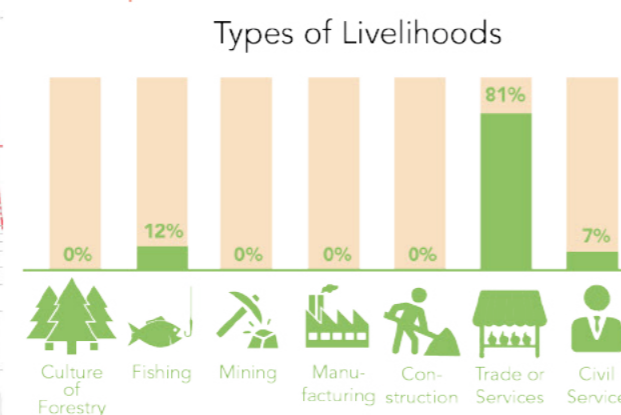


Residents in the Kawasan Mariso slum area in Kelurahan Panambungan. Asian Development Bank.

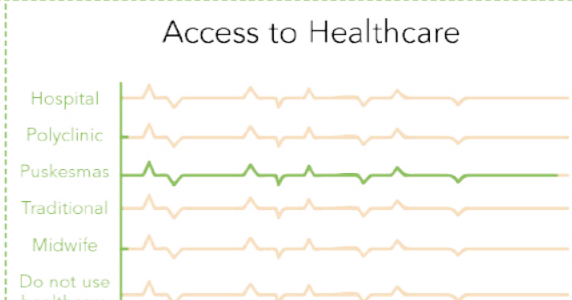
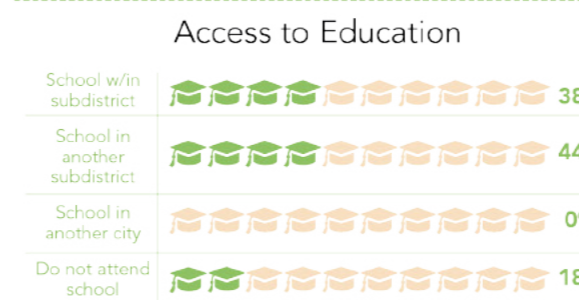
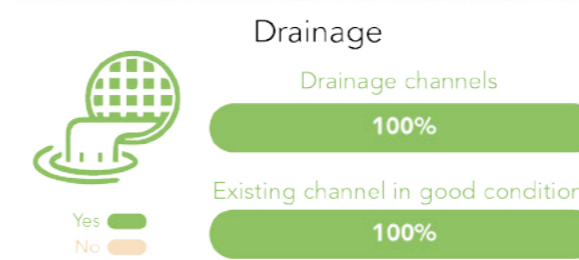
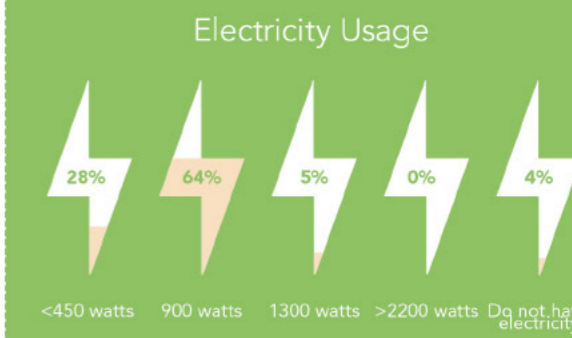
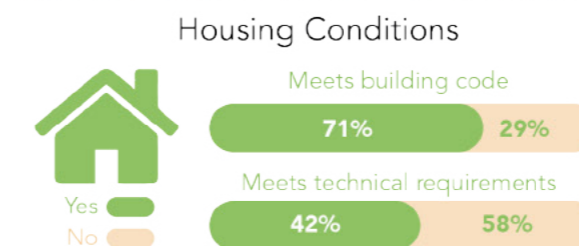
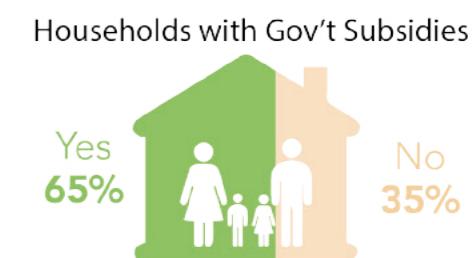
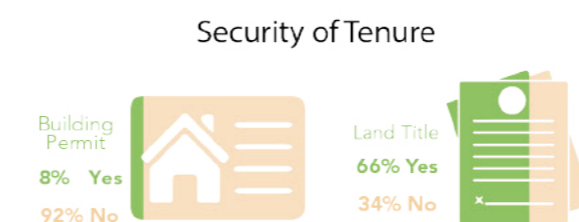
KAWASAN MARISO



| | |
|--------------------------------|--------|
| Slum area (Ha) | : 2.77 |
| Total population (Individual) | : 494 |
| Number of households (RT) | : 83 |
| Number of families (KK) | : 135 |
| Number of poor households (RT) | : 54 |



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).



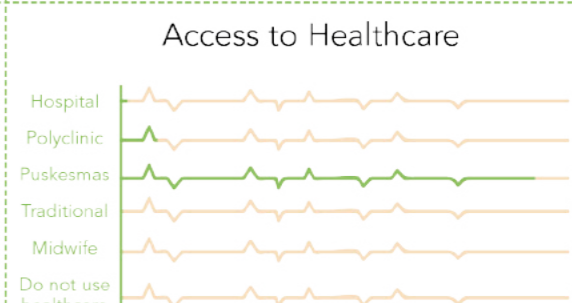
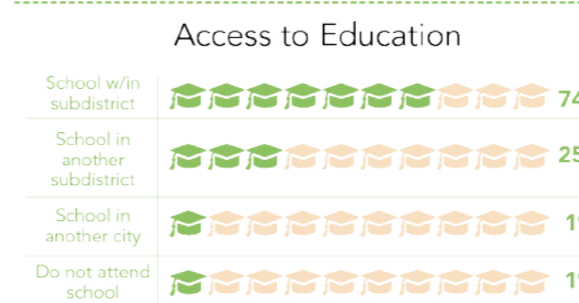
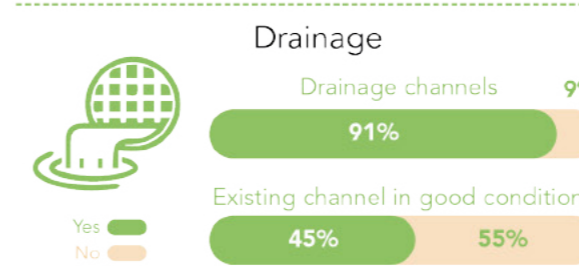
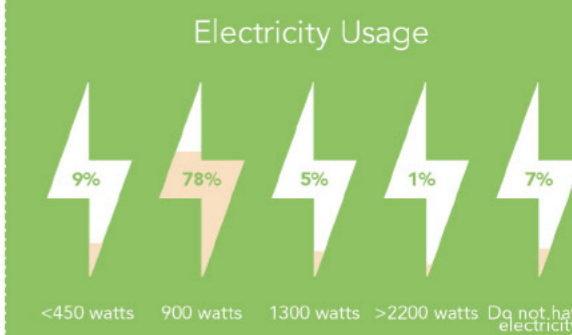
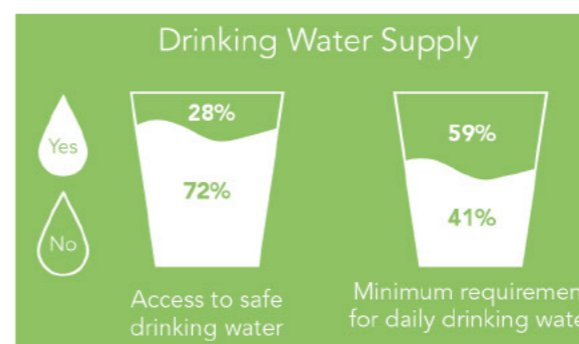
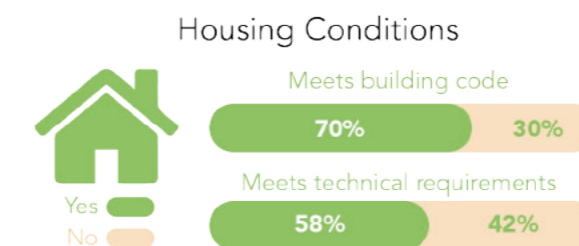
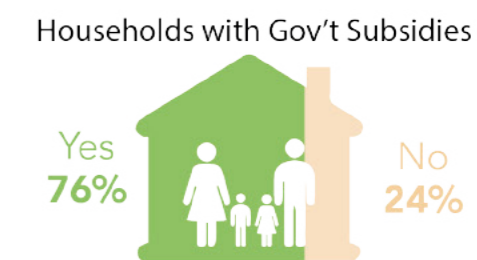
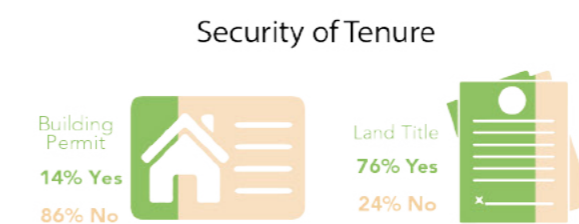
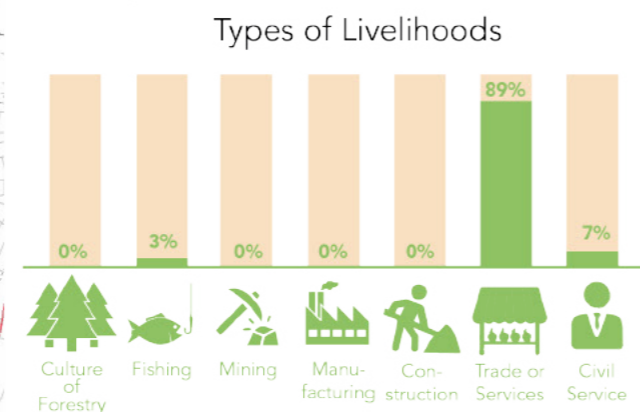
Fishing boats in the Kawasan Pelabuhan Terpadu slum area in Kelurahan Pattingalloang. Asian Development Bank.

KAWASAN PELABUHAN TERPADU



Source: Makassar City KOTAKU (2021).

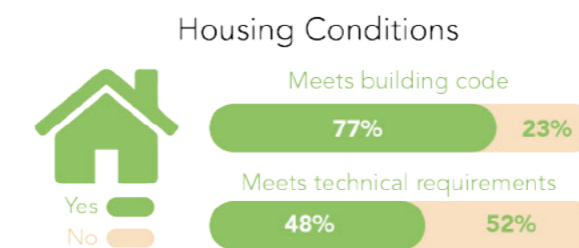
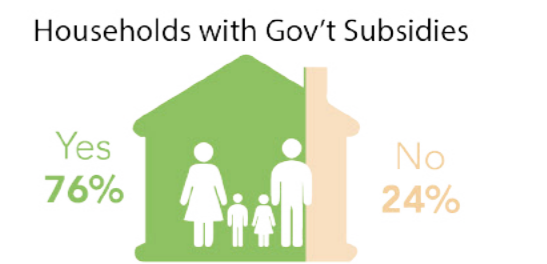
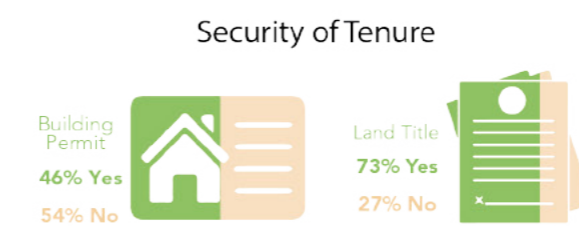
| | |
|--------------------------------|---------|
| Slum area (Ha) | : 3.62 |
| Total population (Individual) | : 1,587 |
| Number of households (RT) | : 259 |
| Number of families (KK) | : 391 |
| Number of poor households (RT) | : 198 |



Source: Makassar City KOTAKU (2021).



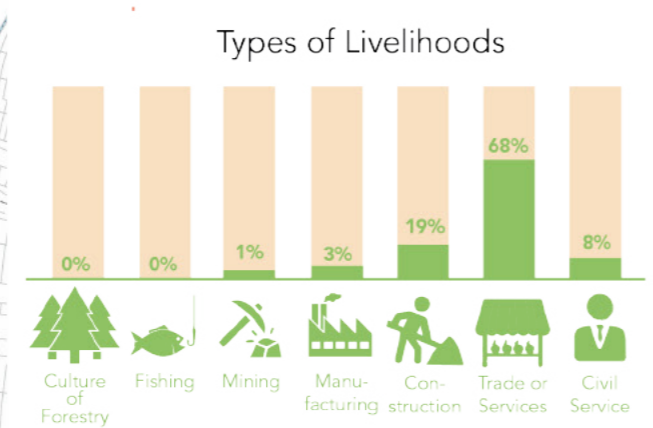
Slum settlements along the Pannampu Canal (Kanal Pannampu) in Kelurahan Barana. Asian Development Bank.



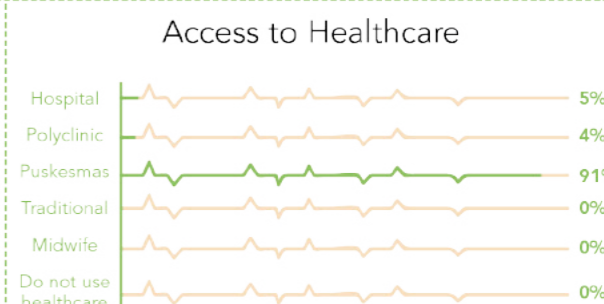
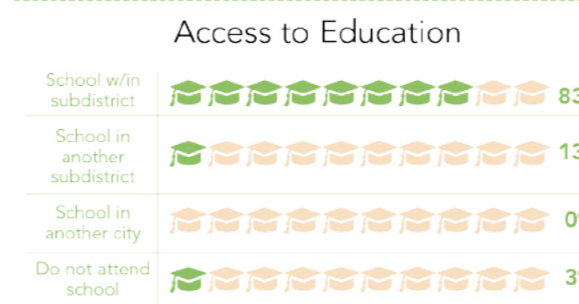
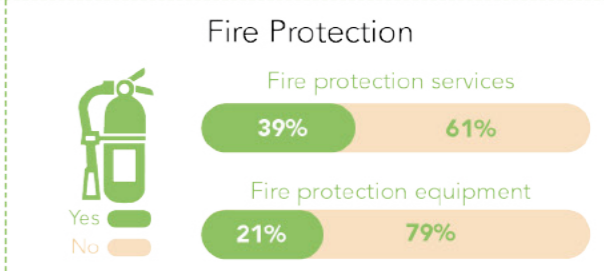
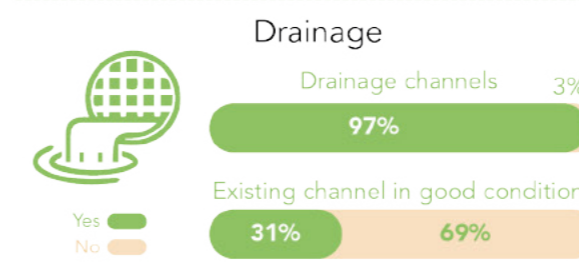
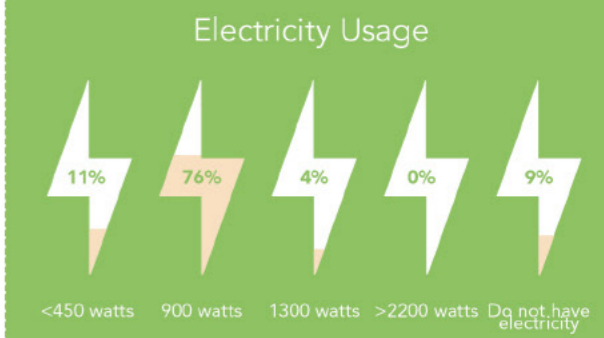
KAWASAN BANTARAN KANAL PANNAMPU



- Slum area (Ha) : 18.46
- Total population (Individual) : 4,374
- Number of households (RT) : 776
- Number of families (KK) : 1,037
- Number of poor households (RT) : 591



Source: Makassar City KOTAKU (2021).

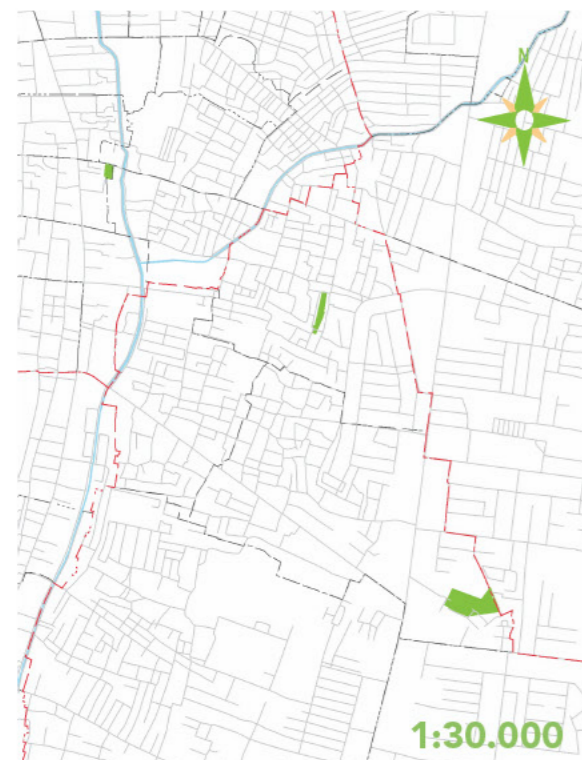


Source: Makassar City KOTAKU (2021).

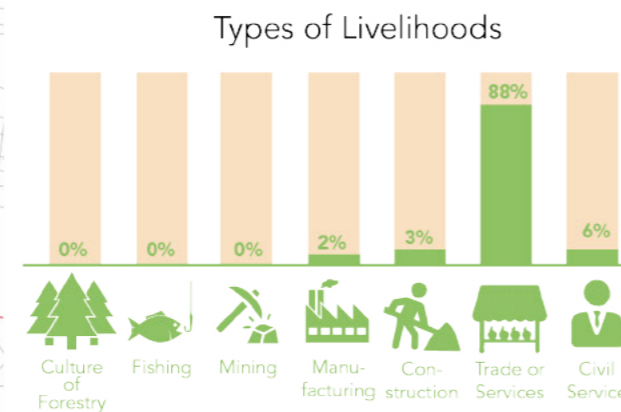


A neighborhood mural in the Kawasan Makassar-Rappocini slum area in Kelurahan Buakana. Asian Development Bank.

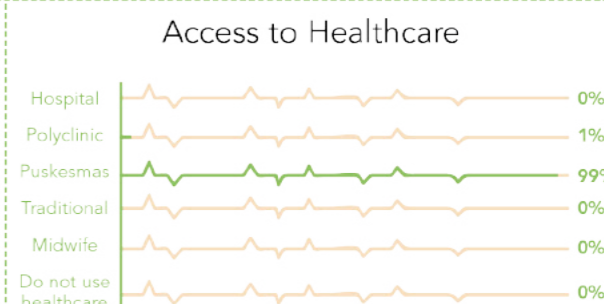
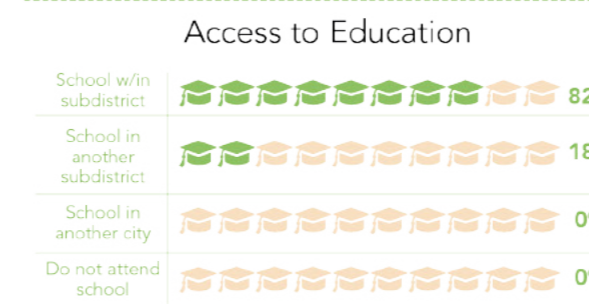
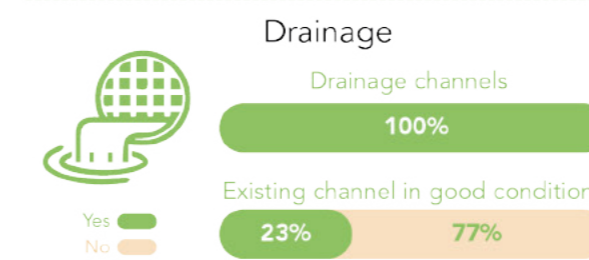
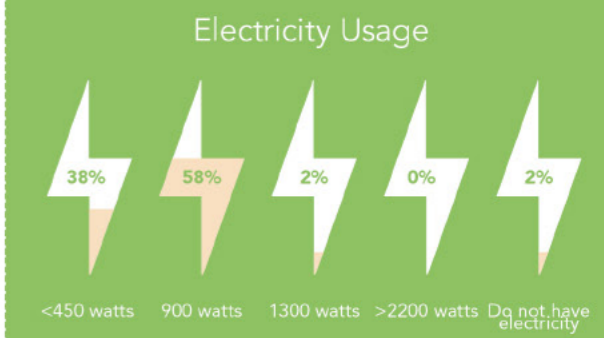
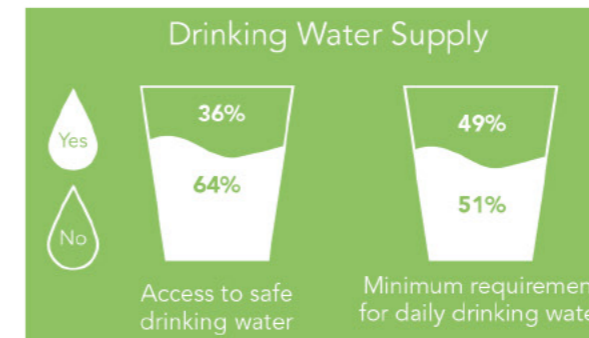
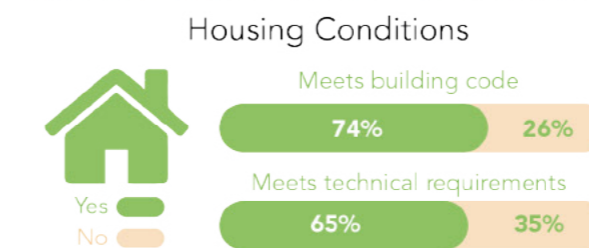
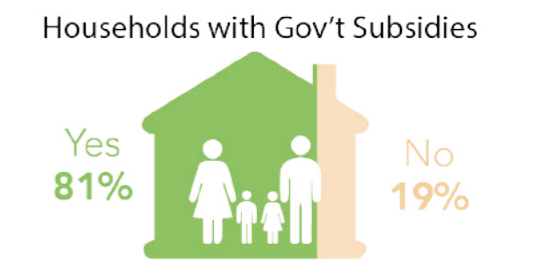
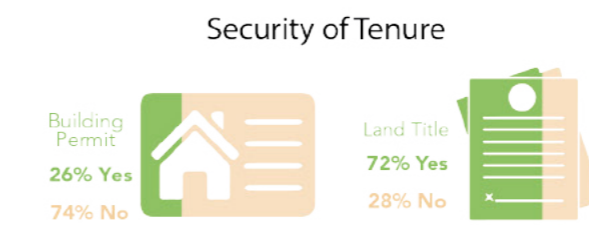
KAWASAN MAKASSAR-RAPPOCINI



| | |
|--------------------------------|--------|
| Slum area (Ha) | : 2.72 |
| Total population (Individual) | : 501 |
| Number of households (RT) | : 93 |
| Number of families (KK) | : 114 |
| Number of poor households (RT) | : 75 |



Source: Makassar City KOTAKU (2021).

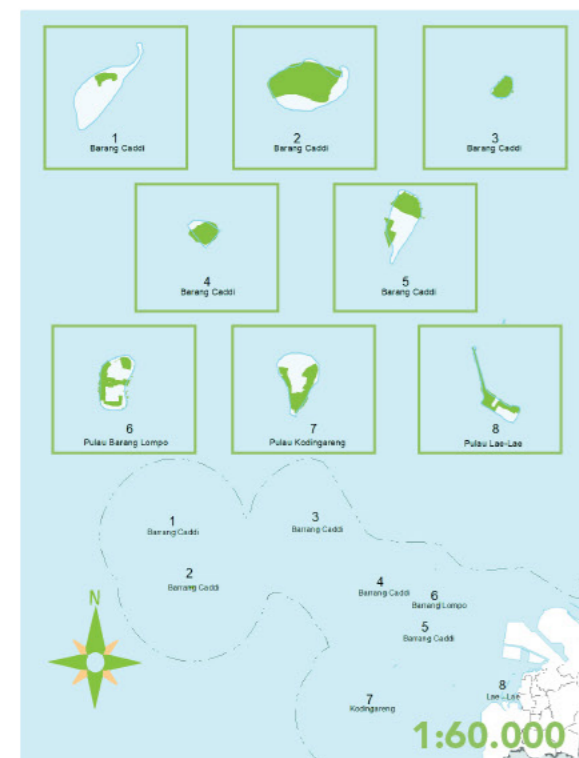


Source: Makassar City KOTAKU (2021).

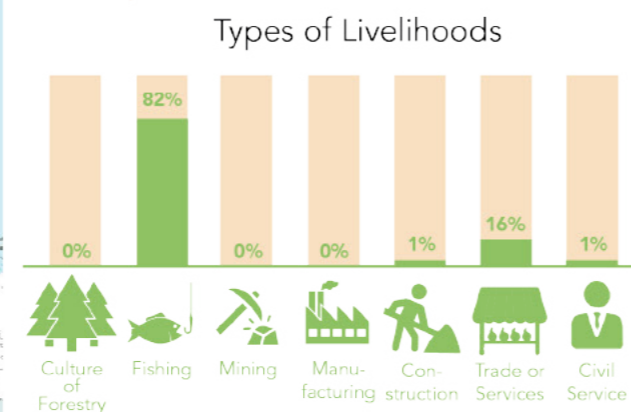


A public recreational area in Kelurahan Lae-Lae on Lae-Lae Island. Asian Development Bank.

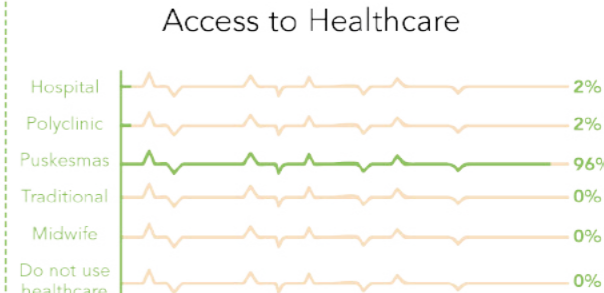
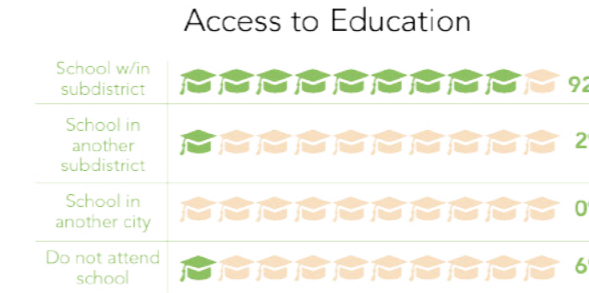
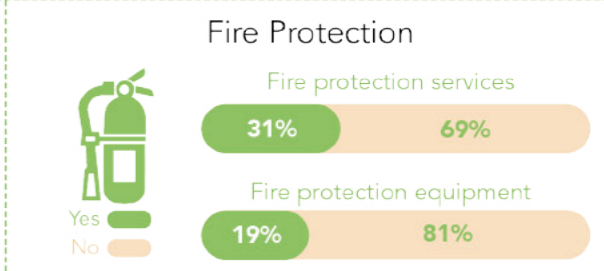
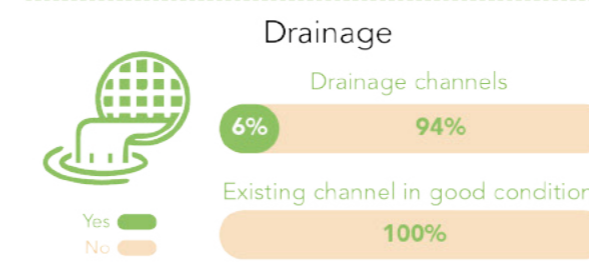
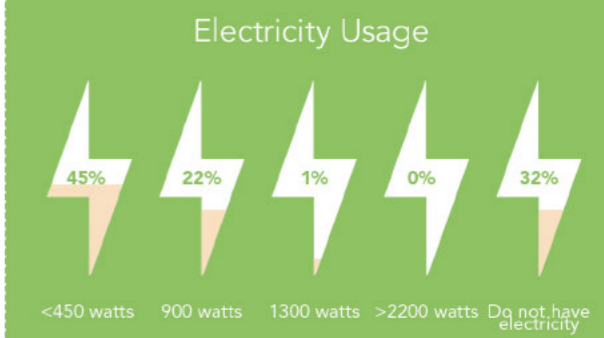
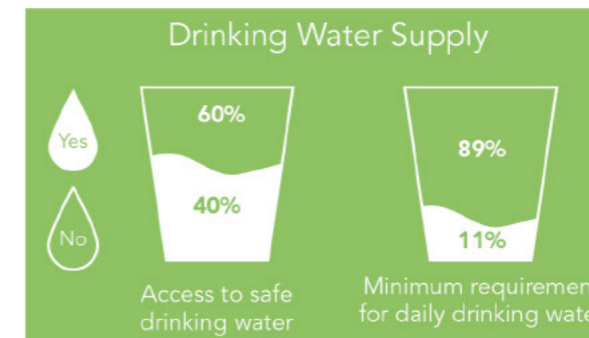
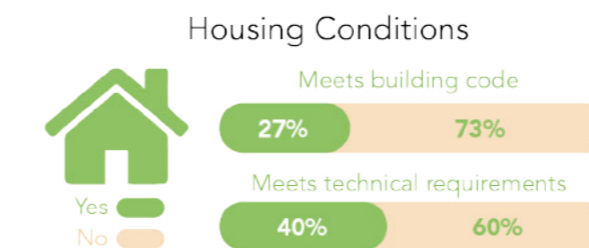
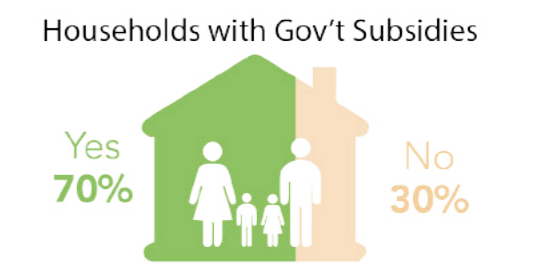
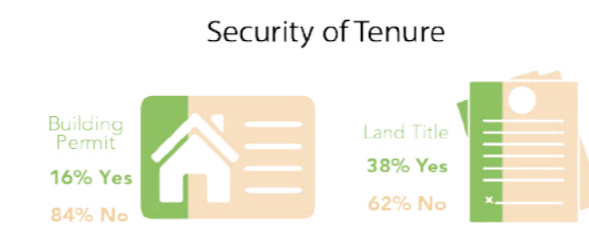
KAWASAN PULAU TERPADU



Slum area (Ha) : 54.19
Total population (Individual) : 9,269
Number of households (RT) : 1,922
Number of families (KK) : 2,362
Number of poor households (RT) : 1,355



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).

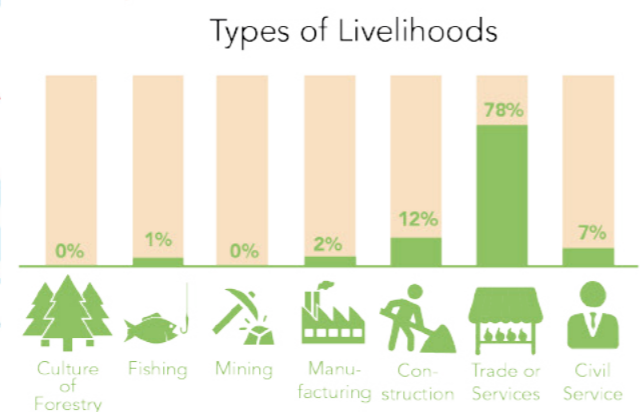


A neighborhood entry gate in Kelurahan Tammua. Asian Development Bank.

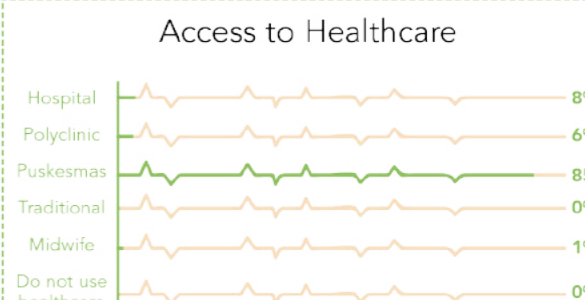
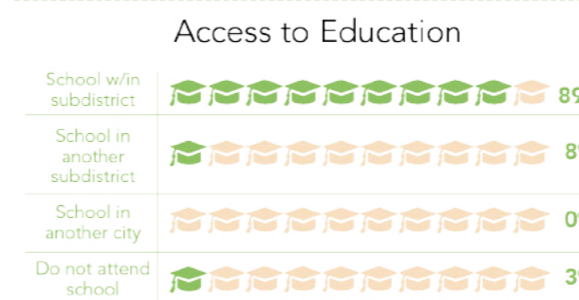
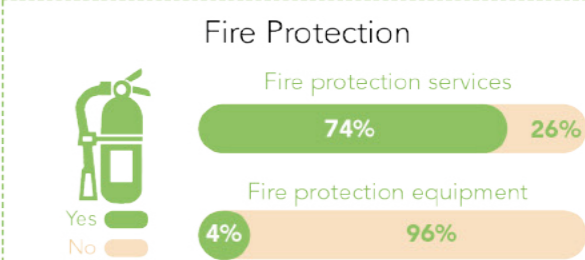
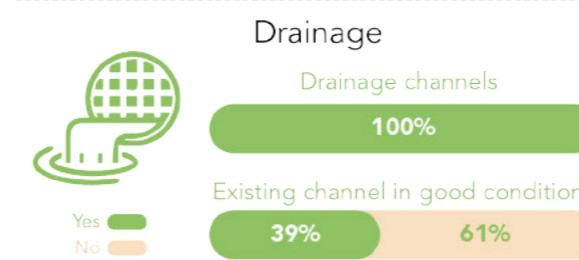
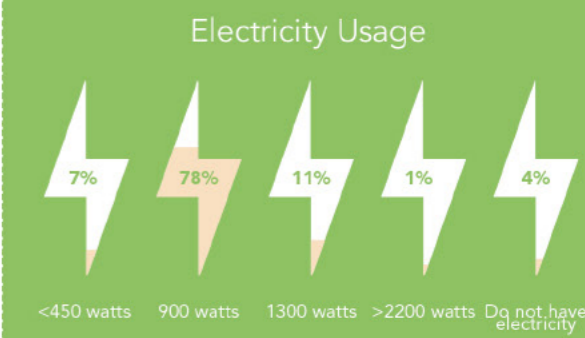
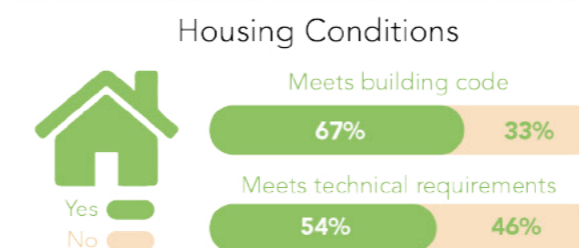
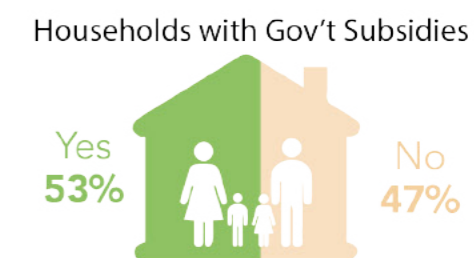
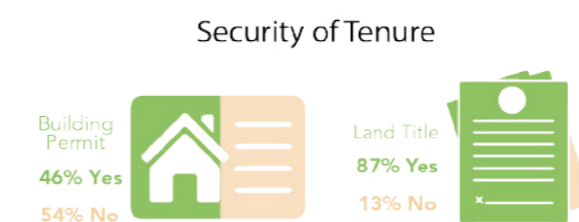
KAWASAN TALLO-PANAKKUKANG



Slum area (Ha) : 43.29
Total population (Individual) : 9,268
Number of households (RT) : 1,653
Number of families (KK) : 2,114
Number of poor households (RT) : 876



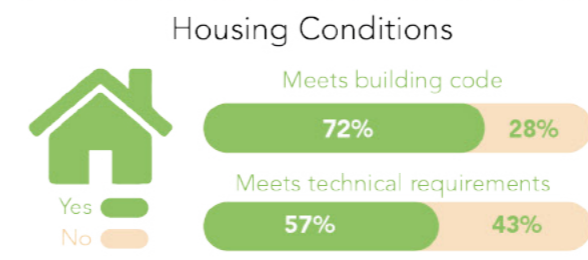
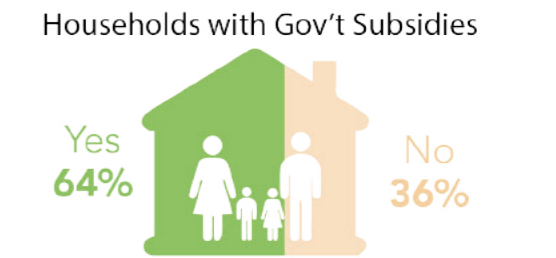
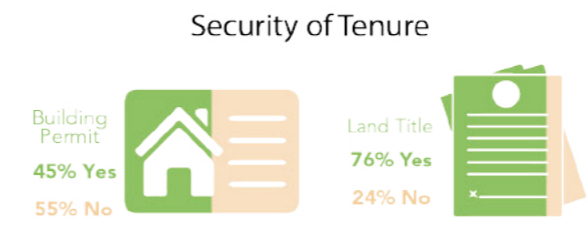
Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).



A jalan inspeksi (literally, inspection road, used for maintenance access) along a tributary of the Pampang River (Sungai Pampang) in Kelurahan Karuwisi, Asian Development Bank.



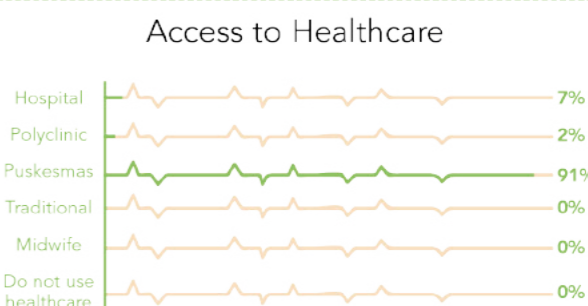
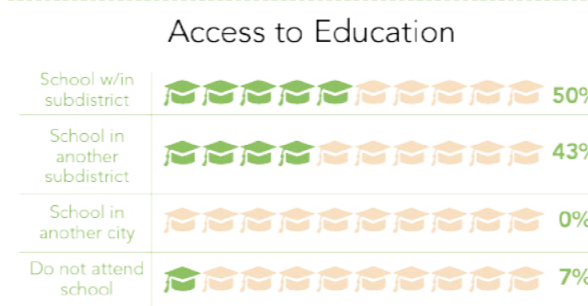
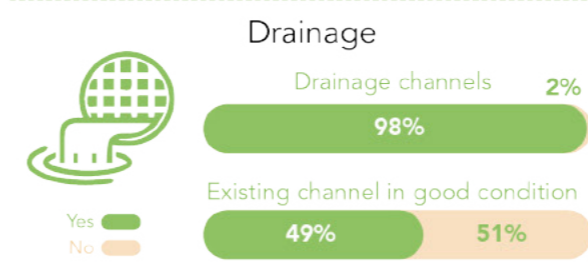
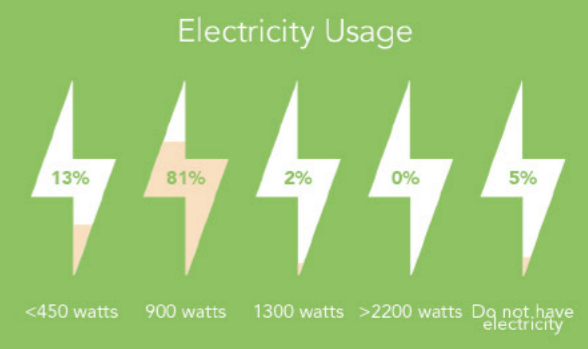
KAWASAN PANAKKUKANG-MAKASSAR



Slum area (Ha) : 9.20
 Total population (Individual) : 3,024
 Number of households (RT) : 524
 Number of families (KK) : 679
 Number of poor households (RT) : 334



Source: Makassar City KOTAKU (2021).

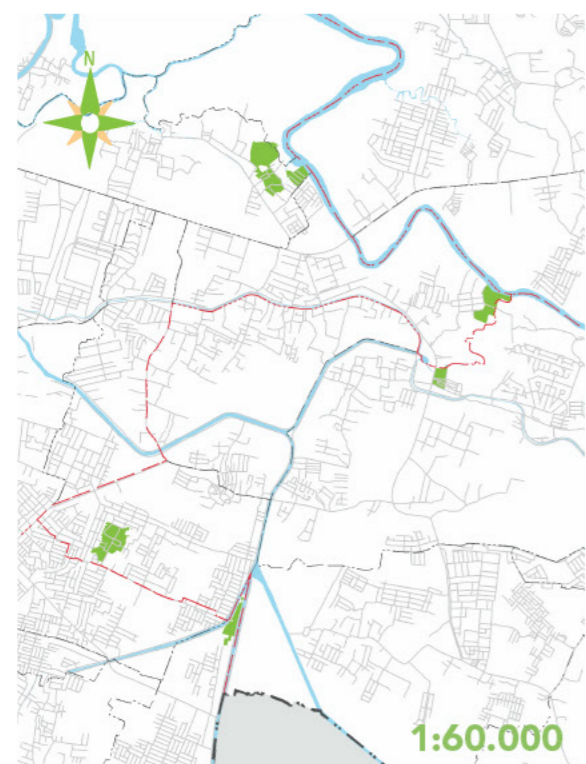


Source: Makassar City KOTAKU (2021).

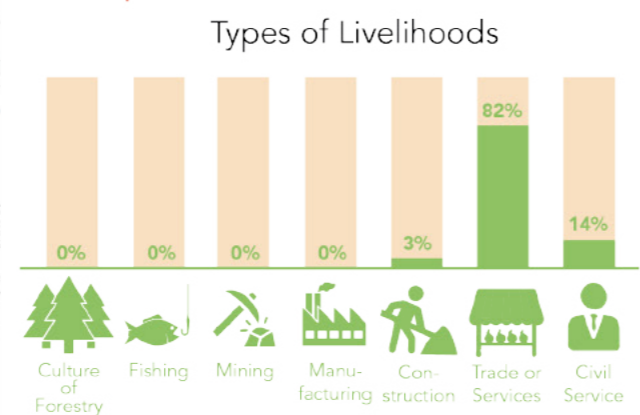


A makeshift pedestrian bridge in the Kawasan Manggala-Panakkukang slum area in Kelurahan Bangkala. Asian Development Bank.

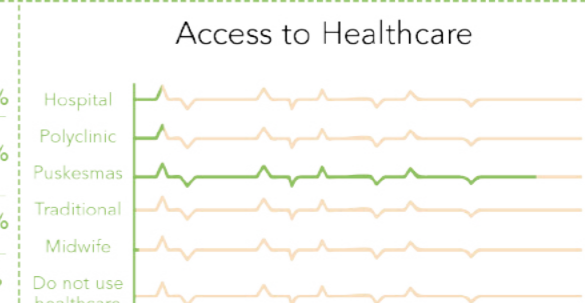
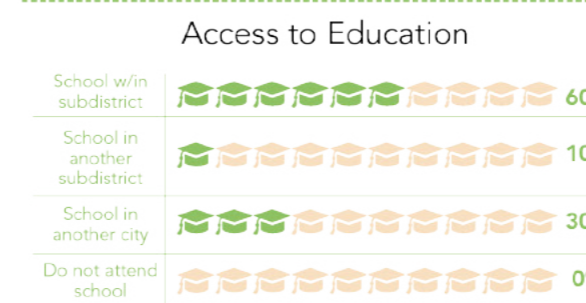
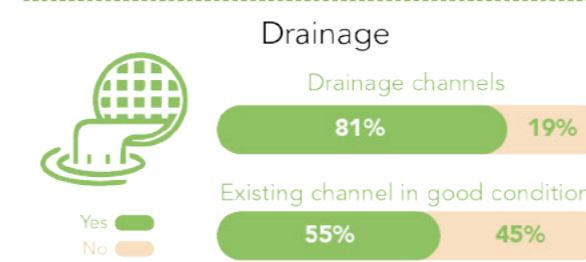
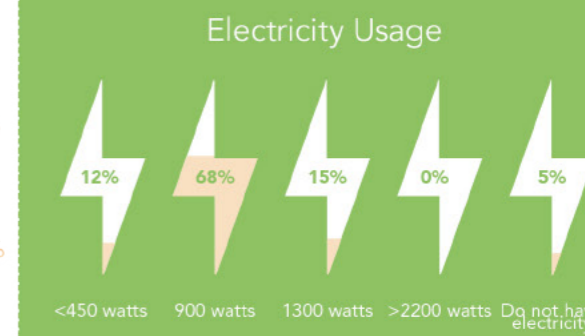
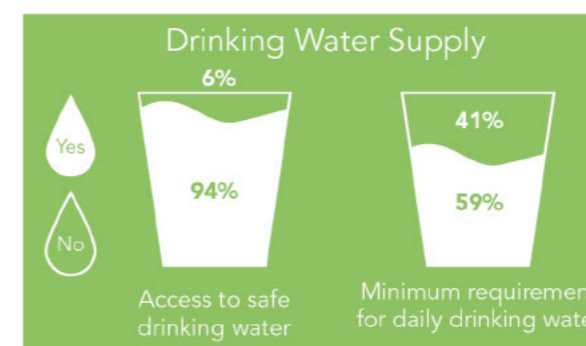
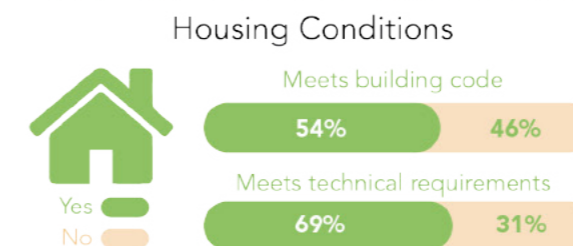
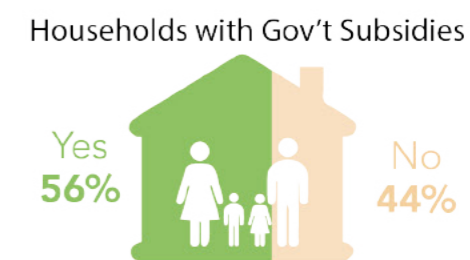
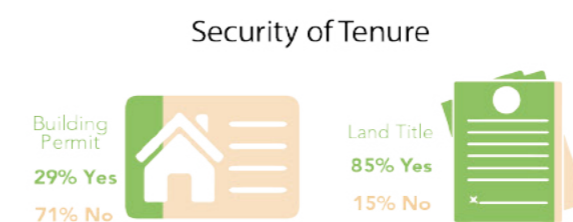
KAWASAN MANGGALA-PANAKKUKANG



Slum area (Ha) : 18.88
 Total population (Individual) : 2,344
 Number of households (RT) : 493
 Number of families (KK) : 541
 Number of poor households (RT) : 276



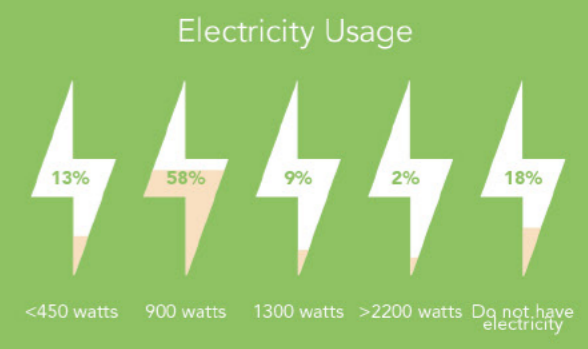
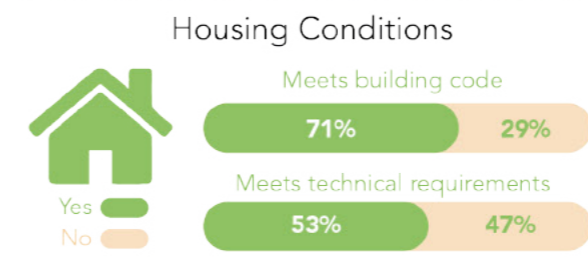
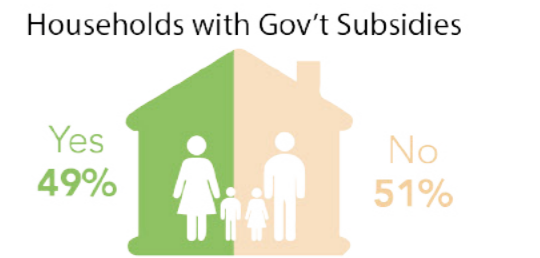
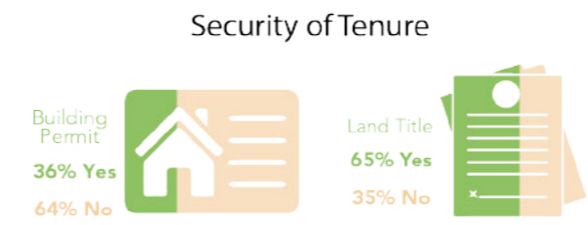
Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).



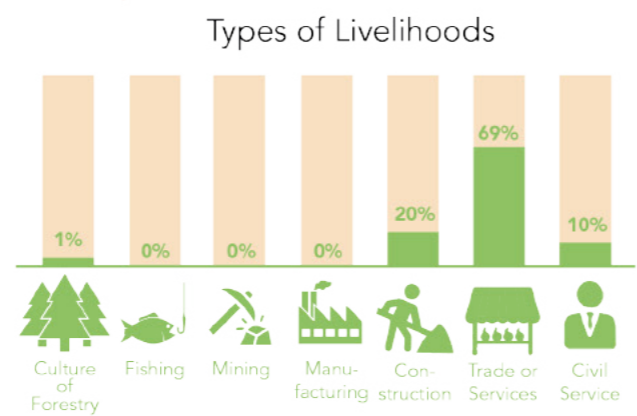
Traditional stilt houses allow slum communities to adapt to inundation in Kelurahan Pandang. Asian Development Bank.



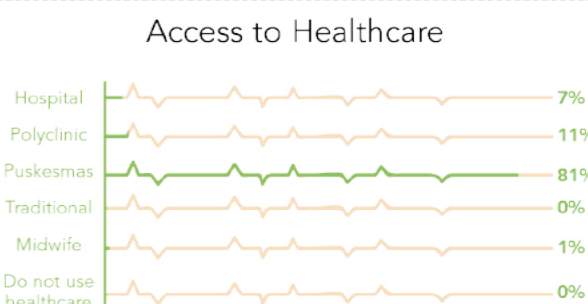
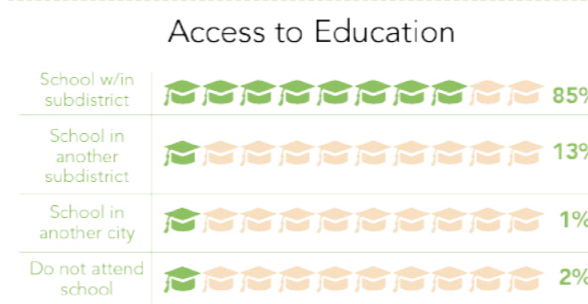
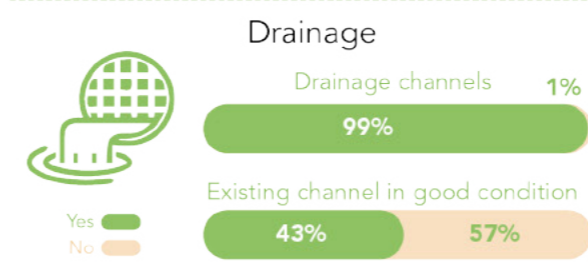
KAWASAN PANAKUKKANG-RAPPOCINI



Slum area (Ha) : 29.21
 Total population (Individual) : 3,679
 Number of households (RT) : 723
 Number of families (KK) : 843
 Number of poor households (RT) : 353



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).



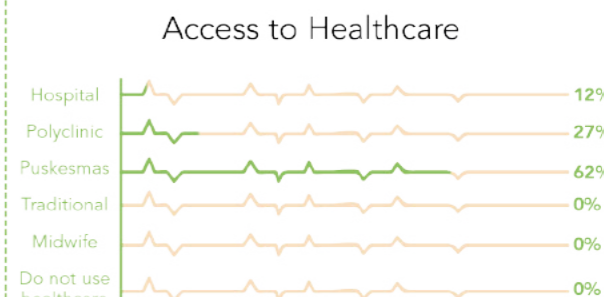
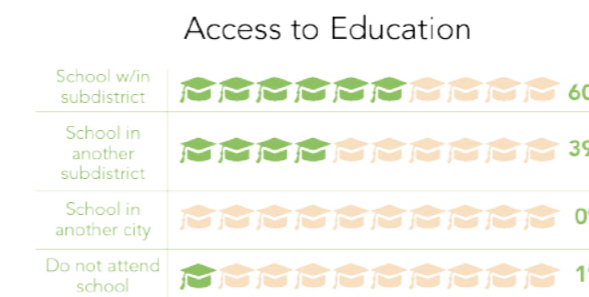
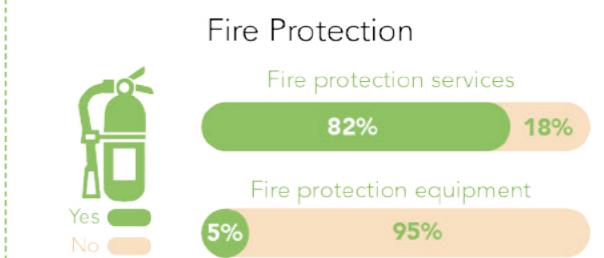
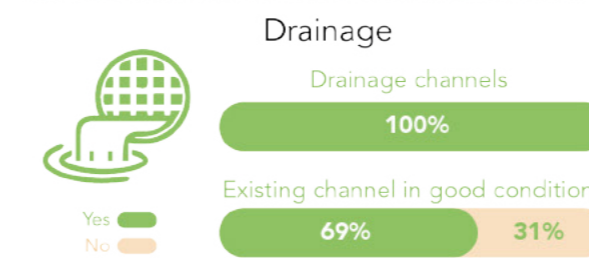
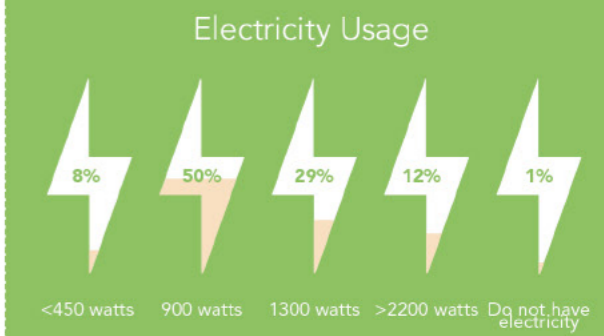
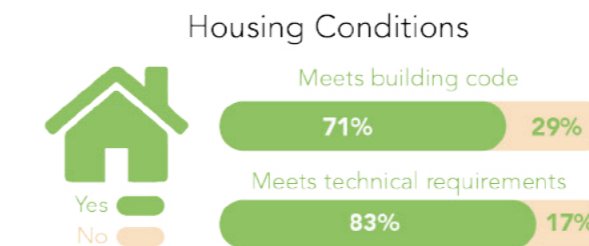
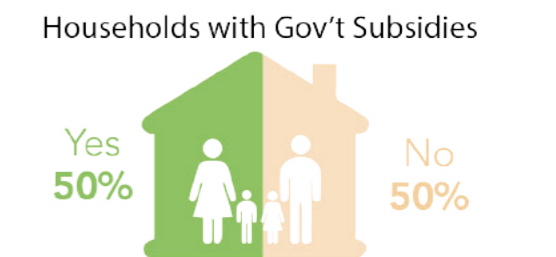
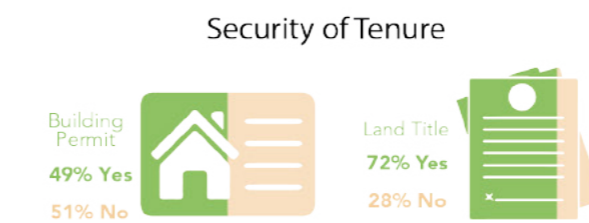
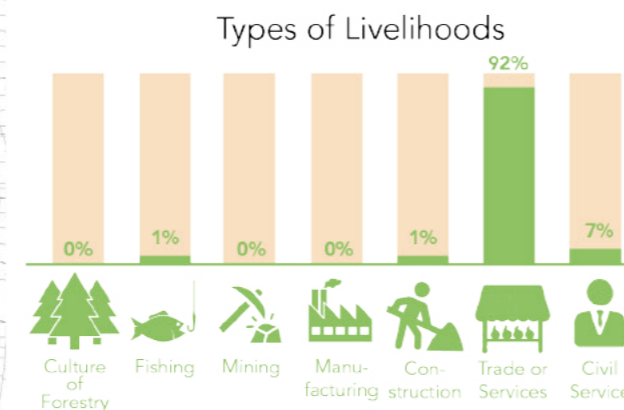
An neighborhood entry gate in Kelurahan Pisang Utara. Asian Development Bank.

KAWASAN BISNIS UJUNG PANDANG



Source: Makassar City KOTAKU (2021).

| | |
|--------------------------------|--------|
| Slum area (Ha) | : 5.52 |
| Total population (Individual) | : 778 |
| Number of households (RT) | : 146 |
| Number of families (KK) | : 181 |
| Number of poor households (RT) | : 73 |



Source: Makassar City KOTAKU (2021).

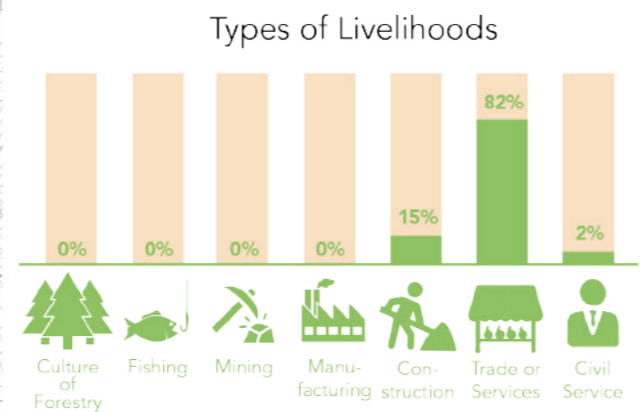


A bridge for pedestrians and two-wheeled vehicles in Kelurahan Bunga Eja Beru. Asian Development Bank.

KAWASAN BONTOALA-TALLO



Slum area (Ha) : 35.52
Total population (Individual) : 6,908
Number of households (RT) : 1,322
Number of families (KK) : 1,677
Number of poor households (RT) : 872



Source: Makassar City KOTAKU (2021).

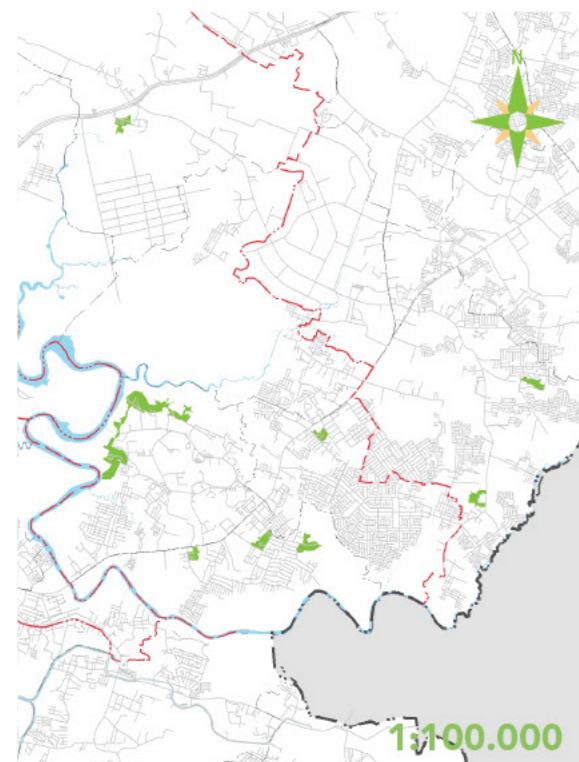


Source: Makassar City KOTAKU (2021).



A neighborhood in the Kawasan Tamalanrea-Biringkanaya slum area in Kelurahan Tamalanrea Indah. Asian Development Bank.

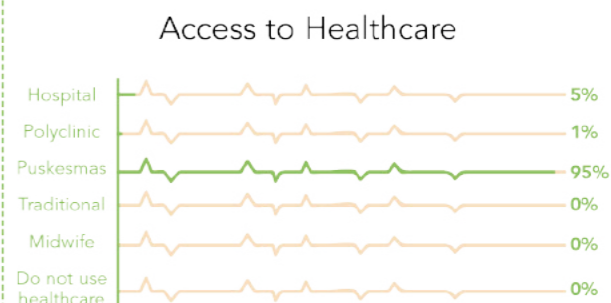
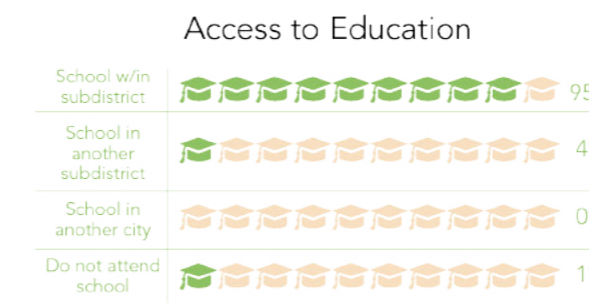
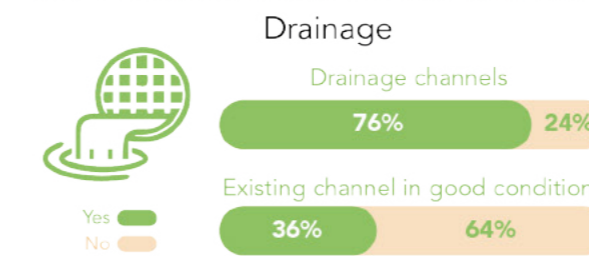
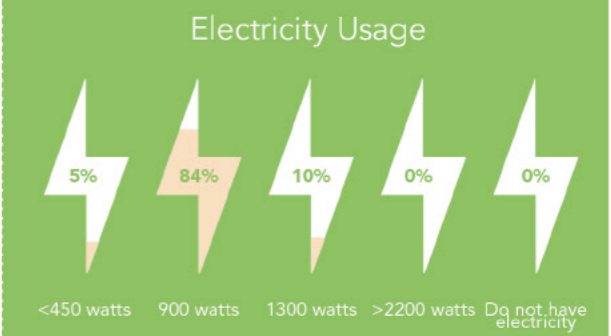
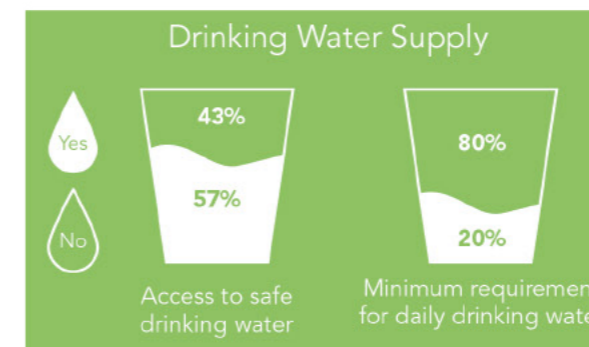
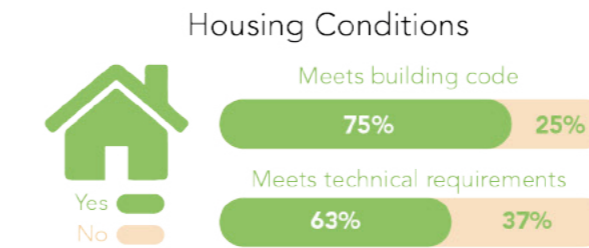
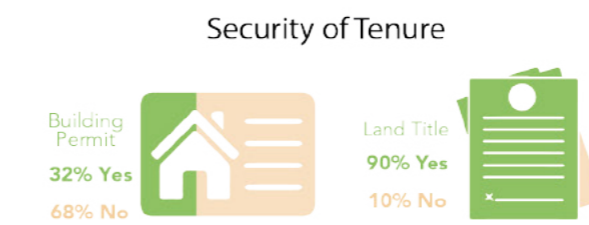
KAWASAN TAMALANREA-BIRINGKANAYA



Slum area (Ha) : 41.96
 Total population (Individual) : 2,909
 Number of households (RT) : 673
 Number of families (KK) : 776
 Number of poor households (RT) : 409



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).

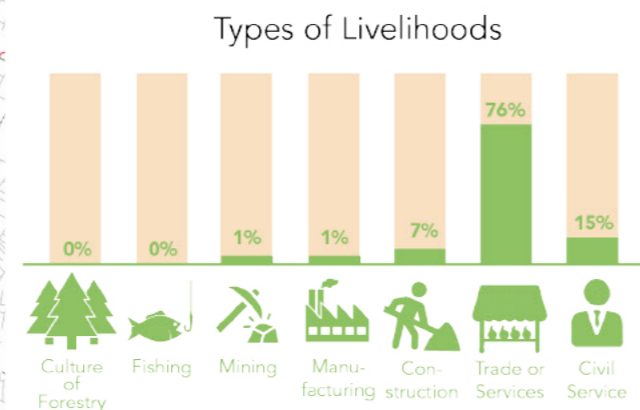


Informal vending locations in Kecamatan Mariso. Asian Development Bank.

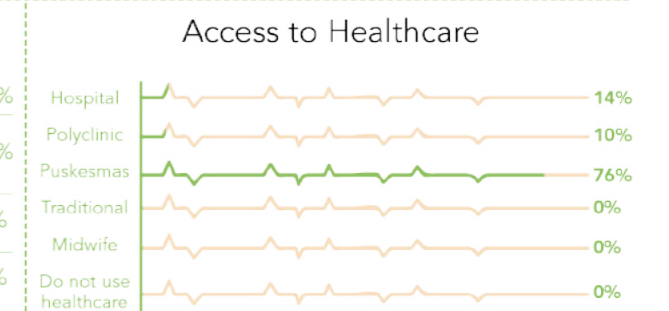
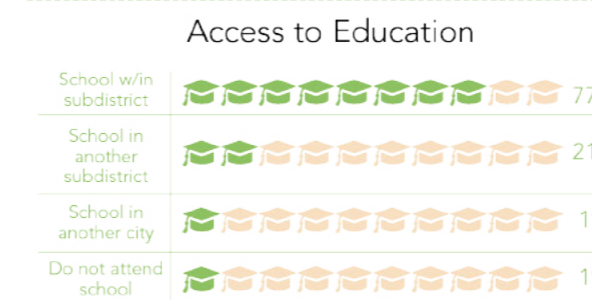
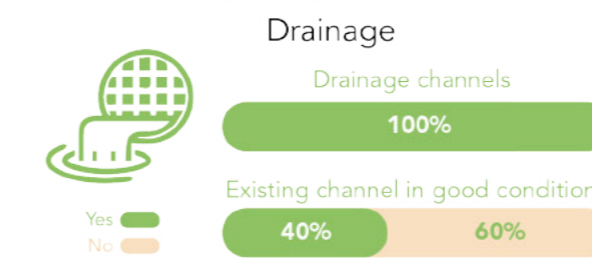
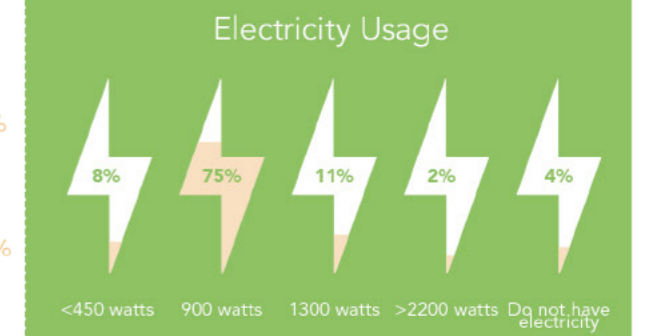
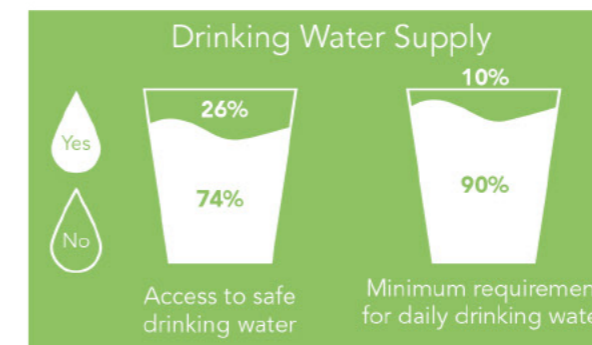
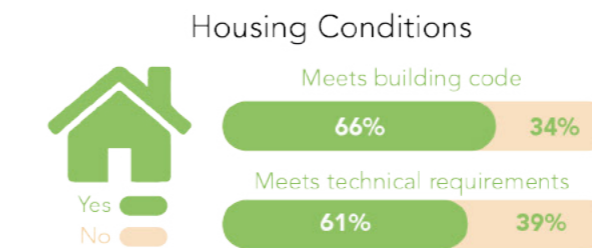
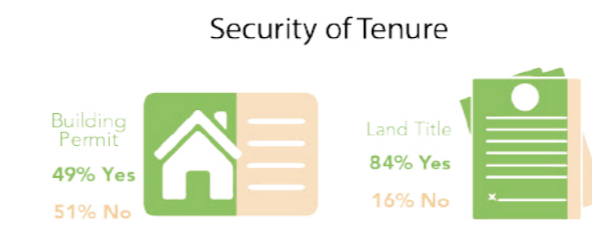
KAWASAN MAMAJANG-MARISO



Slum area (Ha) : 13.42
Total population (Individual) : 3,363
Number of households (RT) : 632
Number of families (KK) : 722
Number of poor households (RT) : 395



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).

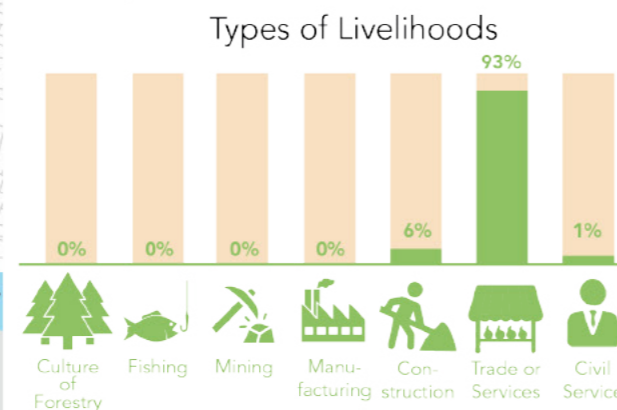


Slum communities in the Kawasan Tamalate slum area in Kelurahan Manuruki have built multistory dwellings. Asian Development Bank.

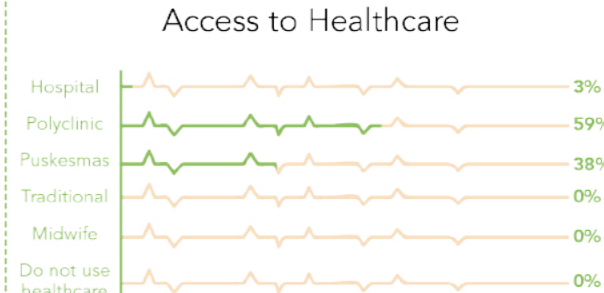
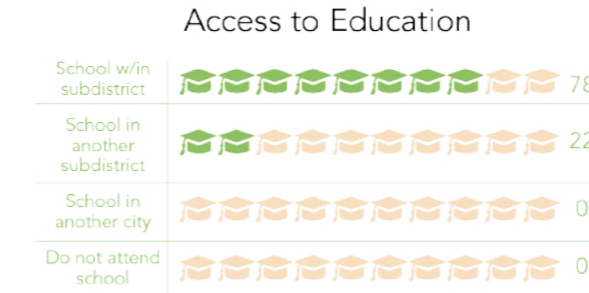
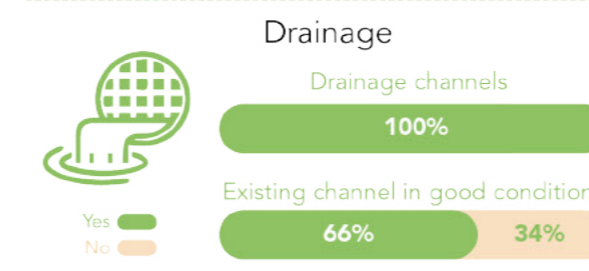
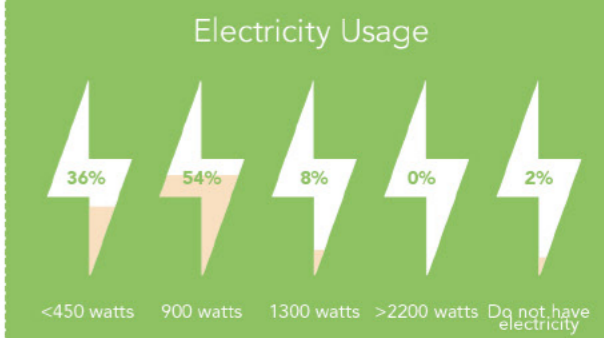
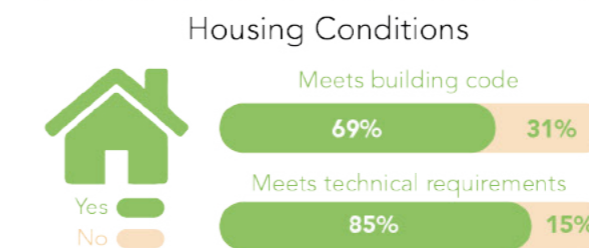
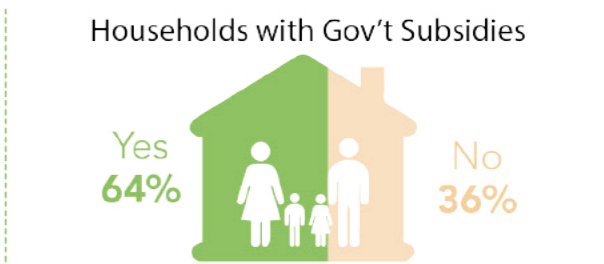
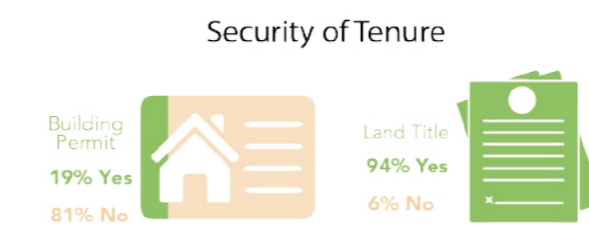
KAWASAN TAMALATE



Slum area (Ha) : 3.50
 Total population (Individual) : 952
 Number of households (RT) : 160
 Number of families (KK) : 218
 Number of poor households (RT) : 102



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).



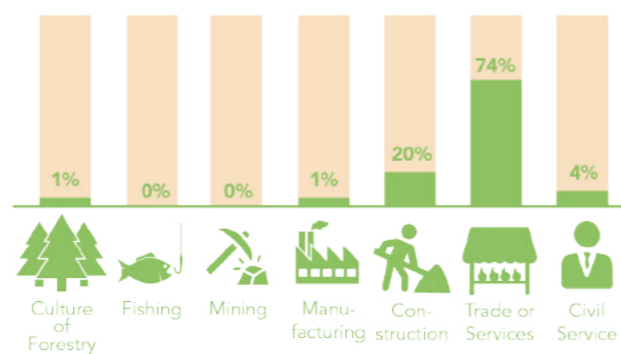
Fishing communities in Kelurahan Pampang rely on the Pampang River for transportation. Asian Development Bank.

KAWASAN PAMPANG

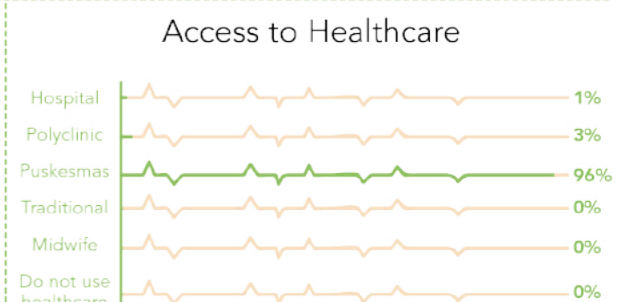
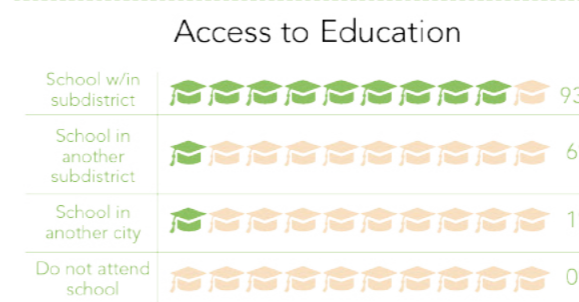
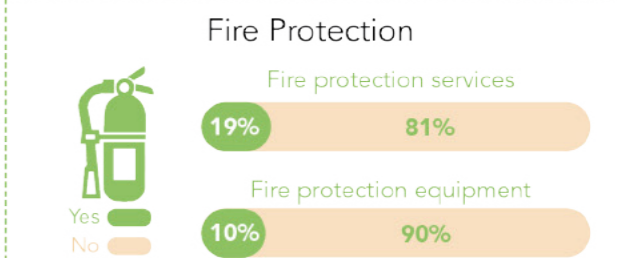
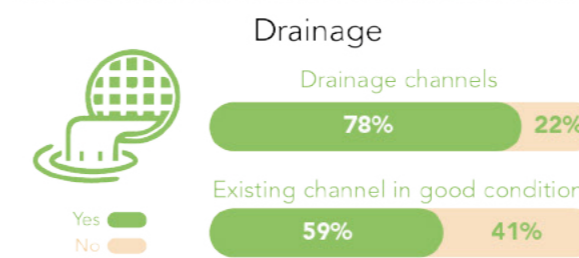
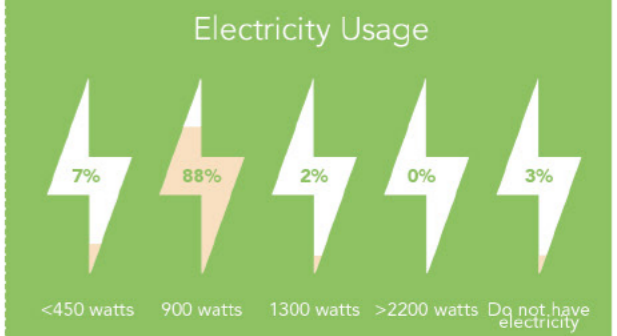
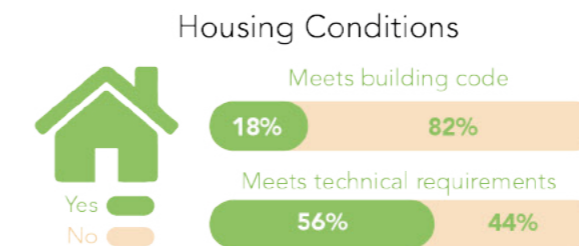
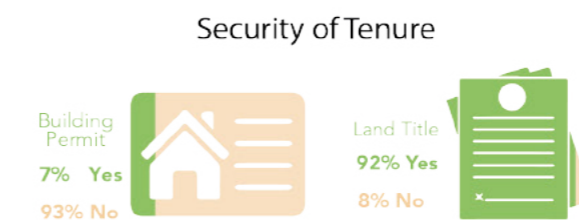


| | |
|--------------------------------|---------|
| Slum area (Ha) | : 21.20 |
| Total population (Individual) | : 4,185 |
| Number of households (RT) | : 725 |
| Number of families (KK) | : 949 |
| Number of poor households (RT) | : 288 |

Types of Livelihoods



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).



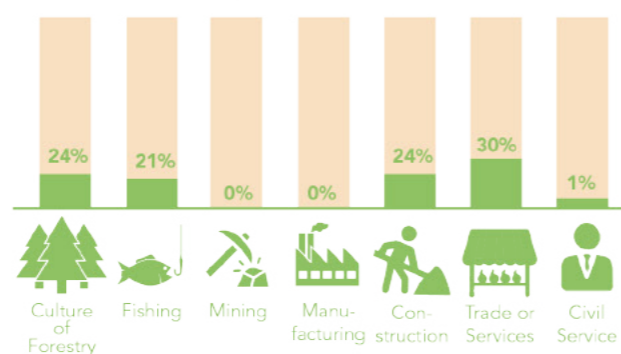
Dwellings in the Kawasan Maritim slum area in Kelurahan Barambong are raised on stilts to adapt to flooding. Asian Development Bank.

KAWASAN MARITIM



| | |
|--------------------------------|---------|
| Slum area (Ha) | : 12.85 |
| Total population (Individual) | : 1,148 |
| Number of households (RT) | : 257 |
| Number of families (KK) | : 258 |
| Number of poor households (RT) | : 208 |

Types of Livelihoods



Source: Makassar City KOTAKU (2021).

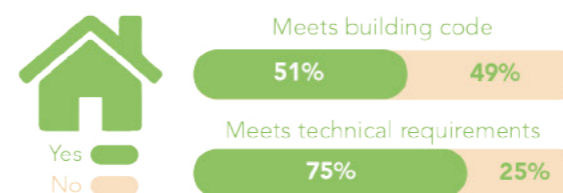
Security of Tenure



Households with Gov't Subsidies



Housing Conditions



Solid Waste Management



Drinking Water Supply



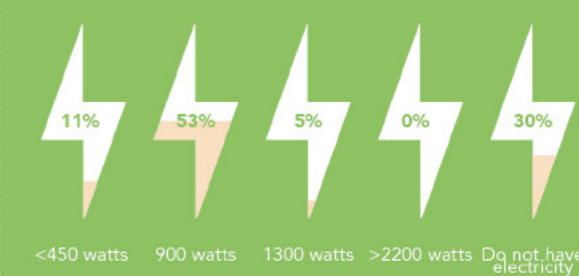
Sanitation & Wastewater



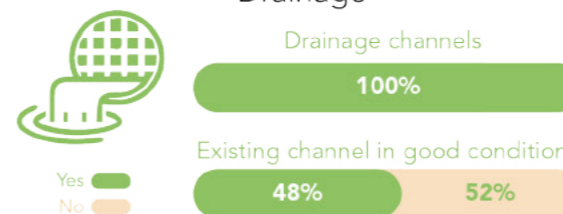
Neighborhood Roads



Electricity Usage



Drainage



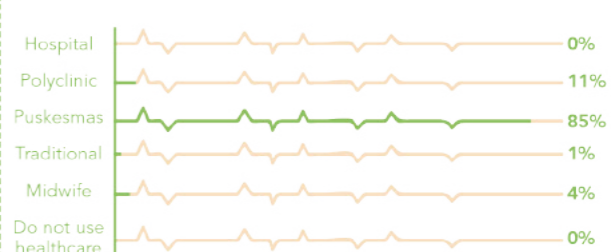
Fire Protection



Access to Education



Access to Healthcare



Source: Makassar City KOTAKU (2021).



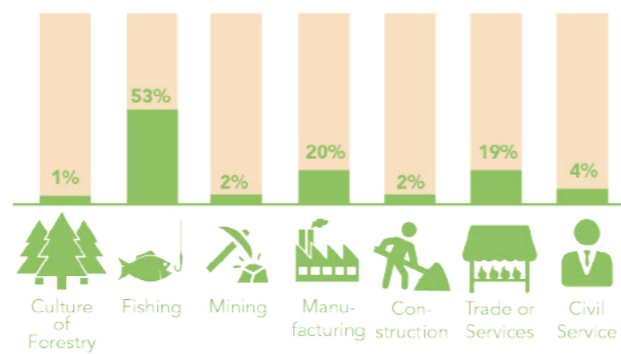
A river-crossing boat dock on the Tallo River (DAS Tallo) in Kelurahan Lakkang. Asian Development Bank.

KAWASAN KONSERVASI DAS TALLO

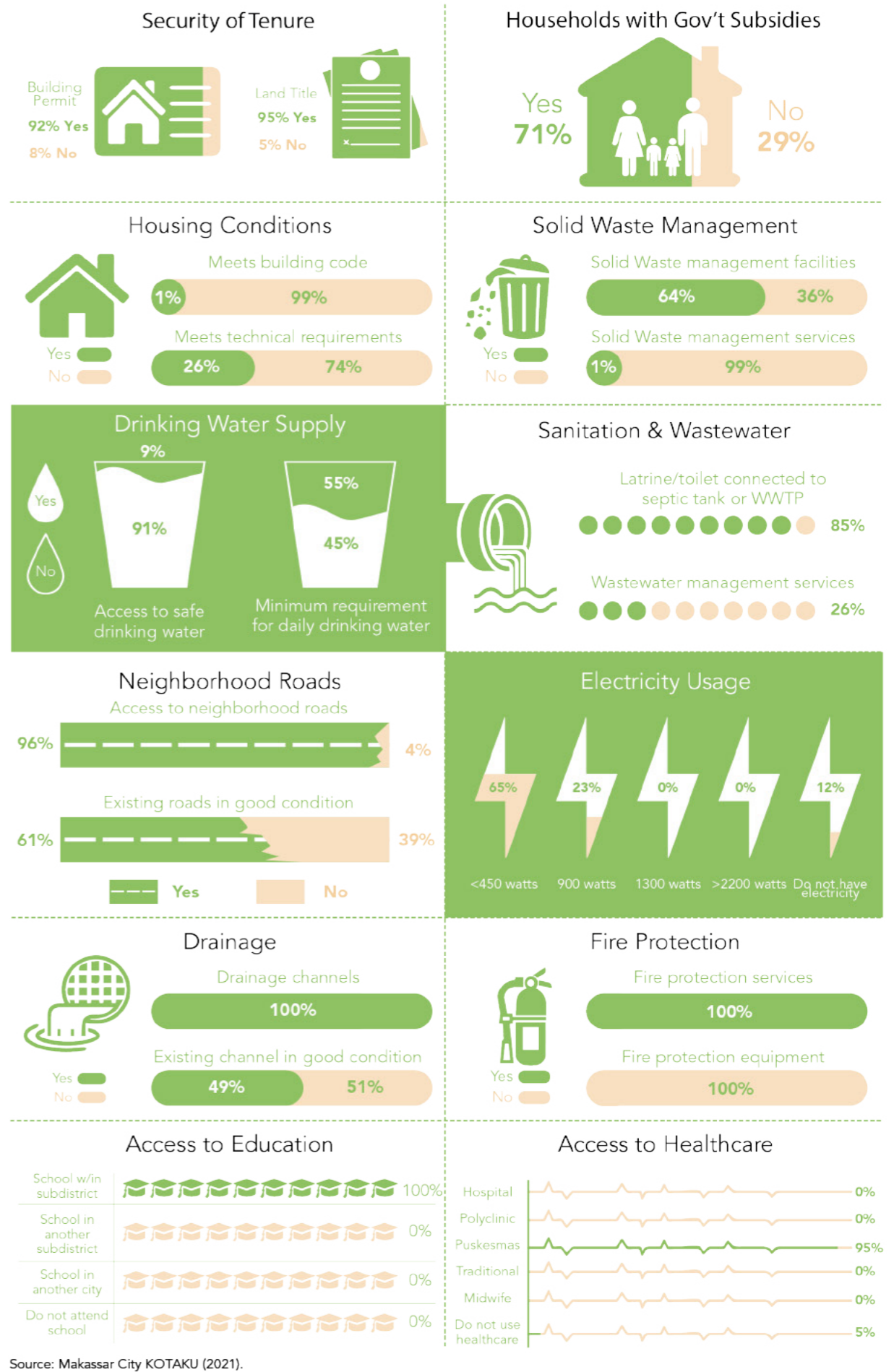


Slum area (Ha) : 11.57
Total population (Individual) : 1,089
Number of households (RT) : 254
Number of families (KK) : 265
Number of poor households (RT) : 181

Types of Livelihoods



Source: Makassar City KOTAKU (2021).



Source: Makassar City KOTAKU (2021).

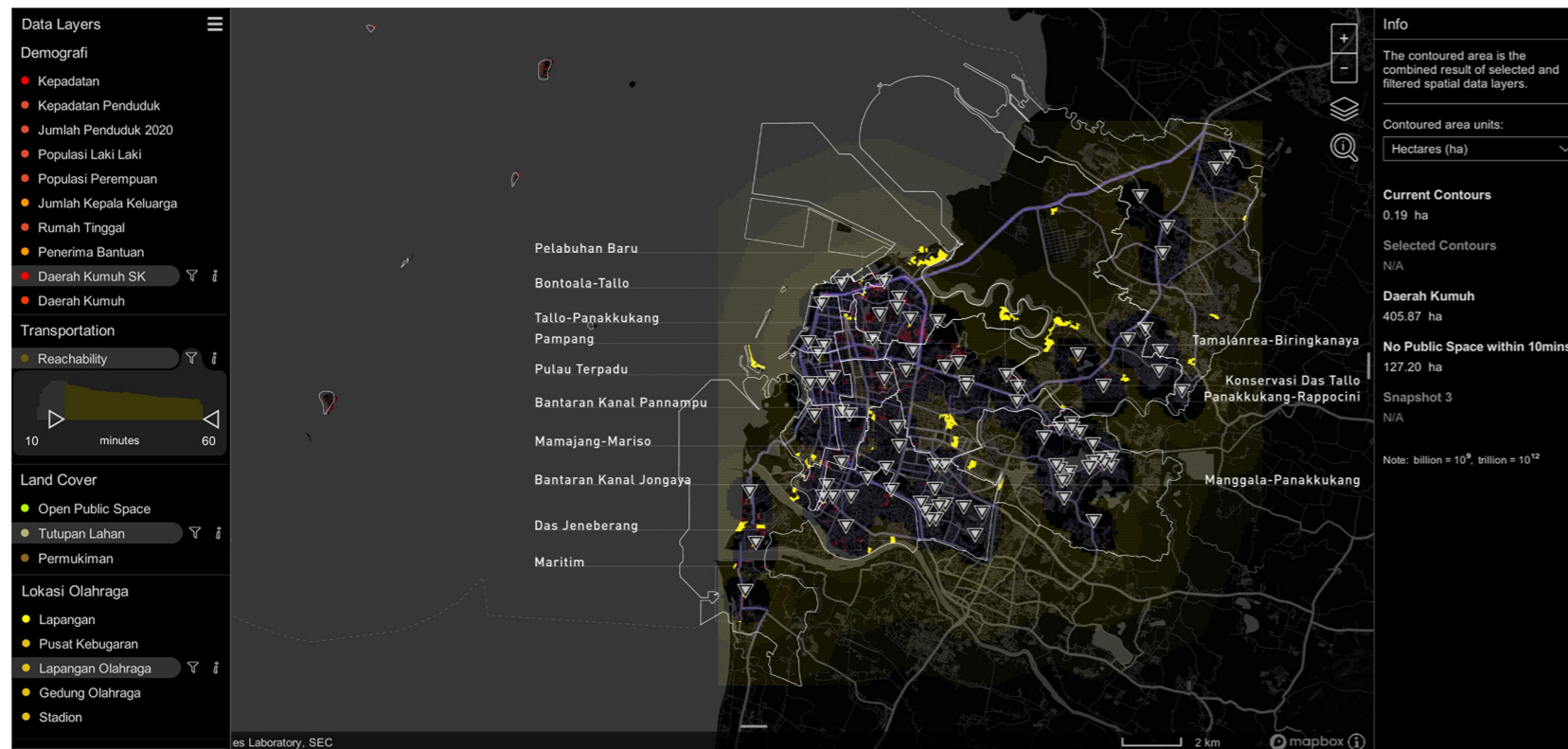


Figure 2.2 Access to public green open space in slums

2.4 SLUM ANALYSIS

LAND USE

31% of total slum area has no access to public green open space within a 10-minute walk. Slum areas highlighted in yellow indicate those with no access to public green open space within a 10-minute walk radius (800 m). The analysis uses parks (*taman*) and sports fields (*lapangan olahraga*) as a proxy measure for access to public green open space. A limitation of the analysis is that the data for *taman* may include undeveloped land that is not usable for recreation or public gatherings, such as cemeteries and landscaped medians. No data on paved public open space (e.g., plazas or squares) were publicly available.

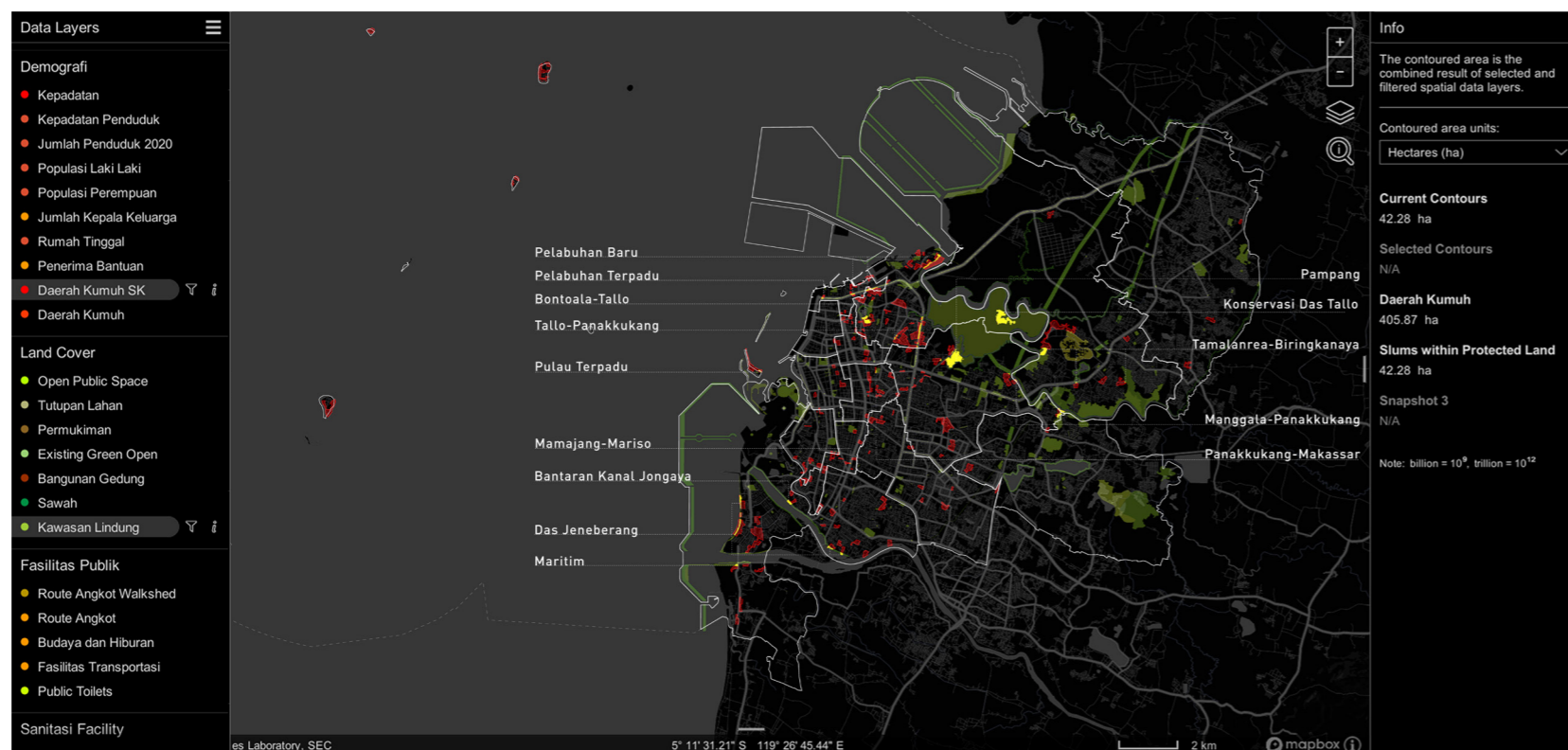


Figure 2.3 Slums located in protected areas.

10% of total slum area is located in protected areas. Slum areas highlighted in yellow indicate those located on government designated protected areas, including conservation areas. In theory, these slum areas may be highly vulnerable to eviction due to their nonconformance with the city's General Spatial Plan (RTRW).

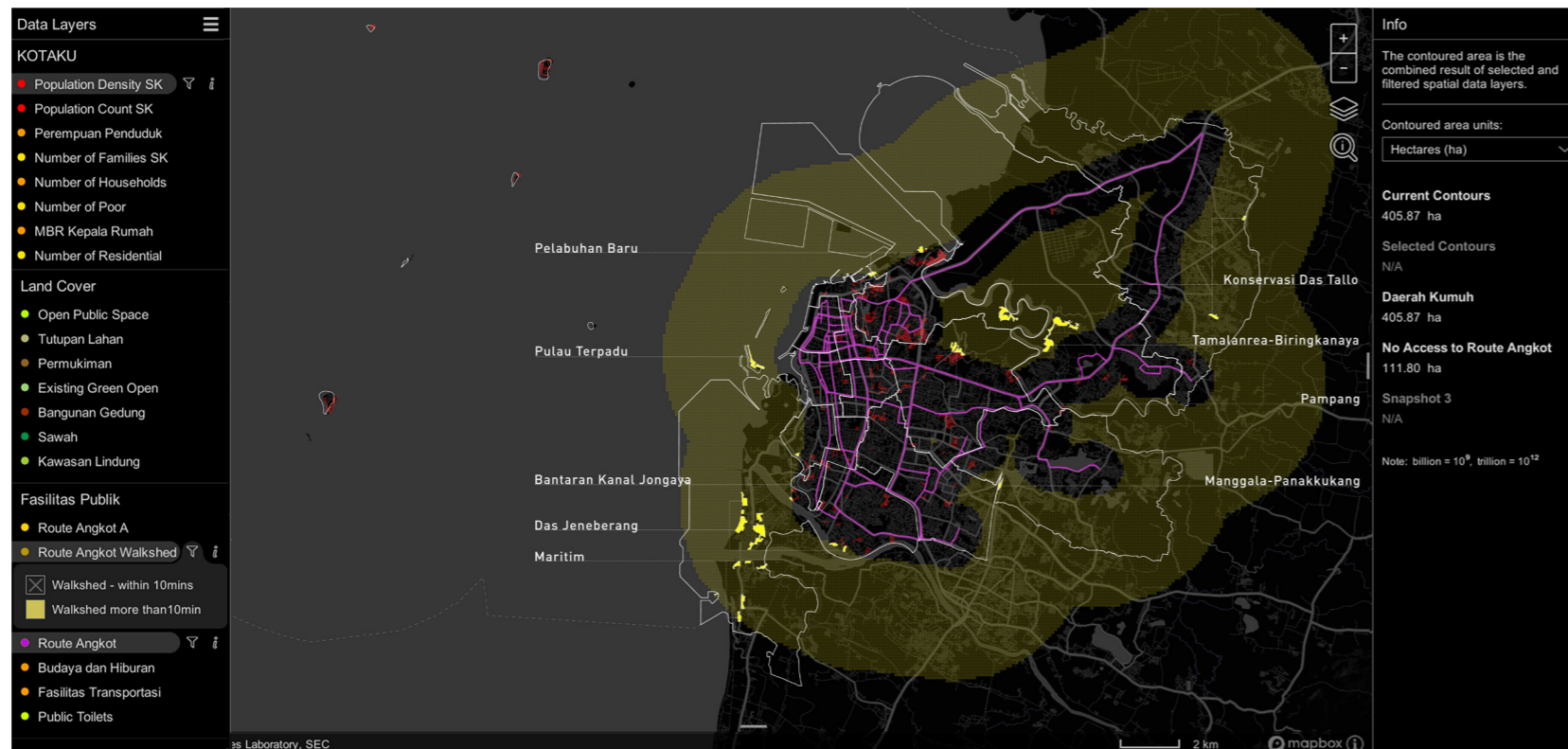


Figure 2.4 Access to informal transport (*pete-pete*).

MOBILITY

28% of total slum area has no access to informal transport within a 10-minute walk. Slum areas highlighted in yellow indicate those located outside of a 10-minute walk radius (800 m) from the informal transport (*pete-pete*) route. These slum areas may experience increased challenges to affordable urban mobility and poorer economic outcomes.

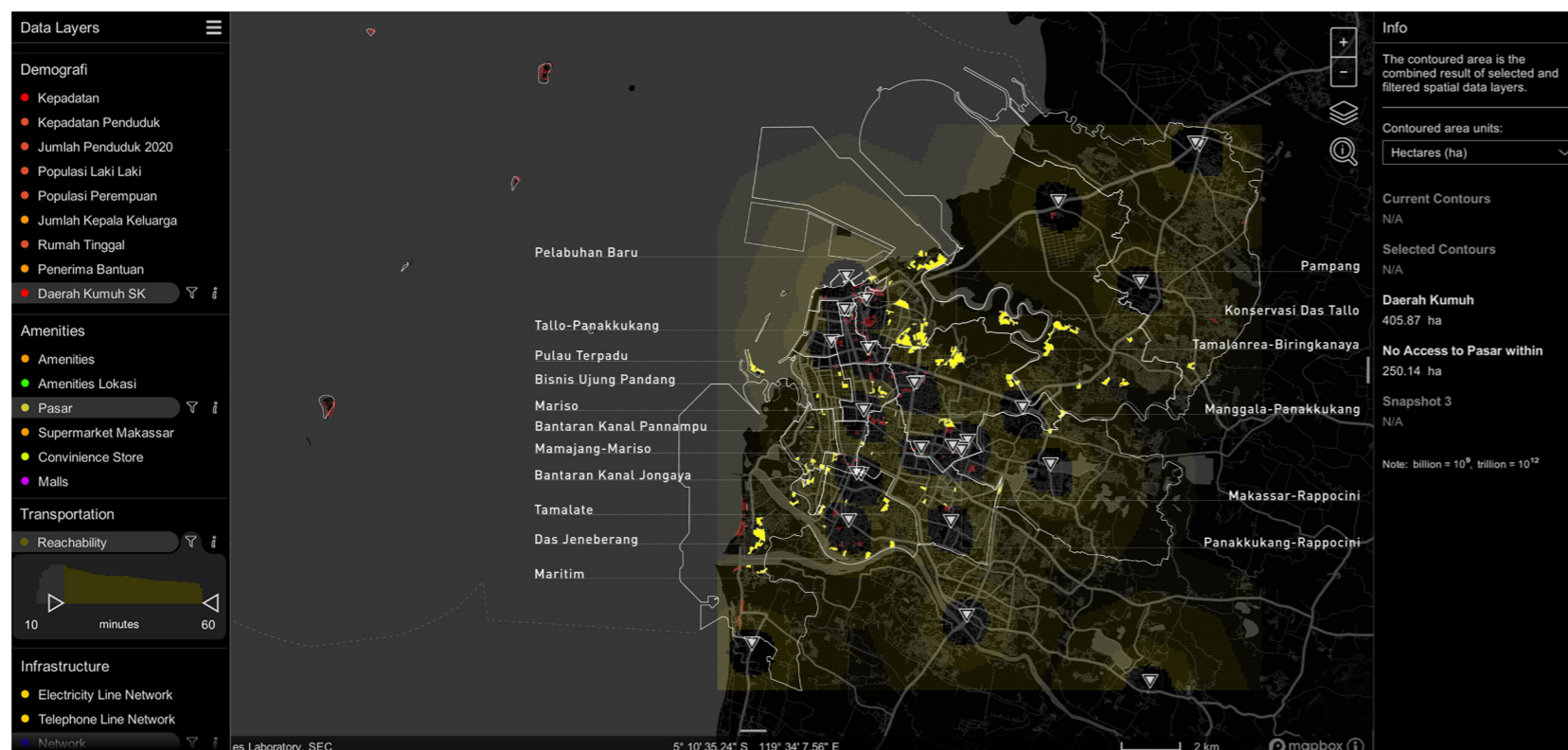


Figure 2.5 Access to traditional markets (*pasar*).

62% of total slum area has no access to traditional markets within a 10-minute walk. Slum areas highlighted in yellow indicate those located outside of a 10-minute walk radius (800 m) to traditional markets (*pasar*), a proxy measure for access to affordable and nutritious foods. These slum areas may experience higher food insecurity and poorer health outcomes associated with inadequate nutrition.

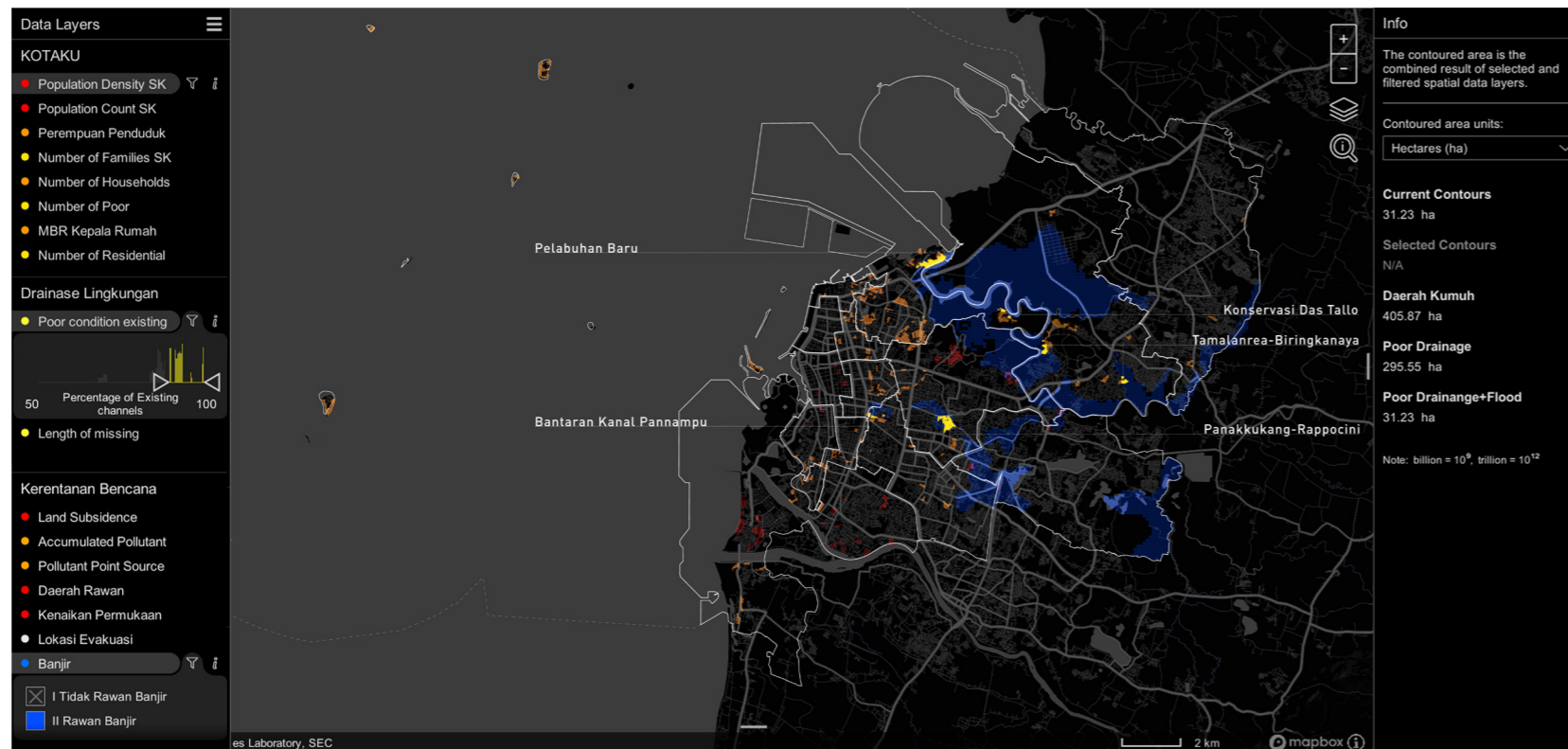


Figure 2.6 Flooding and poor stormwater drainage in slums

FLOODING

31% of total slum area has no access to public green open space within a 10-minute walk. Slum areas highlighted in yellow indicate those with no access to public green open space within a 10-minute walk radius (800 m). The analysis uses parks (*taman*) and sports fields (*lapangan olahraga*) as a proxy measure for access to public green open space. A limitation of the analysis is that the data for *taman* may include undeveloped land that is not usable for recreation or public gatherings, such as cemeteries and landscaped medians. No data on paved public open space (e.g., plazas or squares) were publicly available.

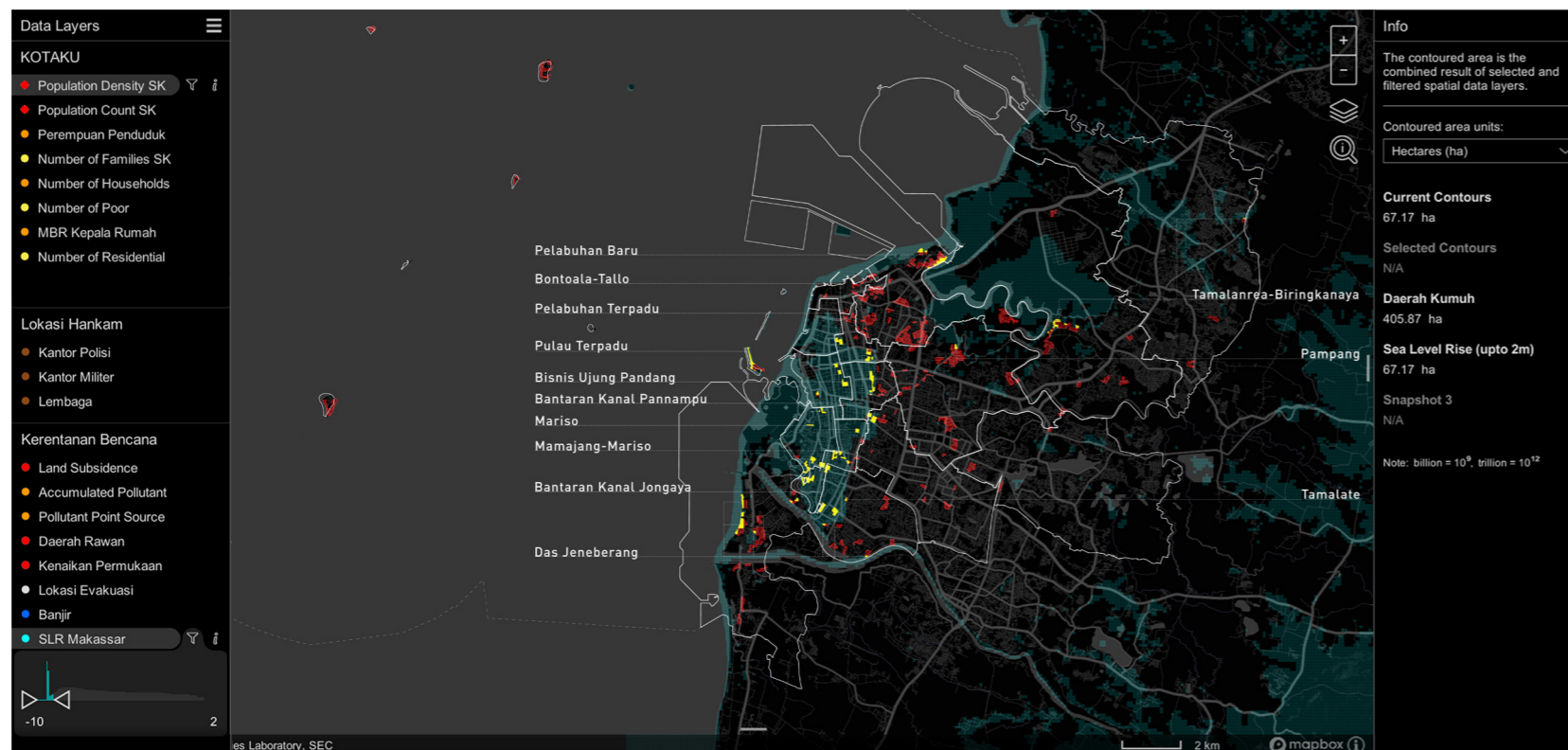


Figure 2.7 Projected sea level rise up to 2 M.

17% of total slum area is vulnerable to projected sea level rise. Slum areas highlighted in yellow indicate those vulnerable to projected sea level rise up to 2 m. These slum areas may be the most at risk of impacts of climate change and natural hazards.

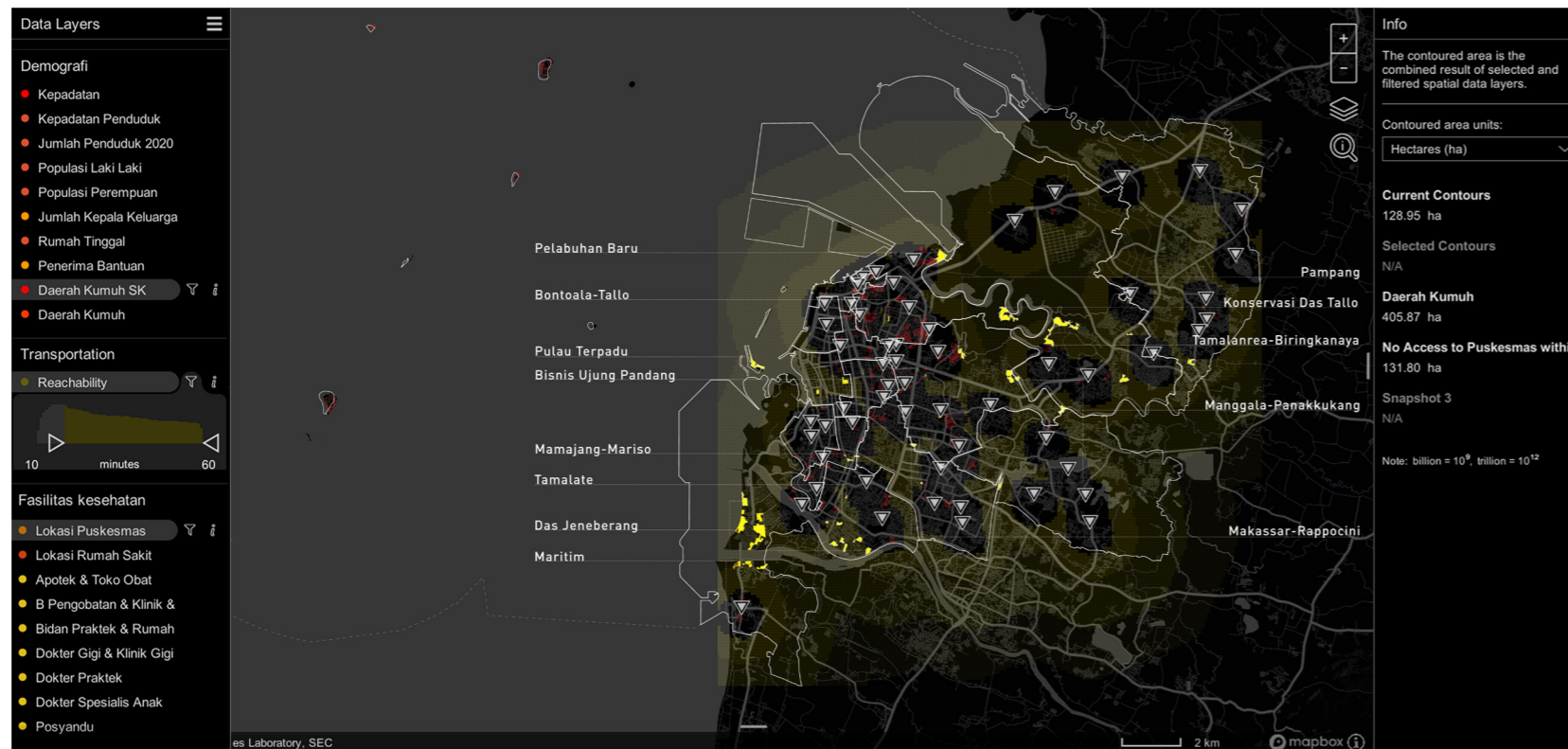


Figure 2.8 Access to public health centers (*puskesmas*).

HEALTH AND EDUCATION

32% of total slum area has no access to a public health center within a 10-minute walk. Slum areas highlighted in yellow indicate those without access to a public health center (*puskesmas*) within a 10-minute walk radius (800 m). *Puskesmas* function as primary health centers and 'gatekeepers' to other healthcare facilities and services for the poor (who receive subsidized healthcare). Thus, closer proximity to a *puskesmas* may be correlated with better health outcomes.

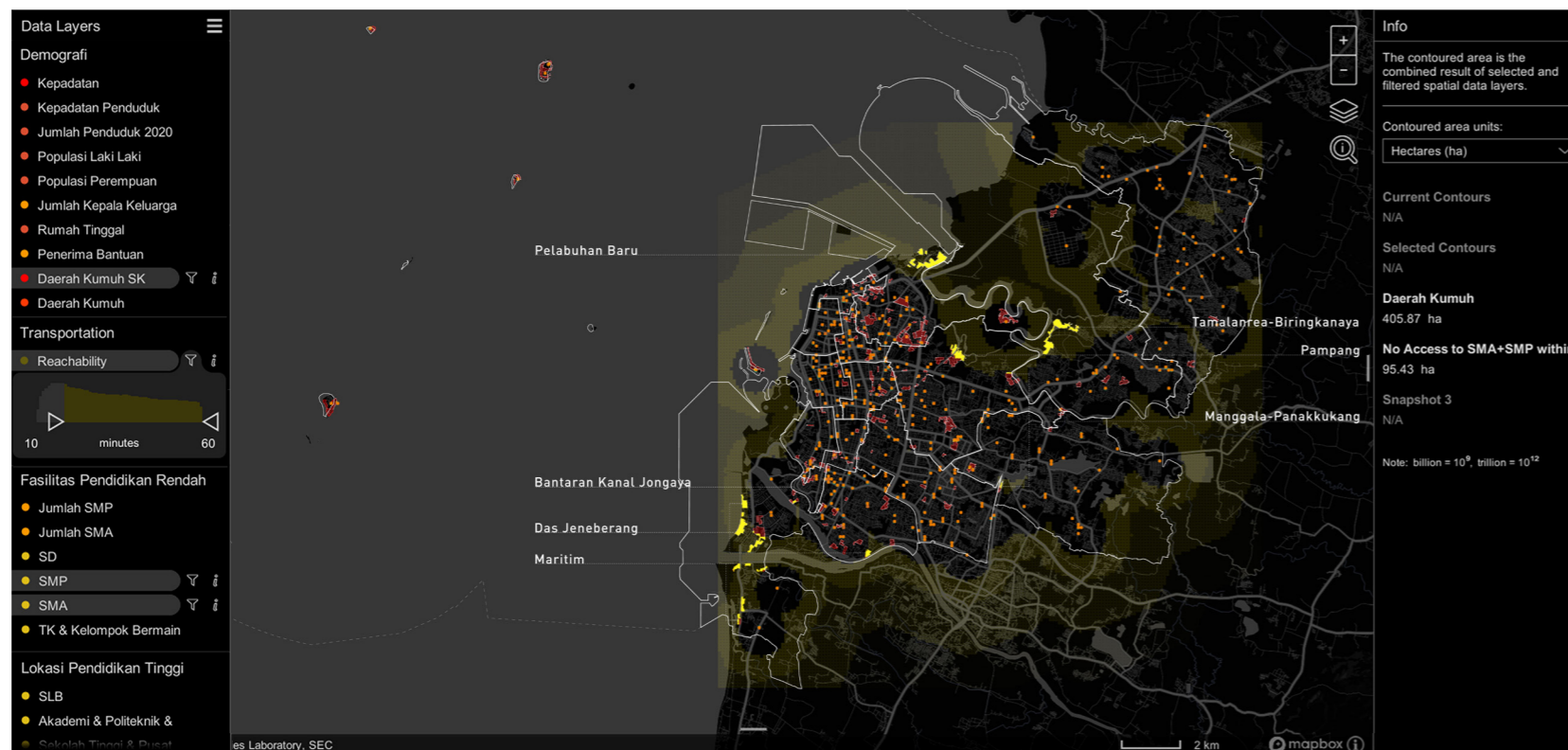


Figure 2.9 Access to secondary schools (SMA / SMP).

24% of total slum area has no access to a high school within a 10-minute walk. Slum areas highlighted in yellow indicate those without access to a secondary school (SMA / SMP) within a 10-minute walk radius (800 m). Closer proximity to a SMA / SMP may be correlated with better education outcomes.

2.5 INSTITUTIONAL ARRANGEMENTS

POLICY AND PLANNING FRAMEWORK

Several national and subnational policies govern the slum upgrading activities in Makassar. At the national level, the National Medium-Term Development Plan (RPJMN) for 2020-2024 targets alleviation of 10,000 ha of slum area, primarily through provision of water supply, sanitation, and affordable housing.¹⁹ Referencing the RPJMN, the MPWH Strategic Plan (Renstra PUPR) guides national planning, programming, implementation, and monitoring and evaluation of infrastructure development over a five-year period. For the period 2020-2024, MPWH has included the 10,000 ha of slum upgrading as an indicator for its strategic priority (SS-3) to increase provision of access to housing along with adequate, safe, and affordable housing infrastructure.²⁰

Different levels of government are responsible for slum policy implementation depending on the designated land area of each slum.²¹ For slum areas ≥ 15 ha, the central government is the lead agency. For slum areas between 10 and 15 ha uninclusive, the provincial government is the lead agency. For the smallest slum areas that are ≤ 10 ha, the local government is the lead agency. Based on this law, the current 2020 Gubernatorial Decree on Slums, which enumerates the total hectares of slum area under provincial jurisdiction within each district (city or regency), designates approximately 78 ha of Makassar City as slum areas within provincial jurisdiction.²²

At the city-level, the Mayoral

Decree on Slums (SK Kumuh) enumerates the total hectares of slum area in the city, regardless of jurisdictional authority. The 2021 Decree is the most current decree.²³ The decree designates 428 hectares of the city as slum alleviation areas and an unspecified number of hectares as slum prevention areas. Other city-level slum policies include:

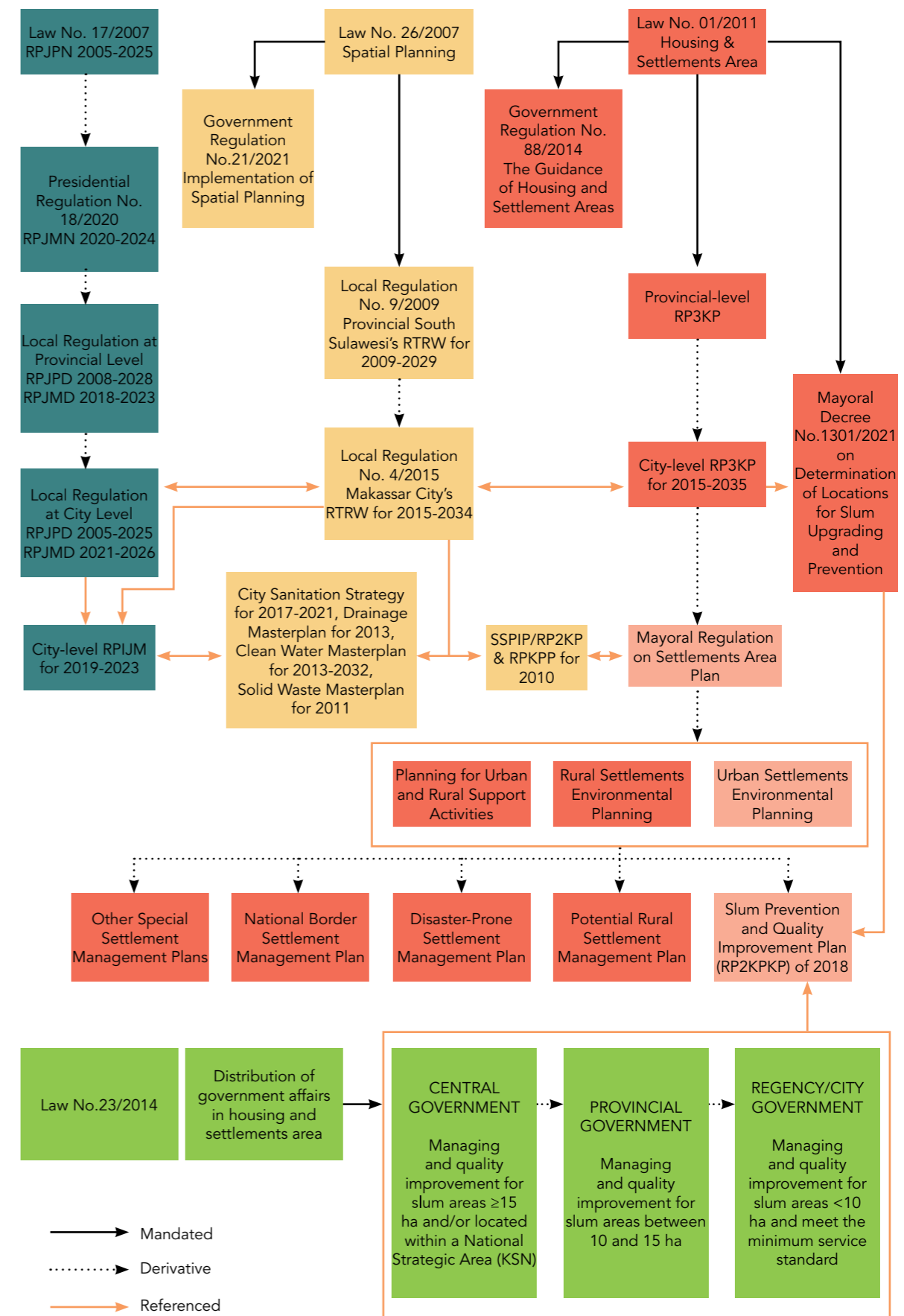
- Slum Improvement Action Plan (SIAP), a 2016 city planning document supported by ADB during NUSP-2 project activities.²⁴
- Program Memorandum, a 2017 city planning document that provides an action plan for slum upgrading. Its purpose is to synchronize information between the SIAP, RP2KPKP, and RKPKP, Makassar's first slum upgrading plan. Key guidance from this document include: prioritization of the coastal slum areas; planning at a regional scale; and stakeholder collaboration.
- Urban Slum Settlements Prevention and Quality Improvement Plan (RP2KPKP), a 2018 city planning document meant to guide slum upgrading activities. It puts forth a comprehensive, integrated scope in the context of

both the city and region, and identifies physical and non-physical activities (e.g., capacity building, community empowerment, and socioeconomic development) for slum alleviation and prevention. RP2KPKP references the city's RTRW.²⁵

- To address challenges of housing quantity, quality, and affordability, the Government of Indonesia instated the "One Million Houses" (*Satu Juta Rumah*) policy to provide one million newly constructed homes through public and private financing. For the period 2020-2024, GOI's targets are to provide public rental housing flats (RUSUNAWA) and public housing flats for sale (RUSUNAMI) that are integrated with the public transportation system.²⁶ Aligned with the RPJMN, MPWH's target for affordable housing provision is 51,340 public housing (*rumah susun*) units, with 70% of households occupying decent and affordable housing.²⁷

Satu Juta Rumah primarily targets low-income households (MBR, *Masyarakat Berpenghasilan Rendah*) for government housing subsidies. The policy includes:²⁸

19. Government of Indonesia. 2020. National Medium-Term Development Plan (RPJMN) 2020-2024. Jakarta.
20. Government of Indonesia. 2020. Ministerial Regulation of Public Works and Housing (Permen) No. 23/2020 on Strategic Plan (Renstra) 2020-2024. Jakarta.
21. Law No. 23 of 2014 on Local Government.
22. Government of South Sulawesi Province. 2020. Gubernatorial Decree (SK) No. 956/III/2020 on Determination of Slum Locations within Provincial Authority of South Sulawesi Province.
23. Government of Makassar City. 2021. Mayoral Decree (SK) No. 1301/050.13/2021 on Determination of Locations for Slum Upgrading and Prevention in Makassar City.
24. Government of Makassar City. 2016. Slum Improvement Action Plan (SIAP). Makassar City.
25. Government of Makassar City. 2018. Urban Slum Settlements Prevention and Quality Improvement Plan (RP2KPKP). Makassar City.
26. Government of Indonesia. 2020. Presidential Regulation (*Perpres*) No. 18/2020 on National Medium-Term Development Plan (RPJMN) 2020-2024. Jakarta. Listed as Major Project No. 34.
27. Government of Indonesia. 2020. Ministerial Regulation of Public Works and Housing (*Permen*) No. 23/2020 on Strategic Plan (*Renstra*) 2020-2024. Jakarta. Outlined in Strategic Priorities (*Sasaran Strategis*) SS-3. "Smart Living" principles include: 1) livable settlements; 2) green buildings; 3) disaster-resilient settlements; and 4) green technologies.
28. World Bank. 2020. Indonesia Public Expenditure Review: Chapter 10 Housing. Jakarta.



Source: Authors

Figure 2.10 Makassar City Urban Policy and Planning Framework.

- regulations on taxation, financing, and land use for housing development;
- provision of housing for low-income households, including RUSUNAWA, special-purpose houses (RUSUS), and home improvement subsidies (BSPS, *Bantuan Stimulan Perumahan Swadaya*); and
- access to housing finance through credit-linked programs, including mortgage-linked subsidies (KPR, Kredit Perumahan Rakyat).

The Housing and Settlements Development Plan (RP3KP) is a multi-level planning document meant to guide housing and residential activities, including for slum areas. The city-level RP3KP is meant to reference its respective provincial-level RP3KP. Currently, local government has a RP3KP for the period 2015-2035 (detailed in section 2.5.4).²⁹

ROLES AND RELATIONSHIPS

Governments, communities, and the private sector have different but complementary roles and responsibilities in slum alleviation and prevention (Figure 2.11). The central government sets policy direction and priorities as well as allocates fiscal spending for poverty alleviation and housing provision through the Special Allocation Fund (DAK, *Dana Alokasi Khusus*).³⁰ Provincial governments act as regional representatives of the central government. They are responsible for communicating national policies, supervising development, and helping local governments to allocate budget.

District governments are responsible for policy

implementation, including construction, service delivery, and operations and maintenance. Since the 1999 decentralization reforms in Indonesia, local or district governments such as cities (*kota*) and regencies (*kabupaten*) have taken on major responsibilities for spending and service delivery. Despite autonomy over spending however, districts still have very limited autonomy to raise own-source revenue to finance service delivery. Districts therefore remain largely dependent on intergovernmental transfers.³¹

Non-state actors also have key roles in slum alleviation. Communities are responsible for identifying their needs, participating in planning processes, and monitoring community development in partnership with local governments. The private sector is responsible for the financing and construction of public housing.

In addition to this standard division of roles, in 2019, Makassar City formed an interagency Housing and Settlement Area Working Group (POKJA) to lead and coordinate all stages of housing and settlement development, from planning to post-construction.³² The POKJA is headed by:

1. Chairperson: sitting director of the City Development Planning Agency (Bappeda); and

2. Secretary: sitting director of the Bappeda Secretariat.

The Pokja also consists of coordinators and members. Coordinators must be agency directors, whereas members can be agency directors, inter-departmental agency directors, (*kepala bidang antar dinas*), or division heads (*kepala seksi/sub-bidang*).

EXISTING EFFORTS

Makassar's past and current slum alleviation programs include:

1. Neighborhood Upgrading and Shelter Sector Project (NUSSP, 2005-2009). Financed by ADB, NUSSP aimed to improve slum neighborhoods and access to adequate housing for low-income households in urban areas through multistakeholder partnerships. In Makassar City, NUSSP upgraded 42 *kelurahan* across 11 *kecamatan*.³³

2. Cities without Slums Program (KOTAKU, 2015-Present). Two KOTAKU projects have been implemented in Makassar City: the World Bank financed National Slum Upgrading Project (NSUP) and the ADB financed Neighborhood Upgrading Shelter Project Phase II (NUSP-2). The projects aimed to build city government capacity to

29. Government of Makassar. 2015. Housing and Settlements Development Plan (RP3KP) 2015-2035. Makassar City.
 30. The Special Allocation Fund (DAK) is an earmarked grant conditioned on specific sectoral spending priorities. The DAK Fisik supports capital investments while the DAK non-Fisik co-finances recurrent expenditures such as health and education assistance. To receive DAK, subnational governments must submit grant proposals to the central government.
 31. World Bank. 2020. *Indonesia Public Expenditure Review*. Washington, DC.
 32. Government of Makassar City. 2019. Mayoral Decree (SK) No.198/2019 on The Working Group of Housing and Settlements Area in Makassar City.
 33. Asian Development Bank (ADB). 2011. *Completion Report - Indonesia: Neighborhood Upgrading and Shelter Sector Project*. Jakarta.



Source: MPWH (2016).

Figure 2.11 Division of roles in slum upgrading.

implement slum upgrading projects while building community capacity to operate and maintain infrastructure through Community Self-Help Organizations (*Badan Keswadayaan Masyarakat, BKM*).³⁴ Since 2015, NSUP has upgraded 103 slum areas in 143 *kelurahan* and is still running as of this writing.³⁵ NUSP-2 upgraded 12 *kelurahan* across seven *kecamatan* between 2015 to 2019.³⁶

3. Revitalising Informal Settlements and Their Environments (RISE, 2017-2022). RISE is piloting nature-based solutions, including constructed wetlands and biofilters, together with more traditional 'grey' infrastructure using a water sensitive approach to improving services in urban informal settlements. The project aims to reduce fecal contamination in the environment and human exposure to pathogens, thereby improving health outcomes. Initially funded by ADB, as of 2021, RISE is continuing under the auspices of DFAT. In Makassar City, RISE has thus far been piloted in Kelurahan Batua and will be piloted in six other *kelurahan* across Kecamatan Tallo, Kecamatan Biringkanaya, Kecamatan Manggala, and Kecamatan Tamalate.³⁷

4. Lorong Garden (Longgar, 2014-Present). Lorong Garden is a neighborhood-scale walkway beautification program developed by the Makassar City Government. The program aims to make slum neighborhoods beautiful, clean, and green by planting produce along

paths and walkways. The city government aims to increase livelihood activities and reduce crime through the program interventions.³⁸

DEVELOPMENT PLANS

The Government of Makassar City has included slum alleviation and prevention strategies in its long-term Housing and Settlements Development Plan (RP3KP). For the period 2015-2035, one of the missions is to create livable housing and settlement areas and thereby eradicate slums.³⁹ To achieve this target, plans include:

SLUM UPGRADING PLAN.

The Slum Upgrading Plan outlines three types of strategies: rehabilitation, or upgrades to vacant housing that do not change the floor area of the unit; revitalization, or historic restoration of housing to retain its historic value; and relocation, or resettlement of slum residents to redevelop land. The plan also includes programs for urban housing renewal; squatter communities; housing rehabilitation; housing revitalization for disaster-prone areas; and an infrastructure development program for roads, drainage, water supply, and

sanitation. This plan prioritizes several *kecamatan*: Biringkanaya, Bontoala, Makassar, Mariso, Panakkukang, Rappocini, Tallo, Tamalate, and Ujung Tanah.

SLUM MANAGEMENT PLAN.

The city has two strategies to manage slum development: 1) the Slum Social Rehabilitation Program (RSDK);⁴⁰ and 2) the establishment of institutions to manage development of housing and settlement areas. These institutional reforms include establishing local housing and settlement institutions; establishing community institutions to lead development from planning to monitoring; and clarifying roles and tasks to prevent overlapping mandates.⁴¹

Development Plan for New Housing and Settlement Areas. The city plans to construct over 3,552 new units of public rental housing flats (RUSUNAWA) across several *kecamatan*, totaling 36.5 ha: Biringkanaya, Mariso, Panakkukang, Tallo, Tamalanrea, and Tamalate. One of the RUSUNAWA concepts is *Apartemen Lorong (Aparong)*, intended for low-income groups in dense areas with limited land.⁴²

34. Ministry of Public Works and Housing (Kemen PUPR). 2017. Overview of Cities without Slums (KOTAKU) Program. Jakarta.

35. Government of Makassar City. 2015. Makassar Urban Slum Settlement Area Plan (RKP3KP). Makassar City.

36. Ibid.

37. Metrotimur.com. 2019. "6 Areas in Makassar City Become the Locations for the RISE Project" (accessed 12 January 2021). Six *kelurahans* mentioned are the *kelurahans* that include the first stage of RISE intervention in Makassar City.

38. Republika.co.id. 2016. "The Beautiful Lorong is called Lorong Garden Makassar" (accessed 12 January 2021).

39. Government of Makassar City. 2015. *Housing and Settlements Development Plan (RP3KP) 2015-2035*. Makassar City.

40. *Rehabilitasi Sosial Daerah Kumuh (RSDK)* or in English is Slum Social Rehabilitation. The purpose of this program is to eliminate the slums with conducting the rehabilitation for non-livable housing, improving the environment so that it becomes healthy and orderly and at the end can encourage community to improve their livelihoods. The activities of RSDK Programs are (i) social counseling, (ii) social guidance/skill, (iii) increasing the knowledge of community in terms of participation in development and the ability to develop the environment independently, (iv) stimulation of restoration materials and means of environmental improvement, (v) Productive Socio-Economic Business Assistance.

41. The role of housing and settlements institution is to regulate the implementation of housing development and construction in the sub-district and *kelurahan* levels. The housing and settlement institutions that will carry out the housing development consist of Government (central, provincial, city) Business Entity (BUMN, BUMD, private) and Community (person and group or association).

42. Government of Makassar City. 2015. *Housing and Settlements Development Plan (RP3KP) 2015-2035*. Makassar City.



View of Makassar City. Asian Development Bank..

CHAPTER 3

CONCLUSION

Makassar City, the gateway to Eastern Indonesia, is a vibrant metropolis whose historic seafaring traditions provide a rich backdrop for its rapid urbanization. Since 2014, total slum area has declined by 58%, from 740 ha to 428 ha. Lorong Garden, the walkway beautification program developed by the Makassar City Government, is evidence of the city's innovative approach to slum upgrading.

However, the city faces numerous challenges related to its social development and urban environment, which the COVID-19 pandemic has likely exacerbated. The 2021 Mayoral Decree on Slums designates 329 neighborhoods as slums and identifies another 62 neighborhoods as having the potential to become slums. Less than half of families in slums have the minimum daily requirement for drinking water. More than half of the stormwater drainage system in slum areas is in poor condition. To compound these urbanization challenges, climate change is projected to increase the frequency and intensity of flooding. These cross-cutting issues will require integrated solutions for a sustainable recovery.

Based on our initial findings, the LSIP team has identified potential institutional, technical, and financial challenges and opportunities for slum improvement in Makassar City.

3.1 INSTITUTIONAL

The heavily regulated institutional arrangements for slum policy implementation potentially hamper governments' ability to keep pace with the fluctuating nature of slums. Responsibility for slum policy implementation is divided among different levels of government depending on land area of each slum (detailed in section 2.5.1). As the 20 newly designated slum areas (*kawasan kumuh*) in Makassar City range from 3 ha to 55 ha, all three levels of government are responsible for policy implementation in various slum areas. The city thus has multiple decrees on slum locations issued at different levels of government. Updated slum locations in the 2021 Mayoral Decree have now introduced discrepancies between the new decree and its provincial counterpart.

Local spatial plans and policies concerning slum improvement are similarly fragmented across various documents, including the RP3KP 2015-2035 and the 2018 RP2KPKP. Updated slum information in the 2021 Mayoral Decree has therefore also introduced discrepancies among these city-level documents. The cumbersome regulatory bureaucracy, compounded by the continuously changing boundaries of slum areas, creates a situation in which slum documents are constantly being updated and re-coordinated.⁴⁴ As a result,

government interventions are unable to keep pace with slum development.

Potential opportunities to mitigate these institutional challenges could involve either slowing the pace of slum expansion or streamlining slum policy implementation. Interventions to address the former would likely involve both affordable and market-rate housing provision, though challenges in assembling land may hamper these efforts. Interventions to address the latter would likely be the faster course of action. These local level improvements could involve institutional reforms and capacity building for monitoring slum development. The new RPJMD for the period 2021-2026 presents a key opportunity to discuss reforms to local slum policy implementation.

3.2 TECHNICAL

Technical challenges for slum alleviation largely relate to land availability. Like other district governments in Indonesia, Makassar City Government is responsible for providing "clean and clear" land (i.e., assembled property with titles that are free from ownership disputes) for slum improvement. In practice, identifying land for upgrading or assembling land for redevelopment is extremely complex. Citywide, 76% of slum households have land titles. Nearly all slum households in

44. Several sector planning documents either need to be updated or prepared: Settlement Area Plan (RKP, Rencana Kawasan Permukiman), City Sanitation Strategy (SSK, Strategi Sanitasi Kota), Drinking Water Supply System Masterplan (RISPAM, Rencana Induk Sistem Penyediaan Air Minum), Drainage System Masterplan, Detailed Spatial Plan (RDTR, Rencana Detail Tata Ruang), Building and Neighborhood Plan (RTBL, Rencana Tata Bangunan dan Lingkungan), and Neighborhood Development Plan (RPLP, Rencana Penataan Lingkungan Permukiman).

the Tallo River Conservation Area (Kawasan Konservasi DAS Tallo) have land titles despite nonconformance with spatial planning (Figure 2.3). Moreover, while the city has identified potential land for new housing development in high density areas,⁴⁹ the proposed 3,600 units will fall short of providing affordable housing for the nearly 76,000 slum residents. The complexity of land ownership and limited number of projected new housing units suggest that upgrading strategies to improve existing housing and infrastructure may be a quicker win than resettlement.

A potential opportunity to address technical challenges of land availability could be for the city government to first analyze the latest spatial data on slum areas with spatial data on land ownership. This would enable more informed discussions on land availability. Moreover, guided by the city government's vision for a "Sombere Smart City," digital innovation presents an opportunity to accelerate integrated approaches to slum improvement. The ur-scape dataset developed in parallel with this report has provided cross-sectoral spatial analyses on slum areas using the latest datasets. These should be integrated with the city's existing ur-scape datasets and uploaded to the city's web GIS portal. Digital tools developed through the ASEAN-Australia Smart Cities Trust Fund could also assist in prioritizing cross-cutting projects based on financial capacity.

The city government could also partner with communities in slums, non-governmental organizations, and academic institutions to identify available land. This community-driven model for land assembly was piloted in Makassar City through the RISE Program (detailed in section 2.5.3).

3.3 FINANCIAL

Like other district governments, Makassar City has limited autonomy to raise own-source revenue to finance service delivery and is thus largely dependent on intergovernmental transfers. With the central government's current prioritization of transformative, citywide investments rather than neighborhood slum upgrading,⁵⁰ district governments may experience shortfalls in intergovernmental transfers that could be used toward slum upgrading.

To circumvent this potential fiscal limitation, the city government could potentially develop and upscale the Lorong Garden Program and similar local slum upgrading efforts by incentivizing community-led initiatives. For example, to incentivize citizen awareness and participation in solid waste management, Surabaya City launched a citywide competition whereby winning neighborhoods were awarded cash prizes for making environmental improvements including waste management and tree planting.⁵¹ Over 2,700 local NGOs also sponsored training and capacity building activities for residents, creating a citywide movement toward solid waste management. Depending on resident demand, Makassar City Government could also gradually introduce housing and infrastructure interventions into its Lorong Garden Program, creating a more robust slum upgrading model that is less dependent on central government financing.

3.4 TOWARD LIVABLE SETTLEMENTS

This report has provided a comprehensive assessment of the slum conditions in the city to fill gaps in the city's analysis of the newly designated slum areas and to complement ongoing efforts through the AASCTF. Both citywide and slum-level data are included to support at-scale solutions. Although the report relies mainly on available secondary data, its timeliness will nonetheless be useful for government and non-state actors in understanding the latest slum conditions and preparing urban investment proposals in Makassar City.

As shown in this slum assessment, a nimble yet integrated approach will be challenging but necessary to keep pace with slum development in Makassar City. While provision of affordable housing and urban infrastructure is key to slum alleviation, project sustainability will ultimately depend on issues such as financing, construction, and maintenance. Additionally, investing in the non-physical aspects of a city, such as human capital, will be equally important to advancing the resilience of the urban poor and must be explored. Lastly, the involvement of diverse local stakeholders will be critical in developing projects for future financing. A strategy that respects the interdependency of cities and slums can best achieve livable settlements.

49. Government of Makassar. 2015. Housing and Settlements Development Plan (RP3KP) 2015-2035. Makassar City.

50. Based on interviews with central government counterparts.

51. Institute for Global Environmental Strategies. (2017). Planning and implementation of integrated solid waste management strategies at local level: The case of Surabaya City. United Nations Environment Programme.