BUILDING HEALTHY CITIES

Multisector Healthy City Action Plan: Makassar

June 2022

Version 3

International Organization for Migration (IOM)
The UN Migration Agency

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ACRONYMS

Bappeda	City Planning and Development Agency (*Badan Perencanaan Pembangunan Daerah*)
BHC	Building Healthy Cities
DHIS-2	District Health Information System
ICT	information and communications technology
IT	information technology
JSI	JSI Research & Training Institute, Inc.
Kominfo	Communication and Information Department (*Komunikasi dan Informatika*)
NCD	noncommunicable disease
NGO	nongovernmental organization
Renja SKPD	City Department Work Plan (*Rencana Kerja Satuan Kerja Perangkat Daerah*)
RKPD	Regional Development Work Plan (*Rencana Kerja Pembangunan Daerah*)
RPJMD	Regional Mid-term Development Plan (*Rencana Pembangunan Jangka Menengah Daerah*)
RT/RW	small neighborhoods/communities (*rukun tetangga/rukun warga*)
USAID	United States Agency for International Development

Building Healthy Cities

Building Healthy Cities is a five-year cooperative agreement funded by the United States Agency for International Development (USAID) under Agreement No. AID-OAA-A-17-00028, beginning September 30, 2017. Building Healthy Cities is implemented by JSI Research & Training Institute, Inc. (JSI) with partners International Organization for Migration, Thrive Networks Global, and Urban Institute, and with support from Engaging Inquiry, LLC.

This report is made possible by the generous support of the American people through USAID. The contents are the responsibility of Building Healthy Cities and do not necessarily reflect the views of USAID or the United States Government.

Recommended Citation

Building Healthy Cities (BHC) project. 2022. *Multisector Healthy City Action Plan: Makassar.* Arlington, VA: Building Healthy Cities (BHC) project.

Acknowledgements

We would like to thank Bappeda for helping to facilitate and adapt the systems mapping process in Makassar City. Thank you to Dr. Hj. Andi Khadijah Iriani and Muhammad Amri Akbar, the Bappeda stakeholders who have supported the BHC project. Also thank you to the Health Department and Kominfo as key sectors for the BHC project in Makassar City.

INTRODUCTION

Makassar is the fifth largest city in Indonesia, with a population of 1.4 million as of 2020 (Population and Civil Registration Department 2020). The city is the most urbanized part of eastern Indonesia, and is the provincial capital of South Sulawesi. Makassar is also a trading center; nearly half of the economy of South Sulawesi is concentrated there. McKinsey Global Institute labels Makassar as a "small middleweight city" (urban populations less than 2 million) and among the fastest growing within this category. The city is expected to double its current population by 2030 (Oberman et al. 2012). Makassar's rapid population and economic growth is fueled by its location as a transport and shipping hub for eastern Indonesia, and by the city's aspirations of becoming a major business and industry center. This growth is reflected in Makassar's migrant population, which has increased over the last several years as people in search of greater economic opportunity have moved to the city (UN Habitat 2014).

The elected Mayor of Makassar declared the city's tagline to be "Makassar *Sombere* (kind-hearted) and Smart City," identifying the city as a hospitable place to live. The objective of the Smart City program is to promote cities that improve the quality of life of its citizens through infrastructure, a clean and sustainable environment, and the application of "smart" solutions, including information and communications technology (ICT). These objectives are expected to have positive effects on the health of Makassar's residents.

Makassar has developed real-time data collection systems for decision-making. Data systems in Makassar were initiated by each sector, with support from the Communication and Information Department (*Komunikasi dan Informatika* or Kominfo) to build each system. These include Call Center 112, a citizen reporting system for people to submit complaints to the city; Makassar City Regional Development Planning Information System (SIPPD-BEPPEDA), an integrated system for planning processes; and Smart *Rukun Tetangga*/*Rukun Warga* (RT/RW)(small neighborhoods/communities), a reporting system for the neighborhood level.

Along with the Smart City initiative, the Makassar City government has established a number of health-focused programs. The Home Care program uses 48 vans to provide enhanced primary care services for all city residents. In addition, Healthy Cities is a nationally supported government program in Makassar that takes a multisectoral approach to health, and has operated since 2018. This program is supported by Healthy Alley, a regional health promotion program that engages communities.

The United States Agency for International Development (USAID) funded Building Healthy Cities Project (BHC) is a 5-year (2017-2022) learning project that is grounded in a systems approach, with a focus on the social and environmental determinants of health, which

span areas well beyond the health sector. In Makassar, the BHC team supported the city government in developing the annual Regional Development Work Plan (*Rencana Kerja Pembangunan Daerah* or RKPD). The RKPD integrates results from the Musrenbang, a bottom-up planning process that starts at the community level, and city department work plans to bring sustainable change to the city. As part of this effort, BHC developed this Action Plan to summarize all findings and recommendations from our research and stakeholder discussions to help facilitate work planning in Makassar.

Purpose of This Action Plan

The purpose of this document (the "plan") is to first summarize the evidence, consultations, and collaboratively generated insights facilitated through the BHC project over the course of four years in Makassar (2018-2022), as a partner to the Mayor's Office. The second purpose of this document is to put forth a set of recommended actions that respond to the analysis and will serve as the basis for discussion amongst the City Planning and Development Agency (*Badan Perencanaan Pembangunan Daerah* or Bappeda) and the city departments as they develop their next mid-term five-year work plan to be ratified and implemented by each sector.

BHC has supported discussion and revision of this Action Plan through the following timeline:

Steps Taken to Finalize Action Plan	Date Completed
Convene a focus group discussion to integrate recommended actions and costed Action Plan into city government planning documents including RKPD, City Department Work Plan (*Rencana Kerja Satuan Kerja Perangkat Daerah* or Renja SKPD), and Regional Mid-term Development Plan 2021–2026 (*Rencana Pembangunan Jangka Menengah Daerah* or RPJMD 2021–2026).	June 2021
Follow up with any sectors/partners to complete feedback.	July 2021
Work with city sectors to develop estimated costs of each action, and help find outside funding where city funds cannot cover costs.	May 2022
Support development of a monitoring and evaluation framework for the Action Plan.	June 2022
Share final Action Plan with all stakeholders.	June 2022

How This Action Plan Was Created

This Action Plan is the cumulative result of a range of primary and secondary research, and a participatory process of stakeholder consultation and co-creation in Makassar facilitated by BHC. BHC's goal was to test feasible options for healthy urban planning that reflect the following core values:

1. Develop a common understanding across multiple sectors and stakeholders of ways to improve overall health and quality of life in Makassar.
2. Strengthen community engagement in municipal decision-making for urban health-related services.
3. Support the use of urban health-related data for planning and decision-making.

Partnering closely with Bappeda and Kominfo in Makassar, BHC engaged with sectors that contribute, directly or indirectly, to citizens' health and quality of life. This multisector engagement in Makassar included the following sectors:

- Health Office
- Public Works
- Environmental Department
- Education Department
- Social Department
- Women Empowerment and Child Protection Department

A selection of the activities BHC supported in concert with city offices and partners are summarized in Table 1 below. Full details are provided in Annex 1.

Table 1: Summary of BHC Makassar Activities

Year	Activity	City Offices Involved	
2018	Health Needs Assessment	• Education Department • Head of RT/RW • Health Office • National Health Insurance • Population and Civil Registration Department	• Public Works Department • Social Department • Traffic Division • Transportation Department
2018	Political Economy Analysis	• Bappeda • Financial and Asset Management Agency (BPKAD)	• Health Office • Kominfo • Population and Civil Registration Department
2018	Data Use and Access Assessment	• Bappeda • Central Bureau of Statistics • Disaster Management Office • Environmental Department • Health Office • Kominfo • National Health Insurance	• Operation Room • Population and Civil Registration Department • Public Works Department • Social Department • Transportation Department • Women and Children Empowerment Office

2018	Data Validation and Systems Mapping Workshop	• Association of People with Disabilities • Bappeda • Central Bureau of Statistics • City Hospital • Community Empowerment Office • Community Health Center of Langkai Island • Disaster Management Office • Environmental Department • Hasanuddin University • Health Office	• Journalists • Kominfo • National Health Insurance • Nongovernmental organizations (NGOs) • Operation Room • Population and Civil Registration Department • Private sector • Public Works Department • Social Department • Transportation Department • Village Office of Barrangcaddi Island
2019	Community Town Halls	• Integrated health centers (posyandus)	• Sub-district (kelurahan)
2019	Leverage Workshop	• Association of People with Disabilities • Bappeda • Central Bureau of Statistics • City Hospital • Community Empowerment Office • Community Health Center of Langkai Island • Disaster Management Office • Environmental Department • Hasanuddin University • Health Office	• Journalists • Kominfo • National Health Insurance • NGOs • Operation Room • Population and Civil Registration Department • Private sector • Public Works Department • Social Department • Transportation Department • Village Office of Barrangcaddi Island
2019	Financial Tracking Tools Assessment	• Bappeda • Environmental Department • Health Office	• Kominfo • Population and Civil Registration Department
2019	Air Pollution Assessment	• Environmental Department • Hasanuddin University	• Health Department
2019	Assessment of & Joint Charter on Waste Management Practices in Slum Areas	• Bappeda • NGOs (LSKP and Rumah Zakat)	
2019 - 2022	Citizen Reporting System Assessment and Training	• Bappeda • Fire Department	• Health Office • Public Works Department
2020	Theory of Action Workshop	• Bappeda • Civil society organizations (CSOs) • Education Department • Environmental Department • Food Security Department • Health Office	• NGOs • Private sector • Public Works Department • Universities • Women and Children Empowerment Office

2020	Musrenbang Prioritization Training	• Bappeda	
2021	System Approach Workshop for RKPD 2021-2022	• Bappeda • Education Department • Environmental Department • Food Security Department	• Health Office • Public Work Department • Social Department
2021	Action Plan Integration Workshop	• Archive Department • Bappeda • Education Department • Health Office	• Population and Civil Registration Department • Population Control and Family Planning • Social Department
2021	Data Integration and Visualization Trainings (Phase 1, Phase 2, and Phase 3)	• Agriculture and Food Security • Bappeda • Education Department • Environmental Department • Health Department • Kominfo • Public Works Department	• Small Enterprise Department • Social Department • Tourism Department • Trade and Industry • Transportation Department • Women and Children Empowerment Office
2021	Strengthening Waste Management Systems in Barrang Lompo Island	• Bappeda • Celebes Organic • Eco-bricking Community	• Environmental Department • Kotaku • Skhola Tanpa Batas
2021	Training on Infant and Young Child Feeding and Integrated Management of Acute Malnutrition	• Barrang Lompo Island puskesmas • Health Department • Health Polytechnic of Ministry of Health • Indonesian Breastfeeding Mothers' Association (AIMI)	• Provincial Health Department • Village Office of Barrang Lompo Island • Wahidin Sudirohusodo Hospital
2021-2022	Policy Brief on Status of Child Nutrition and Community Nutrition Support Systems	• Health Department • Women and Children Empowerment Office • Population & Civil Registration Office	• Provincial Health Department
2022	Community-Based Waste & Water Management Study	• Maccini Sombala RT/RW leadership • LSKP	

BHC convened a series of multi-stakeholder conversations to organize and understand the enormous amount of information gathered (see Annex A for a full list of research reports) and to make this an inclusive and participatory process. BHC used systems thinking tools and practices to grapple with the complexities and interrelated nature of urban challenges. Table 2 summarizes the stages of BHC's systems mapping process in Makassar. These systems-oriented conversations produced visual tools that highlight the patterns and relationships underlying Makassar's challenges, and generated insights on how to leverage the city's greatest opportunities while also addressing or mitigating key obstacles.

Table 2. Systems Mapping Stages

Step	Dates	Source of Data Used to Facilitate Workshop	Participants	Data Analysis
Defining Context	13-14 September 2018	Analysis of baseline assessment data	38 stakeholders	Cause-and-effect analysis to develop casual loops
Finding Leverage	Leverage Workshop: 30 April 2019	Context Map	42 stakeholders	Identify leverage opportunities and high impact actions
	3 Town Halls: • 22 February 2019 • 22 March 2019 • 21-27 June 2019	Relevant loops from Context Map	• Women's group (20 participants) • Slum area group (20 participants) • Middle income group (13 participants)	Define leverage opportunities
Creating Action	28-29 January 2020	Context Map and leverage opportunities	68 stakeholders	Identify a set of actions to move Makassar toward its long-term goal of being a world class city that is healthy and resilient for all

Goal of This Action Plan

A good plan for urban development begins with a clear vision for what a vibrant, healthy urban system would produce for its citizens and environment. The World Health Organization defines a healthy city as one that is continually creating and improving physical and social environments, and expanding community resources which enable people to mutually support each other in performing all the functions of life and developing to their maximum potential (WHO Regional Office for Europe 1999).

Makassar's Smart City goal statement is "Sombere and Smart City." Reframing this goal statement as an aspirational "healthy and resilient city system" creates the basis for the Guiding Star in the BHC systems approach. The purpose of a Guiding Star is to state a mutually agreed upon goal, co-developed with Makassarese stakeholders, and to serve as the starting place for developing a common understanding. The mutually agreed upon goal statement for Makassar is:

> *"Makassar as a world class city that is healthy and resilient for all."*

BHC put together this Action Plan as a roadmap for how to achieve this goal. For each action it provides the **roles and responsibilities**, an estimate of the implementation **costs**, **suggested non-governmental partners**, and suggested monitoring and evaluation **indicators**.

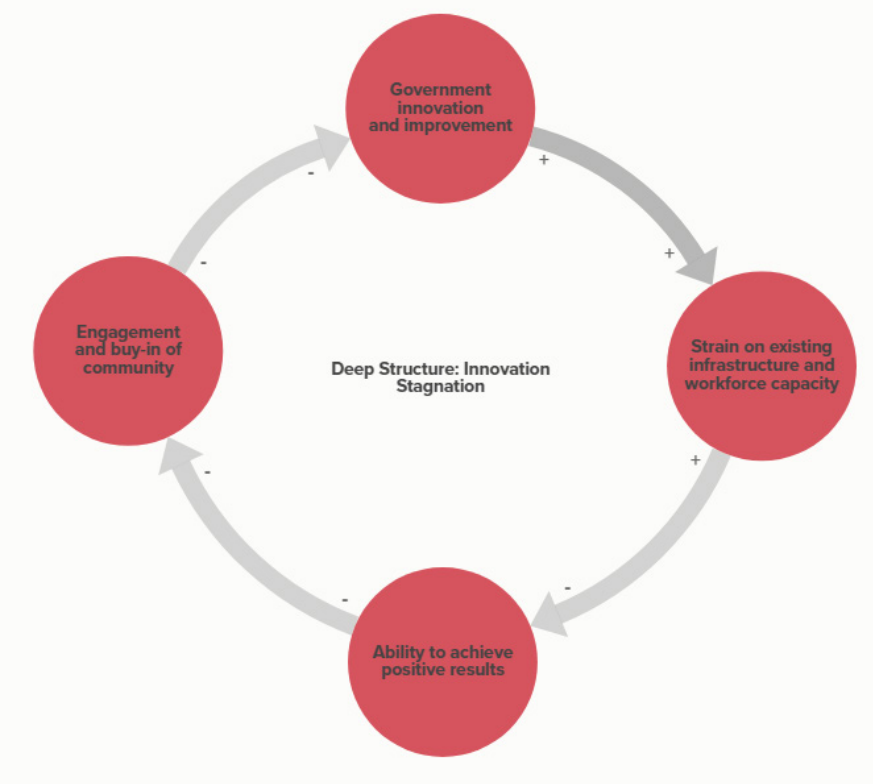
BACKGROUND

Defining the Context of a Healthy Makassar

BHC engaged approximately 240 stakeholders to bring out a well-rounded mutual understanding of the context for a healthy Makassar (Annex B provides the full list of stakeholders consulted). This number also includes the city officials and workers from different government departments such as Bappeda, Health Office, Kominfo, Education Department, and Social Department, among others.

Based on the evidence collected by BHC and the feedback from a range of Makassar multisector stakeholders, the heart of the healthy Makassar context is the enhancement and expansion of Makassar by city leaders who are actively innovating and utilizing new technologies. This has resulted in advancements in connectivity and responsiveness in many areas. However, this drive towards innovation creates an increasing strain on existing infrastructure and workforce capacity that struggles to keep up with expanding need. Without the foundation necessary to effectively implement and sustain the city's vision for growth, the ability to achieve positive outcomes from these efforts is reduced. In addition, when the community recognizes that city improvement initiatives are not achieving the promised result, citizens are less likely to engage and support their implementation. Without the backing of the community, government efforts to try innovative approaches to advance healthy development are undermined. Figure 1 visualizes this tension. A full Makassar Context Systems Map is available to explore all the context-related evidence used to define this Action Plan.

Figure 1. Tension at the Heart of Makassar Context Map



The innovative aspects of Makassar's growth mean that the city cannot plan simply to scale up existing service provision to cover more of the population. The city is evolving in multiple ways, including expansion of technological infrastructure, and greater information technology (IT) connectivity. In addition, as the population grows, the city has to consider new ways to process waste and provide equitable services, even as climate change makes it harder to reach certain parts of the city. All of these changes are happening in the context of interconnecting patterns of behavior, knowledge, and practices that may help or hinder these growth efforts. Some of these key patterns uncovered through BHC's systems mapping process are described in Table 3.

Table 3. Key Areas in Makassar's Context

Areas	Description
Leadership, Governance, and Financing	Any new actions to help Makassar grow in a healthy way will need to work with the behavior, knowledge, and practices related to accountability and management in the governance structures, which are defining, developing, and enforcing policies, procedures, rules, guidelines, etc., and continually monitoring their proper implementation. Community participation in budgeting processes is limited due to limited access to the information to monitor, evaluate, and audit the process, and to challenge decisions.
Infrastructure and Workforce	Any forward planning by the city administration needs to ensure that basic needs of the citizens are being planned and provided for in an equitable way for healthy growth and development of Makassar City. Having an enabling infrastructure and environment, and a trained workforce to provide essential services such as health, education, and sanitation, is absolutely necessary for citizens to survive.
Collaboration and Data	Any city, in order to grow in a smart way, needs to have a well-established information system. Information systems are an integrated set of components for collecting, storing, and processing data for providing information. The purpose of these information systems is to turn raw data into useful information that can provide evidence and correct knowledge for decision-making.
Community Cohesion and Awareness	Community awareness is the community's understanding of the importance and implications of various programs, policies, and laws developed for them. The ability to engage the population in healthy development efforts is recognized as the key to achieving program impact goals and enabling strong leadership.

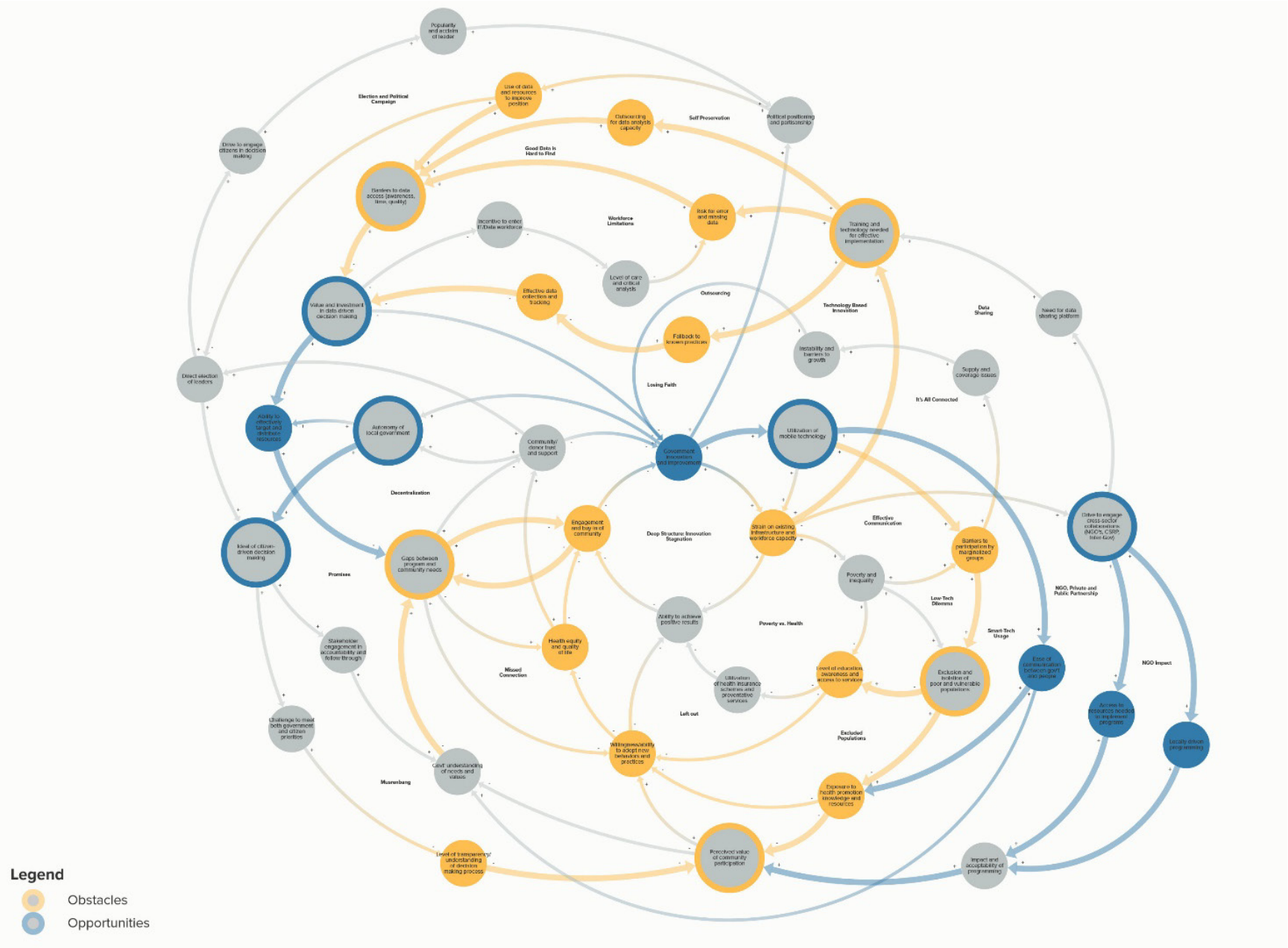
Looking across these areas and the current context of Makassar, the key obstacles and opportunities that will need to be addressed by this Action Plan in the next five years to achieve the goal statement of a healthier Makassar are described in Table 4 and shown in Figure 2.

Table 4. Main Obstacles to, and Opportunities for, a Healthier Makassar

<table>
<tr><th>Obstacles</th><th>Opportunities</th></tr>
<tr><th colspan="2">Leadership, Governance, and Financing</th></tr>
<tr><td rowspan="5">Gaps between programs and community needs.</td><td>Commitment and practices for bottom-up decision-making.</td></tr>
<tr><td>Decentralized governance structure.</td></tr>
<tr><td>Cross-sectoral partnerships across city departments, and with NGOs and private sector entities through project implementation as well as online and offline knowledge sharing.</td></tr>
<tr><td>Active leadership to innovate and introduce new programs.</td></tr>
<tr><td>Existing programs such as Healthy City Forum for multisector collaboration, and Healthy Alley to engage communities.</td></tr>
<tr><th colspan="2">Infrastructure and Workforce</th></tr>
<tr><td>IT/data and infrastructure capacity (both workforce and technology capacity).</td><td rowspan="4">City leaders have been aware of the need to improve workforce, IT/data, and infrastructure capacity by prioritizing program planning for human resources training and IT development, and allocating their budget to these sectors.</td></tr>
<tr><td>Staff are given multiple roles and responsibilities, and are tasked beyond their scope of work.</td></tr>
<tr><td>Urban poor lack good quality basic services, e.g., health services, access to clean water, and appropriate sanitation.</td></tr>
<tr><td>Lack of health worker capacity in promoting health campaigns, and limited capacity of urban poor to adopt healthy lifestyles.</td></tr>
<tr><th colspan="2">Collaboration and Data</th></tr>
<tr><td>Limited access to quality, timely, integrated data.</td><td rowspan="2">Utilization of smart technology for data collection and monitoring community needs.</td></tr>
<tr><td>Each department has their own data sharing policies and procedures. There is no universal policy to share data with the War Room dashboard, and poor regulation for data integration.</td></tr>
</table>

Various departments have data sources that are not integrated into the War Room dashboard, and in some cases are not integrated across departments within each sector.	Investment in data integration War Room dashboard for data management, sharing, and decision-making.
Clashes in culture across departments inhibit coordination of data. A complicated manual process for data sharing and dependency on a particular person-in-charge lead to low participation in sharing data.	
Lack of centralized support for data integration and interoperability.	The existence of regulation for data sharing among city departments. The implementation of this regulation needs to be strengthened.
Some community groups are not adept at sharing information using technology devices.	
Community Cohesion and Awareness	
Citizens have limited understanding of and access to health knowledge and resources.	Increasing health services targeted to specific groups or communities, especially vulnerable populations.
Low community willingness and ability to participate in government program planning and adoption.	Increasing effective communication using existing social media, website, and other channels.
Shifting political actors and priorities.	Citizen engagement and participation in all stages of policy and implementation, emphasizing the lived experiences of residents, including their capabilities, preferences, and needs.

Figure 2. Summary of Obstacles and Opportunities across the Makassar Context



Levers of Change in This Current Context

As part of the systems process, stakeholders were asked to identify what areas of this context might never change ("frozen" areas), what areas might be ripe for change ("energy" areas), and what changes might make the biggest impact ("ripple effect" areas). The three areas identified where there were opportunities for change that would have the biggest impact ("levers") were:

1. Increasing quality, accessibility, and timeliness of data for decision-making.
2. Ensuring equity and transparency in policy implementation to ensure equitable community access to services.
3. Maximizing community participation in programs to improve community awareness of health promoting practices and resources.

As such, all three of these levers, or "leverage opportunities," are addressed in each of the actions suggested in this plan. Table 5 summarizes each leverage opportunity.

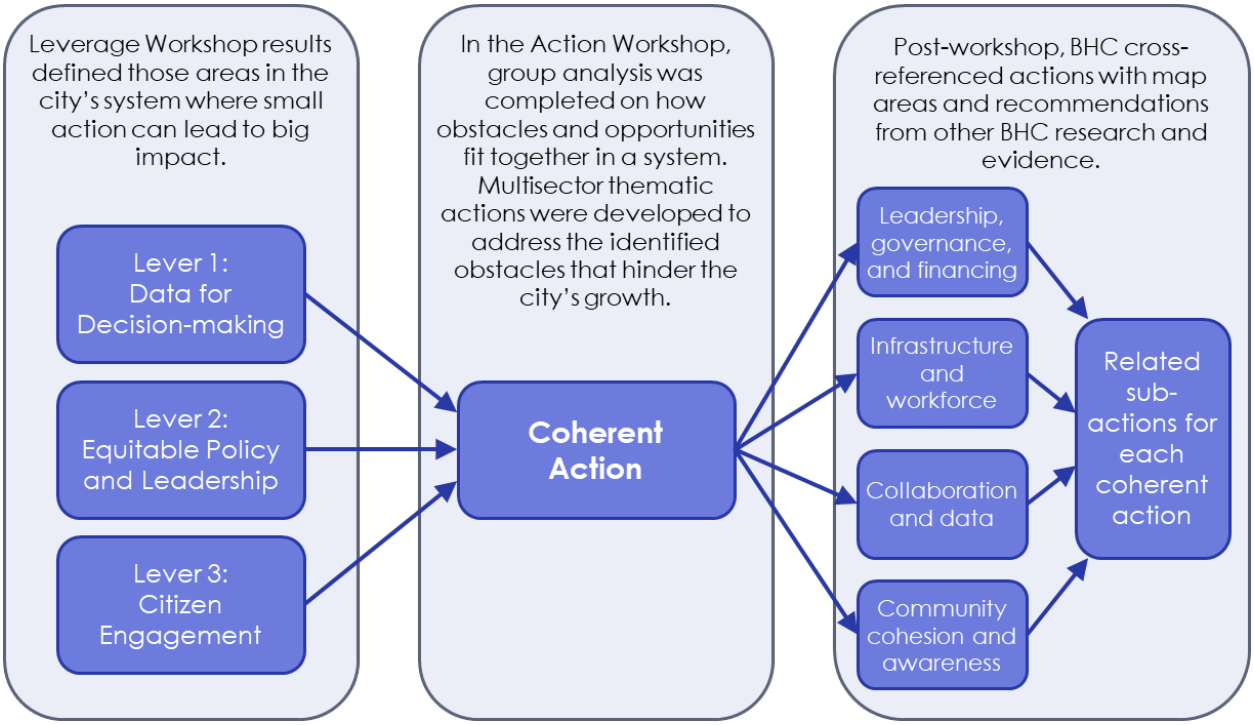
Table 5. Leverage Opportunities for Greatest Change

Leverage Opportunity	Description
1. Increasing quality, accessibility, and timeliness of data for decision-making.	This leverage opportunity is, at its core, about enhancing and expanding data driven decision-making. If key stakeholders have a good quality of data for decision-making, the city will be able to effectively target and distribute resources to achieve positive results.
2. Ensuring equity and transparency in policy implementation to ensure equitable community access to services.	Policy can improve progress on achieving positive goals by providing clear tools, methods, and expectations for fostering community participation and effectively managing and utilizing data. By extending transparency of policy and practice to community members, they will be able to develop realistic expectations for government services and feel empowered to support accountability.
3. Maximizing citizen engagement in programs to improve community awareness of health promoting practices and resources.	In order to improve access for all, it is necessary to improve government outreach and increase citizen education, awareness, and participation in city planning efforts. If inequality is reduced and community participation is increased, there will be greater acceptability and participation in existing city processes and less exclusion/higher utilization of services.

Framework for Addressing Challenges

These obstacles and opportunities were discussed at BHC's Action Workshop held in Makassar in 2020. Using the system levers and other facilitating techniques, BHC and stakeholders developed a set of suggested actions to move Makassar toward its goal statement of "*Makassar as a world class city that is healthy and resilient for all.*" Figure 3 shows how these pieces of information fit together into an action framework.

Figure 3. Framework for Developing Makassar Healthy City Actions



COHERENT ACTIONS FOR A HEALTHY MAKASSAR

Using this framework, six coherent action areas were identified for Makassar. The majority of these actions came from the participation of stakeholders in the BHC Action Workshop, and BHC summarized and evaluated their inputs in phases 2 and 3 of the framework. Based on analysis of previous successful multisector efforts, coherent action #1 was added to ensure continued municipal leadership. Table 6 summarizes these coherent actions).

Table 6. Summary of Coherent Actions

How Might We…	Proposed Coherent Action Summary
#1. Sustaining Municipal Support for the Goal of a Healthy Makassar	
Foster meaningful accountability, increase communication and coordination, and make policy decisions and processes more transparent and participatory?	The purpose of this action is to foster meaningful dialogue, increase communication and coordination, and make policy decisions and processes more transparent and participatory to sustain a whole-city health Makassar effort. This would happen by using information and communications technology to increase transparency in the Musrenbang process and engaging city officials in the RT/RW (sub-district or kelurahan) or neighborhood levels. This would create not only a comprehensive approach to building healthier communities but also opportunities to strengthen community participation.
Sustain a whole-city healthy Makassar effort?	
#2. Leading the Way on a Circular Economy	
Address waste removal more effectively, even as our population grows?	The purpose of this activity is to create a new waste management economy. This would happen by engaging the private sector, nongovernmental organizations, and communities affected by poor waste management and its health effects to carry out innovations in waste reduction in a revenue generating way. This model realizes that environmental management is not just the responsibility of the government.
#3. Creating a Culture of Data for Health	
Make it easier to use data to support health in Makassar?	The purpose of this activity is to improve the timeliness and usability of data across sectors relating to urban health. This would include building the capacity of

Encourage and build the capacity of health care workers and government staff to collect, manage, and use data?	health workers and government officials, and using existing technology and resources such as DHIS-2 and the War Room. This would create a trained staff, improve data management, reduce the manual process of data entry, and promote data utilization across sectors.
Strengthen the existing data systems?	
#4. Creating a More Water-resilient City	
Keep producing enough clean water for a growing population even while waste and flood waters keep rising?	The purpose of this activity is to create resiliency to rising flood and wastewater in a sustainable manner. This would happen by engaging multisector stakeholder partnerships including government, nongovernmental organizations, private sector, and those communities most at risk of flooding. This would create a safe, healthy, and livable environment for all sections of society.
Unclog waterways and drains while also addressing the need for more job opportunities in informal settlements?	
#5. Growing a Healthier Next Generation of Citizens	
Create a city that promotes heathier children?	The purpose of this action is to build Makassar into a child friendly city by keeping the focus on health and living environments of children through a bottom-up approach, active community participation, and multisector engagement. This would reduce inequities from birth, increase women's ability to participate in the workforce, and lower health care costs in the long term.
Ensure access to healthy food for every Makassarese?	
Ensure awareness about healthy food and hygiene among food handlers and citizens?	
Encourage children to adopt health promoting behaviors?	
#6. Encouraging Healthy Lifestyles for Noncommunicable Disease Prevention	
Reduce the risk of noncommunicable diseases within communities while also greening our living spaces?	The purpose of this action is to improve healthy lifestyles to reduce NCDs. This would happen by strengthening community-based intervention for NCD prevention. This model will encourage community-based intervention by optimizing operational incentives and strengthening healthy ecosystems.

BHC facilitated final rounds of consultations in 2021-2022 to complete the details and scoping of each action, and how they would fit together to be monitored and evaluated. Bappeda could also choose to coordinate a pilot of actions in one neighborhood as part of the Healthy Alley initiative. Table 7 provides an example of how to break these actions down for more effective implementation, using action #1 "sustaining municipal support for the goal of a healthy Makassar" as an example.

Table 7. Example of Sub-Actions

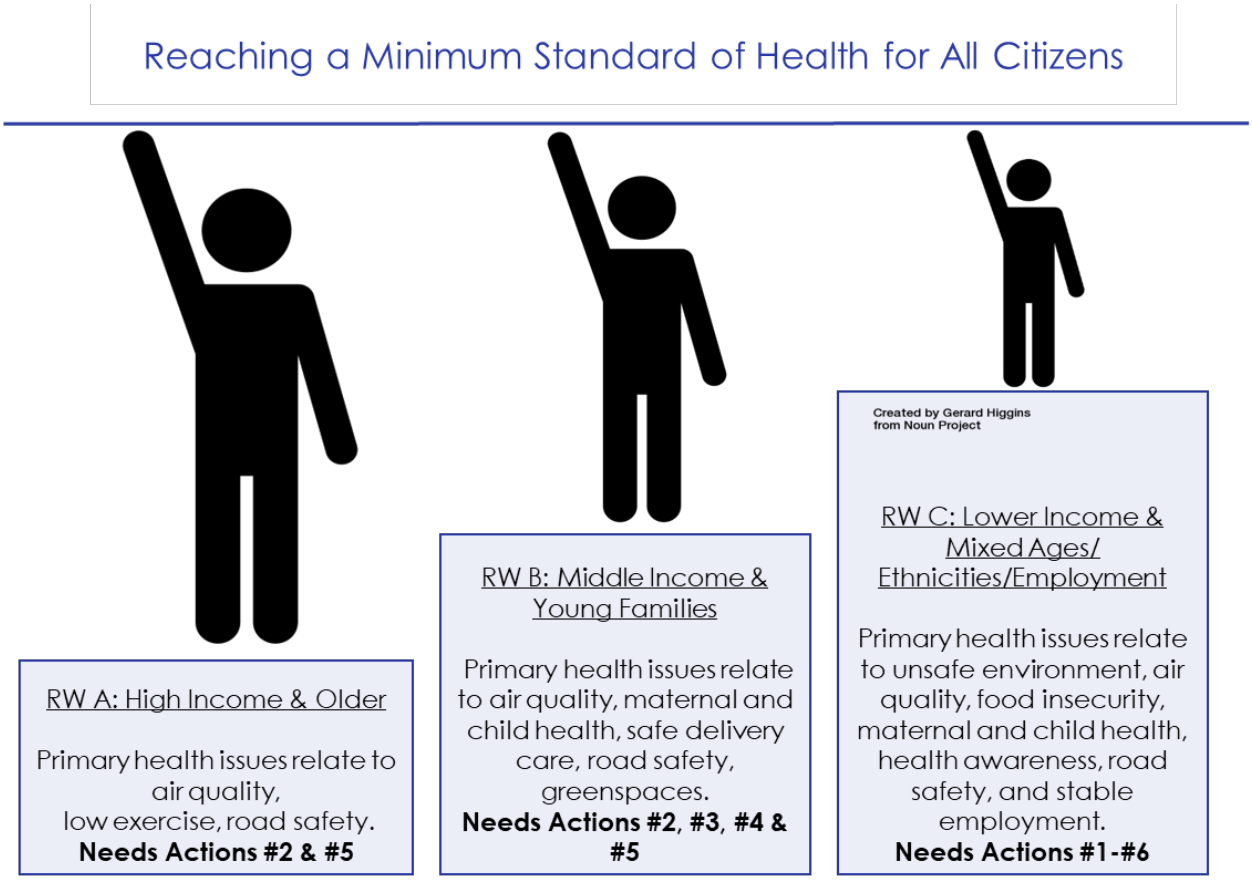
Leverage Opportunity	Sub-action
Leadership, Governance, and Financing	
Data for Decision-making	Bappeda and Kominfo should decide on a regular multisector mechanism for discussing cross-sector data alerts that come up in the War Room, to build in the expectation that these data will be regularly discussed and used for planning.
Equitable Policy and Leadership	Develop municipal policies, workforce training programs, and technical support to increase not just data reporting but also data usage and visualization within the War Room by city leadership, with a particular focus on getting the related sector data used as part of regular city mid-term, near-term, and long-term planning.
	Bappeda should regularly work across donors/nongovernmental organizations/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.
Citizen Engagement	Use a system approach for the Musrenbang that best utilizes citizen feedback in the process to develop a budget and workplan each year. The method used should be transparent, systematic, and replicable, and allow for public release of the findings.
Infrastructure and Workforce	
Data for Decision-making	Improve workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.
Equitable Policy and Leadership	Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision-making. This investment needs to be supported by enhancing workforce capacity for data managers to meet the need for qualified workforce to use information technology and manage data from collection to the utilization.
Citizen Engagement	Strengthen the integrated system for managing citizen complaints with GIS technology into the central War Room that is accessible for the communities to track their complaints and progress and to give feedback.
Collaboration and Data	
Data for Decision-making	Bappeda and Kominfo should collaborate to use collected data from communication channels including citizen reporting systems, social media, and electronic-based channels to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during the Musrenbang.

Equitable Policy and Leadership	Encourage a "One Data" regulation plan to be ratified at the city level. In addition, the city government should implement a city level policy that requires all government departments, nongovernmental organizations, and private sectors to share their data including mechanism, type of data, variable, data use for decision-making, person in charge, and their incentive. A one data governance model can be implemented across different systems to cover many data sources and departments, which involve multisector stakeholders in the process of data integration and dashboard management.
Citizen Engagement	Increase outreach campaigns on key environmental health and public health topics. Citizen reporting system data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or etc. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.
Community Cohesion and Awareness	
Data for Decision-making	Increase transparency of the decision-making process and how selected programs were implemented. This can be done via public posting of Musrenbang rankings/ratings.
Equitable Policy and Leadership	Develop and use a city monitoring and evaluation plan for monitoring progress on the "Sombere and Smart City" goals that are tied to RT/RW (sub-district or kelurahan) level improvements.
Citizen Engagement	Engage Healthy Alleys to do their own prioritization exercises around what they need to improve their Healthy Alley indicators, so that they come prepared to ask for these items during the Musrenbang.
	Review the Musrenbang process to see whether it can be augmented by developing a year-round community collaboration platform that supports standardized, trusted, and ongoing community engagement.

How to Apply These Actions

BHC suggests planners use a healthy equity perspective when evaluating how far and wide to apply these actions in Makassar. This means that instead of trying to apply all actions everywhere for "equal" access, resources can be most efficiently deployed by using existing data sources on where health outcomes are the worst in Makassar, and then using various combinations of these actions for each area based on need. Figure 4 adapts a common image depicting health equity for this specific example.

Figure 4. Applying Actions with a Data-Driven Health Equity Perspective.



Action 1: Sustaining Municipal Support for the Goal of a Healthy Makassar

Summary

The purpose of this action is to foster meaningful dialogue, increase communication and coordination, and make policy decisions and processes more transparent and participatory to sustain a whole-city healthy Makassar effort. This would happen by using ICT to increase transparency in the Musrenbang process and engaging city officials in the RT/RW or neighborhood levels. This would create not only a comprehensive approach to building healthier communities but also opportunities to strengthen community participation.

Background

The city planning process combines top-down direction and bottom-up participation from communities and local agencies. The top down direction at the city level is through the technocratic process of RPJPD, RPJMD, and RKPD. The bottom-up approach combines technical planning documents from each city department and public planning forums called Musrenbang. As part of the Musrenbang process, the head of each village submits proposals of development ideas (Kota Makassar 2021). These proposals are compiled and coordinated by Bappeda, and then adjusted in line with the Renja SKPD. The final product of the Musrenbang is the RKPD, which determines local budgeting.

The Musrenbang engages citizens to determine their neighborhoods' development priorities (Cadwell and Simatupang 2019). However, in the "deep structure" and "Musrenbang" loops of the BHC systems map, BHC identified challenges for meeting both the immediate needs of the people, and government priorities for whole-city improvement (Building Healthy Cities project 2019). Some communities experience poor planning implementation and are not aware of how program priorities are decided. Many citizens also experience barriers to Musrenbang participation, especially vulnerable populations (as the Musrenbang is held on work days), and those in remote locations. These factors can result in citizen disengagement from government initiatives.

Proposal

To tackle this issue, we propose that support at the municipal level should focus on strengthening linkages between participatory program planning and budgeting, and central city planning, with a specific focus on the Healthy City agenda. This model would include making sure that communities can access the ICT used for the Musrenbang; the city monitoring and evaluation plan for measuring progress on the "Sombere and Smart City" goals is tied to RT/RW level improvements; and Healthy Alleys are engaged to do their own prioritization exercises around what they need to improve their health indicators, so that they come prepared to ask for these items during the Musrenbang. This function would also ensure funding to support continued meetings of the Healthy City Forum, with expansion to the sub-district level.

Action 2: Leading the Way on a Circular Economy

Summary

The purpose of this activity is to create a new waste management economy. This would happen by engaging the private sector, NGOs, and communities affected by poor waste management and its health effects to carry out innovations in waste reduction in a revenue generating way. This model realizes that environmental management is not just the responsibility of the government.

Background

The Makassar City Government has launched a number of innovations to tackle environmental issues (e.g. community-based solid waste management), as well as the Healthy and Garden Alley programs. A community-based solid waste management campaign attempts to improve community awareness on garbage management and environment-related problems. However, city-level intervention related to waste management and addressing landfill mitigation issues face financial and program planning constraints (Kota Makassar 2019).

The Healthy and Garden Alley programs have attracted donors and the private sector and have improved community participation in addressing environmental health issues. However, BHC's systems map loops "excluded population" and "left out group" identified that people experiencing poverty face greater barriers to accessing communication channels, creating strain on effective communication between citizens and government (Building Healthy Cities project 2019). In addition, workforce limitations are a challenge for program replication. Although logistics have been deployed for the program, insufficient training and information provided to the community demotivate them to participate further. In addition, program monitoring through social media cannot be adopted, as many people (especially excluded populations and left out groups) do not have smartphones. As a result, these innovations are not sustainable.

Partnering with the private sector to turn waste into usable products could reduce waste costs and create livelihood opportunities for citizens. BHC and LSKP are currently completing a study of waste management practices to better understand potential revenue-generating solutions to household waste and acceptable circular economy solutions at the household level. BHC also recently completed a waste management training on Barrang Lompo Island where students and teachers piloted eco-bricks as a way to reuse plastics for infrastructure development, and learned about composting.

Proposal

To tackle these issues, we propose a more collaborative initiative to improve environmental health, especially in waste management, that expands some of the work already being done via Healthy Alleys and the plastics recycling banks. BHC also proposes a circular economy approach by engaging public-private partnerships to facilitate revenue generating activities such as composting, recycling, and small business development building on small appliance and textile repurposing. This would include training youth for waste management, ensuring 3 R's and composting are well-taught in schools, and supporting livelihood development for lower income entrepreneurs interested in repurposing waste.

Action 3: Creating a Culture of Data for Health

Summary

The purpose of this activity is to improve the timeliness and usability of data across sectors relating to urban health. This would include building the capacity of health workers and government officials, and using existing technology and resources such as DHIS-2 and the Operation Room. This would create a trained staff, improve data management, reduce the manual process of data entry, and promote data utilization across sectors.

Background

As the lead offices on the Smart City initiative, Kominfo and Bappeda aim to integrate data from all sectors to obtain accurate, up-to-date, accountable, interoperable, easily accessible data, which will be displayed in the Mayor's office on a large monitor, called the Operation Room dashboard. These data will be available for government decision-makers and community members. The Makassar Health Office and Pusdatin (Health Information and Data Center, Ministry of Health) developed *Aplikasi Satu Data Kesehatan* (ASDK) using the DHIS-2 platform which allows bigger data visualization and cross-sectoral data analysis (Ansariadi et al. 2019).

BHC's systems mapping identified both challenges and opportunities for cross-sectoral data analysis in the "smart-tech usage," "technology innovation," and "good data is hard to find" loops (Building Healthy Cities project 2019). Each department has its own data sharing systems and policies. Complicated and manual data sharing procedures lead to low participation in data integration, and limited access to quality, timely, integrated data. In addition, increased government use of innovative new technologies puts strain on existing infrastructure and workforce capacity which struggles to keep up with the expanding need. BHC's Data Use and Access Assessment also suggested that there is limited workforce capacity in using existing systems and ICT. Most departments use Excel to collect, process, and analyze their data, and do not have staff with the skills needed for detailed data analysis and visualization. Data is also sometimes only partially available, resulting in gaps in data quality. Without timely access to quality data, the government's ability to effectively leverage external collaborators and innovation is reduced, and their ability to engage in data-driven decision-making is limited.

BHC is supporting data integration across sectors to improve data-driven decision-making in Makassar, and worked with the city to adapt existing and familiar platforms, including DHIS-2. While generally used for health data, this platform may also integrate other data from a variety of sectors. This activity was accomplished in 3 phases: stakeholder engagement; data aggregation and preparation; and training and capacity building. Through this effort, BHC has supported the city of Makassar to integrate approximately160 multisectoral urban health indicators as part of the Healthy City program and 12 minimum health standard indicators (Building Healthy Cities project 2020). These efforts ensure that Makassar is well prepared to adopt the 2021-2024 Digital Health Transformation Strategy.

Proposal

To tackle these challenges, BHC's systems mapping consultations with Smart City initiative leaders proposed a model focused on providing a platform for cross-sector data analysis. The goal is to reduce medical errors at the patient level, increase quality of data at the organization and sector level, and improve cross-sector data analysis and use for the purpose of disease mitigation and prevention at the city level. As an example, Bappeda and the Healthy City Forum verbally agreed to use the new DHIS-2 integrated data platform for Healthy City program reporting. They will also use this platform to monitor each sector's achievements using Healthy City program multisectoral indicators. This new platform is open access, so any sector can access all indicators at any time. This progress is critical for preparing Makassar for future adoption of the MOH's new integrated Indonesia Health Service platform.

Action 4: Creating a More Water-resilient City

Summary

The purpose of this activity is to create resiliency to rising flood and wastewater in a sustainable manner. This would happen by engaging multisector stakeholder partnerships including government, NGOs, the private sector, and those communities most at risk of flooding. This would create a safe, healthy, and livable environment for all sections of society.

Background

Makassar experiences a number of environmental health issues relating to water, including lack of access to clean water and proper sanitation, ineffective wastewater management, and more frequent rainfall and climate-change related flooding, especially in slum areas and remote islands (Kota Makassar 2019). Clean water supply is hampered by outages and leaking infrastructure. Domestic wastewater, which is discharged to a network of open storm water drains, is the primary water pollutant in Makassar (Pomeroy-Stevens et al. 2020). Dirty water overflows from open drains in many neighborhoods and is compounded by frequent flooding. Overflow is also caused by common household behaviors such as disposing of garbage in storm water drains. When storm water drains are blocked, rainwater has nowhere to go, and houses flood with dirty water. The issue of flooding has been one of the biggest complaints regarding city services (Biradavolu et al. 2018). BHC is working with LSKP on a study (2021-2022) to better understand the drivers and solutions related to the inter-connected issues of flooding and solid waste management. The results will help inform this coherent action.

The "poverty vs health," "excluded population," and "missed connections" loops in the BHC systems map identified that some groups of populations are excluded from city growth and development and have limited access to basic needs, such as clean water and adequate sanitation. These groups can lack awareness of healthy behaviors, which is exacerbated by insufficient resources, such as quality health services and green space for recreation. Due to this, individuals and communities are less likely to adopt new behaviors or follow new policies that are different from their typical way of life (Building Healthy Cities (BHC) project 2019).

Proposal

To tackle this issue, we propose a collaborative initiative to improve environmental health. This model will bring together multisector stakeholders and communities to find the most cost-effective, acceptable methods for reducing every neighborhood's risk of flooding, increase their resiliency to storm water flooding, and increase access to safe, clean water supplies as well as sanitation.

Action 5: Growing a Healthier Next Generation of Citizens

Summary

The purpose of this action is to build Makassar into a child friendly city by keeping the focus on health and living environments of children through a bottom-up approach, active community participation, and multisector engagement. This would reduce inequities from birth, increase the ability of women to participate in the workforce, and lower health care costs in the long term.

Background

Maternal and child health remains a problem in informal settlements in Makassar. The biggest risk factors for poor nutrition – water and sanitation – are outside of the health sector. In 2019, the infant mortality rate in Makassar was 1.6 (per 1,000 live births), 3.6 percent of children had a low birth weight, 8.7 percent of children under 5 years old experienced stunting, and the maternal mortality ratio was 37 (Building Healthy Cities project 2020). The "left-out" loop in BHC's systems map identified a lower tendency among women with lower income (including pregnant women and mothers) to adopt health care; when they do, there is a high possibility that the quality of health services cannot support them. In addition, lack of enforcement of regulations about marketing of breastmilk substitutes, insufficient attention to cultural barriers, more women entering the workforce, and lack of knowledge have led to poor breastfeeding practices, impacting children's diets (World Bank Group, n.d.).

The BHC systems map loop "effective communication" identified a lack of exposure to health education, especially those in the "left out" groups experiencing poverty and lower levels of education. Barriers in accessing needed services such as health care, education, and mobile networks limited individual knowledge of healthy behaviors or services that could help improve their situation, including those specifically for maternal and child health such as accessing more nutritious food, and better sanitation.

Proposal

To tackle these issues, BHC's consultations resulted in a proposal for creating a safe and healthy environment for children by improving awareness and access to health care facilities, good nutrition, immunization, and education. This would include strengthening workforce capacity, especially within the posyandu cadres to run community-based posyandu programs that focus on nutrition within the first 1,000 days from conception until the age of 2. Additional sub-actions would include improving citizen engagement and participation on institutional births, immunization, health risks, sanitation, and hygiene; expanding green spaces for child physical activity; and increasing access to government services and programs for delivery, maternal and child health, and school-based health services.

Action 6: Encouraging Healthy Lifestyles for NCD Prevention

Summary

The purpose of this action is to improve healthy lifestyles to reduce NCDs. This would happen by strengthening community-based intervention for NCD prevention. This model will encourage community-based intervention by optimizing operational incentives and strengthening healthy ecosystems.

Background

Tobacco smoking is a leading risk factor for ill health in Makassar. According to the 2018 National Health Research Study (Riskesdas), 25 percent of the population in Makassar were smokers; of those, most (98 percent) were men. In addition, 31 percent of the population was exposed to a passive smoker in the same room on a daily basis (Building Healthy Cities project 2020). Other NCD risk factors identified were a lack of physical activity, and diet, with popular foods in Makassar high in fat and cholesterol. The 2018 Riskesdas data indicated that 49 percent of Makassar residents consumed sugary food daily, 36 percent consumed fatty food daily, 13 percent consumed no fruits and vegetables in a week, and 32 percent did not meet minimum physical activity requirements. In addition, 2 percent of the Makassar population had diabetes, and 29 percent had hypertension (Ministry of Health of Indonesia 2019).

Health workers in Makassar have been implementing health promotion activities such as group exercise once a week and preventive measures such as free screening camps for NCDs. In addition, some programs supported by NGOs have been providing support such as medical check-ups for screening for NCDs. However, even though these programs are regularly implemented, NCD cases and their risk factors are still high. As identified by the "poverty vs health" loop in BHC's systems map, these issues persist due to "excluded populations" that have a low rate of using health insurance and preventive services. In addition, the "workforce limitation" loop identified that multiple responsibilities for health workers contributed to the limited coverage of health services (Building Healthy Cities project 2019). This can be seen by the 1:±34,000 ratio of puskesmas (primary health care centers) to Makassar population, which cannot cover all NCD screening and prevention. Without broad adoption of health promotion services and programs, these initiatives fail to demonstrate an ability to make real positive improvements to community health.

Proposal

To tackle these issues, BHC's systems mapping consultation with city stakeholders resulted in a proposal focusing on leveraging multisectoral collaboration to strengthen community-based interventions for NCD prevention. This model will optimize incentives and strengthen the ecosystem (infrastructure, policy, and environment) that encourages people to practice a healthy lifestyle. Bappeda will lead a multisectoral working group for NCD prevention that includes government institutions, universities, NGOs, and the private sector. An example of policy change would be strengthening local regulations on smoking-free areas in Makassar; the city can also increase promotional activities for smoke-free living and improve monitoring and evaluation of enforcement of smoking-free areas. Health education on how to prevent NCDs needs to be provided through citizen reporting systems, social media, electronic media (TV and radio), and internet. Community engagement should be strengthened via posyandus, village offices, puskesmas, and NGOs.

Responsibilities for Implementing Healthy Makassar Actions

BHC used feedback from the systems mapping stakeholders to create a list of sub-actions for each of these six areas, and suggest responsible parties. See Annex C for details. While these sub-actions are a record of what was proposed and costed during the time BHC supported this plan, the list is not exhaustive, and is able to be added to or modified based on best evidence and needs at the time of implementation.

Costed Action Plan

Between February and April 2022, BHC facilitated a rapid costing of this Action Plan using the list of sub-actions from the previous section as a guide. In collaboration with Bappeda, BHC encouraged the sectors to use their budget implementation plan document as a baseline to develop costing information for the list of sub-actions. Bappeda ensured each sector provided input. While these costs are approximate and have not been independently verified, they provide a starting point for incorporating these activities into sector and project budgets and workplans. Table 8 below summarizes the costs provided. Full details can be found in Annex D.

Table 8. Costing Exercise Summary

	Estimated Yearly Costs		Estimated Total for Five Years (2023-2028)	
#1: Sustaining Municipal Support for the Goal of a Healthy Makassar	IDR	27,813,082,919	IDR	136,377,324,158
#2: Leading the Way on a Circular Economy	IDR	193,288,744,480	IDR	958,503,642,999
#3: Creating a Culture of Data for Health	IDR	51,814,467,527	IDR	249,523,492,650
#4: Creating a More Water-resilient City	IDR	1,161,932,719,311	IDR	5,783,983,590,447
#5: Growing a Healthier Next Generation of Citizens	IDR	569,670,064,889	IDR	2,825,878,180,994
#6: Encouraging Healthy Lifestyles for NCD Prevention	IDR	300,289,063,575	IDR	1,495,598,645,177

MONITORING AND EVALUATION

Proposed Targets and Indicators for Plan

BHC completed the list of monitoring indicators based on existing Healthy City indicators, and additional indicators provided or suggested as part of discussions relating to the Mid-Term Five-Year Plan for Makassar. Where there are actions with no related indicators from these first two lists, BHC has suggested illustrative ones. The city will need to finalize this framework, considering labor, available data, and what is already available via their data dashboard ("War Room"). In order to use this effectively to track progress toward the Healthy City goals, they will need to consider the following questions related to process indicators:

- Based on the needs of the communities you are targeting, what is the total or goal amount for this indicator? For instance, the indicator "# additional sub urban health centers set up and functional," does not require a center for every single alley, rather only those that do not have any, or any functional, centers already. Set the total/final goal for this indicator first.
- Given the costs that your departments and partners have estimated, how quickly can you reach the goal you have set? How many years will it take? This can be used to define yearly targets to help you meet this end goal by years three, four, or five.
- Who is responsible for collecting these data, and how will they be reported? Will they be linked to the Smart City War Room? This needs to be defined up front in order to get accurate data.

BHC and the city did not complete discussions on impact indicators. It is important for the city to decide what impact they want to make, and how to measure this to provide a better sense of how this work has impacted overall health and livability in Makassar. Considerations for finalizing each impact indicator are:

- What percent of this indicator is influenced by public sector/donor partners? If a service is largely provided by the private sector in the city, but the indicator is only for public services, this reduces the usefulness of that indicator as a means to measure change across the city.
- The previous consideration will also help to define the maximum possible change we could expect to have for each indicator. For an area like reduction of food-borne infections, we could set an ambitious target to completely eliminate these by 2026. But for an area like obesity, it may be more realistic to aim to halt new cases of obesity at their present level.
- Once we have set the amount of total change we want to see, we can then set yearly targets. Remember that the process indicators will change before impact

indicators will, so in many cases we may want to assess most of the changes in the later years of the plan, such as years three, four, and five.

- Finally, just as with the process indicators, we need to define who is responsible for collecting these data, how they will be reported, and whether they will be linked to the War Room.

BHC and Smart City Makassar collaborated to develop an integrated data system that is able to monitor the existing 170 Healthy City indicators (called Sehattami). This provides a solid foundation to start monitoring progress on this Healthy City Action Plan. The framework can be assessed yearly to ensure it continues to provide useful data in the coming years.

Annex E details the suggested monitoring framework.

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ANNEX A: BHC Activities Completed in Support of Healthy Makassar

Year	Activity	City Offices and Other Stakeholders Involved
April – June 2018	**Health Needs Assessment** The assessment was designed to answer questions relating to the following themes: 1. Structure of the health sector and available services in Makassar. 2. Barriers to healthy lifestyles among underserved populations. 3. Coordination, management, and funding of Smart City Makassar. 4. Health engagement by city officials.	Education Department, Head of RT/RW, Health Office, National Health Insurance, Population and Civil Registration Department, Public Works Department, Social Department, Traffic Division, Transportation Department
May – July 2018	**Political Economy Analysis** This analysis reviewed the political economy of service delivery in Makassar, and examined the context within which the Smart City initiative might be leveraged to improve health outcomes across all residents, including those most vulnerable to health shocks.	Bappeda, Financial and Asset Management Agency (BPKAD), Health Office, Kominfo, Population and Civil Registration Department
August 2018 – July 2019	**Data Use and Access Assessment** The assessment goals were to understand current access to and use of data and information and communications technology in the city. The findings were used to inform BHC's more detailed city work plans relating to data system interoperability and citizen reporting systems.	Bappeda, Central Bureau of Statistics, Disaster Management Office, Environmental Department, Health Office, Kominfo, National Health Insurance, Operation Room, Population and Civil Registration Department, Public Works Department, Social Department, Transportation Department, Women and Children Empowerment Office
September 2018	**Data Validation and Mapping Systems Workshop** The purpose of this workshop was to hold an interactive discussion where Makassar City officials from Smart City and health-related departments could work with stakeholders to validate findings from BHC assessments, as well as explore enablers and barriers for BHC	Association of People with Disabilities, Bappeda, Central Bureau of Statistics, City Hospital, Community Empowerment Office, Community Health Center of Langkai Island, Disaster Management Office,

	program development. Additionally, participants explored upstream and downstream factors of enablers and barriers, and presented stories on that topic.	Environmental Department, Hasanuddin University, Health Office, Journalists, Kominfo, National Health Insurance, NGOs, Operation Room, Population and Civil Registration Department, Private sector, Public Works Department, Social Department, Transportation Department, Village Office of Barrangcaddi Island
October 2018 – January 2019	**Makassar Context Systems Map** The Data Validation and Mapping Systems Workshop resulted in a Context Systems Map which holds the key dynamics – the patterns underneath the problems – highlighted by the combined stories of workshop participants. It represents an initial "theory of context" that lays the groundwork for practical next steps to find places of leverage for addressing social and environmental determinants of health.	N/A
February – June 2019	**Community Town Hall Meetings** BHC conducted three town halls with communities - a women's group, people living in a slum area, and a group of people categorized as middle-income – to share the Context Systems Map, gather their feedback, and add revise the map based on their input.	Integrated health centres (posyandus), Sub-district (kelurahan)
April 2019	**Leverage Workshop** The purpose of this workshop was to build on the Context Systems Map to find leverage points where small action would create an impact on the whole system. The result was a Leverage Systems Map.	Association of People with Disabilities, Bappeda, Central Bureau of Statistics, City Hospital, Community Empowerment Office, Community Health Center of Langkai Island, Disaster Management Office, Environmental Department, Hasanuddin University, Health Office, Journalists, Kominfo, National Health Insurance, NGOs, Operation Room, Population and Civil Registration Department, Private sector, Public Works Department, Social Department,

		Transportation Department, Village Office of Barrangcaddi Island
May 2019	**Financial Tracking Tools Assessment** BHC conducted interviews with city departments to assess financial tracking tools for the Smart City Program.	Bappeda, Environmental Department, Health Office, Kominfo, Population and Civil Registration Department
May 2019	**Air Pollution Assessment** BHC facilitated a study of the impact of air pollution on health in Makassar City.	Environmental Department, Hasanuddin University, Health Department
October 2019	**Assessment of and Joint Charter on Waste Management Practices in Slum Areas (Cambayya and Bunga Eja Beru)** BHC conducted a survey of slums in Cambayya and Bunga Eja Beru villages. This activity was a follow-up to a coordination meeting with the Healthy City Forum. This survey aimed to identify collaboration locations in health-related areas.	Bappeda, Environmental Department, Health Office, NGOs (LSKP and Rumah Zakat)
October – December 2019	**Citizen Reporting System Assessment** BHC conducted an assessment of the Call Center 112 citizen reporting system and developed recommendations for improvement. BHC collaborated with the Faculty of Public Health, Hasanuddin University.	Bappeda, Fire Department, Health Office, Public Works Department
January 2020	**Theory of Action Workshop** The purpose of this third and final workshop in the series of systems mapping workshops was to produce actionable strategies that enable shared ownership and coordinated action. The result is a comprehensive collaborative cross-sector action design between government agencies, international organizations, NGOs, universities, and the private sector that will conclude with the signing of the Charter of Joint Commitment to Collaboration to Build Healthy Cities.	Bappeda, CSOs, Education Department, Environmental Department, Food Security Department, Health Office, NGOs, Private sector, Public Works Department, Universities, Women and Children Empowerment Office
February 2020	**AVPN South East Asia Summit 2020** BHC participated in AVPN South East Asia-Summit 2020 in Bali on 12-13 February 2020. This activity aimed to strengthen the network of AVPN participants.	Bappeda

January – April 2020	**Musrenbang Prioritization Training** Bappeda requested that BHC facilitate trainings on using a systems approach to prioritize high impact programs suggested through the Musrenbang, to support efforts to increase the efficiency of multisector urban spending. BHC participated in Musrenbang forums for Cambayya sub-district (January 6), Maccini Sombala (January 14), Barrang Lompo Island (January 15), Ujung Tanah sub-district (January 27) Tamalate district, and Makassar City (April 16).	Bappeda
March – June 2020	**System Approach Workshop for Program Prioritizing for 2020-2021** The activity aimed to improve the understanding of the system approach and nominal group technique process in determining the priority programs for RKPD 2020-2021. The result of the activity was a city-owned systems map based on the goals and indicators of Permendagri 100 in 2018, the Sustainable Development Goal targets, and the scope of Minimum Service Standards (SPM). This activity was conducted online and in person, and was cost shared with Bappeda.	Bappeda, Education Department, Environmental Department, Food Security Department, Health Office, Public Work Department, Social Department
May 2021	**Action Plan Integration Workshop/System Approach Workshop for Program Prioritizing for 2021-2022** The purpose of this activity was to incorporate BHC's set of recommended actions into, and determine the priority programs for RKPD 2021-2022 using a systems approach. The result was a set of recommended actions for the RKPD document. This activity was conducted online and funded by Bappeda.	Archive Department, Bappeda, Education Department, Health Office, Population and Civil Registration Department, Population Control and Family Planning, Social Department
June 2019 – December 2021	**Data Integration and Visualization Trainings (Phase 1, Phase 2, Phase 3)** BHC collaborated with the University of Oslo DHIS-2 Team to develop an integrated data systems for the Makassar City government, and train city departments on data entry, use, and system maintenance. This activity was accomplished in 3 phases: stakeholder engagement; data aggregation and	Agriculture and Food Security, Bappeda, Education Department, Environmental Department, Health Department, Kominfo, Public Works Department, Small Enterprise Department, Social Department, Tourism Department, Trade and Industry, Transportation

	preparation; and training and capacity building.	Department, Women and Children Empowerment Office
November 2021	**Strengthening Waste Management Systems in Barrang Lompo Island** As part of the Healthy City Forum Joint Action Charter activities, BHC facilitated two events in Barrang Lompo Island - an eco-bricking workshop for senior high school students (November 29), and a composting workshop for RT/RW farming groups, and waste management and user groups (November 30).	Bappeda, Celebes Organic, Eco-bricking Community, Environmental Department, Kotaku, Skhola Tanpa Batas
December 2021	**Training on Infant and Young Child Feeding and Integrated Management of Acute Malnutrition** BHC organized a training for 27 posyandu cadres and puskesmas officers on IYCF and IMAM. UNICEF facilitators conducted the technical aspects of the training.	Barrang Lompo Island puskesmas, Health Department, Health Polytechnic of Ministry of Health, Indonesian Breastfeeding Mothers' Association (AIMI), Provincial Health Department, Village Office of Barrang Lompo Island, Wahidin Sudirohusodo Hospital
2021-2022	**Assessment of Children Nutrition and Community Nutrition Support Systems** BHC collected looked at currently available secondary data on the nutrition system to identify practical system-wide changes the city can make to improve child nutrition.	Health Department, Provincial Health Department
2022	**Community-Based Waste & Water Management Study** This participatory research study was conducted in the Maccini Sombala neighborhood, to take a more in depth look into the issues found during the BHC journey mapping, where homes suffer from overflows of wastewater. Often solid waste plays a role in this overflow, clogging drains. The results highlight actions to sustainably address this issue.	Maccini Sombala RT/RW leadership, LSKP

ANNEX B: List of Stakeholders Consulted During Systems Mapping Process

This table does not include all those interviewed for the individual reports and research studies listed in Annex A. Rather, it includes only those who attended the systems mapping workshops and community town halls.

	Name	Designation/ Position	Department/ Organization
Government officials and workers			
1	Dr. Haji Andi Khadijah Iriani	Head of Bappeda	Bappeda
2	Zainal	Head of Health and Education Division	Bappeda
3	Aida Ali	Staff	Bappeda
4	Ulfah Ichwani Achmad	Head of Community Welfare Division	Bappeda
5	S. Fatimah	Head of Government and Officials Division	Bappeda
6	Muh. Amri Akbar	Head of Social, Culture, and Governance Department	Bappeda
7	Ragnes	Staff	Bappeda
8	Waode Nuraini Z	Staff	Bappeda
9	Nena Ishak	Staff	Bappeda
10	A. Ririn Yani Sidik	Staff	Bappeda
11	Andi Hadijah Iriani Ridwan	Head of Bappeda	Bappeda
12	Zainuddin	Staff	Bappeda
13	Rahmawati	Staff	Bappeda
14	Yulianto	Staff	Bappeda
15	Faridah	Staff	Bappeda
16	A. Nila Kusuma	Staff	Bappeda
17	St. Khadijah	Staff Analysis of Performance Account Field	Bappeda
18	Aini Rauf	Staff	Bappeda
19	A. Eka Arifianto	Staff	Bappeda
20	Yanizar	Staff	Bappeda
21	Asfat	Head of Economy Department	Bappeda
22	Katharina Dewi R.	Staff	Bappeda
23	Harauddin	Staff	Bappeda
24	Ikhsan	Secretariat Staff	Bappeda
25	Hasanuddin	Staff	Bappeda
26	Muh. Harsani	Staff	Bappeda

27	Usana	Staff	Bappeda
28	Astiati Azis	Staff	Bappeda
29	Ivana M.	Staff	Bappeda
30	Rosdiana Umarella	Staff	Bappeda
31	Imbang M.	Head of Infrastructure and Regional Development Department	Bappeda
32	Moh. Sukri	Staff	Bappeda
33	A. Rizti Nadirah	Staff	Bappeda
34	Muh. Ichsan	Functional	Bappeda
35	Muh. Fadhlan M	Staff	Bappeda
36	Irene Nafdia	Staff	Bappeda
37	Anwar	Staff	Bappeda
38	Suriyanti Supomo	Staff	Bappeda
39	Elvira	Staff	Bappeda
40	Febrike N. Sultan	Staff	Bappeda
41	Riry Novrianty	Staff	Bappeda
42	B'Imrayani Imran	Staff	Bappeda
43	Akhmad Ahsar	Staff	Bappeda
44	Andi Ridayani	Staff	Bappeda
45	Restu	Head of Staffing and General Affair Sub-Division	Bappeda
46	Herianti	Staff	Bappeda
47	Dr. A. H. Mimi		Bappeda
48	Uyu		Bappeda
49	Ardiansyah		Geophysical, Climatology, Meteorology Agency (BMKG)
50	Erwin	Head of Home Affair Liaison Sub-Division	BPKS
51	Najiran Syamsuddin	Head of Foreign Affair Sub-Division	BPKS
52	Riskha Damayanty	Staff	BPKS
53	Harla	Staff	BPKS
54	Timothy F	Staff	BPKS
55	Hulwah Yunita Hilzah	Staff	BPKS
56	Akbar	Staff	BPKS
57	Sri Neswati Risamin, SKM. M.Adm.Kes	Head of Planning Department	Health Office
58	Rahmaniar Syamsul		Food Security Department
59	Rahmadtiyah		Food Security Department
60	Evan Ernanda		Communication and Information Department Singkawang City

61	Sitti Khusnaeni SM, S.Pi		Family Planning and Population Control Department
62	Drs. H. Andi Muh. Yasir, M.Si		Trade Department
63	Fadly Nura		Library Department
64	Hamka Darwis, SH, MM		Public Works Department
65	Arham Alqaf		Social Department East Luwu
66	Ita Anwar	Head of Public Health Department	Health Office
67	A. Wirdati Ambas		Health Office
68	Sulha Kuba	Head of Environmental Health Section	Health Office
69	Andi Mariani	Head of Disease Control and Eradication Section	Health Office
70	Ina	Head of Planning Staff	Health Office
71	Dr. Nursaidah	Head of Disease Control and Eradication Department	Health Office
72	Nur aeni	Public Health Staff	Health Office
73	Diyah Fajarwati	Wasor TB	Health Office
74	A. Rasdiyanah Jakir		Health Office Maros
75	Viktorius Hamsa, SKM, MH		Health Office Maros
76	Umar, SKM		Health Office Maros
77	Muhajirah Nursin, SKM, M.Kes		Health Office Maros
78	Riezky Yulviani Armanita		Health Office Riau Island Province
79	A. B. Nyoma. M		Social Department
80	Fathurrahman, S.Pd.I		Social Department Nagan Raya Municipality
81	Fajriani	Head of Planning Department (Interim)	Health Office
82	Muh Ismail		Directorate of Immigration General
83	Yasmain Gasba		Education Department
84	Chaidir		Civil Registration and Population Department
85	Nardi		Civil Registration and Population Department
86	Dr. Aryati Puspasari Abady, M.S		Civil Registration and Population Department
87	Ismail Hajiali	Head of Communication and Information Department	Communication and Information Department

88	Saiful Rozaq	Staff	Communication and Information Department
89	Andi Jayanti Oktaviani		Communication and Information Department
90	A. Amsal Hayri		Communication and Information Department Soppeng Municipality
91	Fransiska Dora,A.Md		Communication and Information Department Bengkayang Municipality
92	Antonius Apong		Communication and Information Department Bengkayang Municipality
93	Iwan Suryadi, S.E		Communication and Information Department Bengkayang Municipality
94	Venny Sartika, S.IP, M,Si		Communication and Information Department Berau Municipality
95	Venny Sartika, S.IP, M.Si		Communication and Information Department Berau Municipality
96	Agriani Gobel	Communication and Information Department OSC	Communication and Information Department
97	Muhammad Fashli, S.KOM.	CCTV Operator	Communication and Information Department
98	I N Aria Purnabhawa, SSTP., M.Si		Communication and Information Department
99	Adam		Communication and Information Department
100	Baharuddin Mustamin		Workforce Department
101	Hasmawaty		Housing and Residential Areas
102	Rahmaniar		Marine and Fisheries Department
103	Sinta		Marine and Fisheries Department
104	Fitriana Nur		Marine and Fisheries Department
105	Hendra Cipta	Head of Staffing and General Affairs Division	Regional Inspectorate
106	A. Irwan Bangsawan		Workforce Department
107	Arni Angriany Amir		Class I Harbour Health Office
108	Arfiani		Class I Harbour Health Office
109	Firdaus, SKM		Poso Harbour Health Office

110	Firnandar Sabara		Sangkarrang Islands District
111	Ronny Catur Prabowo		Sangkarrang Islands District
112	Siti Subaedah	Head of Sangkarrang Islands District	Sangkarrang Islands District
113	Andi Besse Amir		Makassar District
114	Yudistira		Manggala District
115	Andi Ardin		Bakung Sub-District
116	M. Sahryd, S. Sos		Barrang Caddi Sub-District
117	Kurniati	Head of Barrang Lompo District	Barrang Lompo Sub-District
118	Meinsani Kecca		Buntusu Sub-District
119	Sember Pambahako		Cambayya Sub-District
120	Abu Bakar, SE		Kapasa Raya Sub-District
121	Ruslan Jufri		Kodingareng Sub-District
122	Andi Anshar AP, S.STP, M.Si.		Manggala Sub-District
123	Rizal		North Maradekaya Sub-District
124	Ekayani Prativi		Paccerakkang Sub-District
125	H. Andi Hasnawi Sambira, S.E.,M.M		New Pattingalloang Sub-District
126	Andi Muh. Yusuf, S.Stp		Tabaringan Sub-District Ujung Tanah District
127	Aldar, S.H		Social Ministry
128	Boga Hardhana		Health Ministry
129	Tenri A Palallo, S.Sos, M.Si		Head of Women Empowerment and Child Protection Department
130	Ego, SKM.Kes		Fishery and Marine Ministry Class I
131	Yudi Handoyo		Lajangiru Sub-District Ujung Pandang District
132	Elyza Mangaweang		North Pisang Sub-District
133	Kurniadi		Fire Department
134	Harlawaty		Makassar City Department
135	Farida sibuea		Information and Data Centre of Health Ministry Indonesia
136	Yudianto		Information and Data Centre of Health Ministry Indonesia
137	Anas Ma'ruf		Information and Data Centre of Health Ministry Indonesia
138	Ratih		Information and Data Centre of Health Ministry Indonesia

Practitioner and Public Health Specialists			
139	Drg. Cynthia Rieuwpassa		Puskesmas Andalas
140	Tommy Drajat, S.Kep		Puskesmas Barrang Lompo
141	Trihadi Usman		RSU PMC Indramayu
142	Muliani		RSUD H.A.Sulthan Dg.Radja
143	A. Any Muliany M		RSUD Kota Makassar
NGOs			
144	Fitriatul Aini		Among Tani Foundation
145	Ester		Among Tani Foundation
146	Sumar Harjanti		Among Tani Foundation
147	Lalu Lian Hari Wangi		HRH2030
148	Taufiq Sitompul		HRH2030 Indonesia and University of Oslo
149	Widowati		Humanitarian Forum Indonesia
150	Edy Juspar		Komunitas Sekolah Tanpa Batas Indonesia
151	Suherman		Kotaku
152	Heradi		Kotaku
153	Umar		Kotaku
154	Endrian		LSM
155	Salma Tadjang		Madani USAID
156	Ina Rahlina		RISE
157	Amir		Rumah Zakat
158	Ihwana		Save the Children
159	Badwi		UNICEF
160	Edhie Rahmat		USAID Indonesia
161	Lidiastuty Anwar		USAID IUWASH PLUS
162	M. Taufan		Yay. Bakti
163	Ita Ibnu		Yay. Bakti
164	Abdul Hakim		Yayasan Kalla
165	Tetrie Darwis		Yayasan Mazarina

CSOs			
166	Johana		EWINDO
167	Hengki Ferdianto		Pertamina
168	Devi Primavesa		Perumda Air Minum
169	Sierlinatar		Perumda Air Minum
Community			
170	Muhammad Akbar Salcha, SKM, M. Kes	Student	Akademi Hiperkes Makassar
171	Arni Juliani, SKM., M.Kes	Student	Akademi Hiperkes Makassar
172	Henny Hamsinar	Student	Universitas Dayanu Ikhsanuddin
173	Julianty	Student	Universitas Esa Unggul
174	Mieke Nurmalasari	Student	Universitas Esa Unggul
175	Syefira Salsabila	Student	Universitas Esa Unggul
176	Nungky NK	Student	Universitas Esa Unggul
177	Dr. Hosizah, SKM, M.KM	Student	Universitas Esa Unggul
178	Noer Hafidh Al Muwahidin	Student	Universitas Gadjah Mada
179	Andi Velia Yusnafira	Student	Universitas Hasanuddin
180	Ariza Taufik	Student	Universitas Hasanuddin
181	Yulinar Syam	Student	Universitas Hasanuddin
182	Anesia Anggun Kinanti	Student	Universitas Hasanuddin
183	Andi Pramesti Ningsih	Student	Universitas Hasanuddin
184	Irfani Syafri	Student	Universitas Hasanuddin
185	Uyuun Wiji Ismita	Student	Universitas Hasanuddin
186	Aidha Arfani	Student	Universitas Hasanuddin
187	Hafidah Amiruddin	Student	Universitas Hasanuddin
188	Muh. Alfarabi Alif Putra	Student	Universitas Hasanuddin
189	Asrul Paelori Ahmad	Student	Universitas Hasanuddin
190	Ilham	Student	Universitas Hasanuddin
191	Jamaluddin	Student	Universitas Hasanuddin
192	Muhammad Akbar	Student	Universitas Hasanuddin
193	Diki Gali Raka Siwi	Student	Universitas Hasanuddin
194	Rieka Zalzabillah Putri	Student	Universitas Hasanuddin

195	Andi Anzanul Zikra	Student	Universitas Hasanuddin
196	Muhammad Rijal	Student	Universitas Hasanuddin
197	Fettyana	Student	Universitas Hasanuddin
198	Moch. Wahyu Faisal	Student	Universitas Hasanuddin
199	Muhammad Irzam Kasyfillah	Student	Universitas Hasanuddin
200	Irfan Ripat	Student	Universitas Hasanuddin
201	A. Imam Hasrian	Student	Universitas Hasanuddin
202	Sartika	Student	Universitas Hasanuddin
203	Eva Ayu Lestari Wahid	Student	Universitas Hasanuddin
204	Muhammad Gunawan Idris	Student	Universitas Hasanuddin
205	Taslinda	Student	Universitas Hasanuddin
206	Syaifuddin Sidjaya, S.SOS	Student	Universitas Hasanuddin
207	Dwijato Gamas P.	Student	Universitas Hasanuddin
208	Muhammad Yusuf	Student	Universitas Hasanuddin
209	Andi Marimar Muchtamar	Student	Universitas Hasanuddin
210	Ahmad Jayadi	Student	Universitas Hasanuddin
211	Asri Oktianawati	Student	Universitas Hasanuddin
212	Putri Angriani	Student	Universitas Hasanuddin
213	Riny Yustica Dewi	Student	Universitas Hasanuddin
214	Andi Anzanul Zlkra	Student	Universitas Hasanuddin
215	Hernawati	Student	Universitas Hasanuddin
216	Nurul Musfirah	Student	Universitas Hasanuddin
217	Muhammad Hidayat	Student	Universitas Hasanuddin
218	Lutfi Qadri	Student	Universitas Hasanuddin
219	Saphira	Student	Universitas Hasanuddin
220	Muhammad Zulfahmi Sadrah	Student	Universitas Hasanuddin
221	Irmansyah Saad	Student	Universitas Hasanuddin
222	Inggi Ramadhani Dwi Saputro	Student	Universitas Hasanuddin
223	Muhammad Abduh. MF	Student	Universitas Hasanuddin
224	Ahmad Reza Syahbana	Student	Universitas Hasanuddin
225	Eugenius Wahyudiarto	Student	Universitas Hasanuddin
226	Billy Chen	Student	Universitas Hasanuddin
227	Andi Selvi Yusnitasari	Lecturer	Universitas Hasanuddin

228	Jamaluddin umar	Student	Universitas Hasanuddin
229	Afriyani Nurhasanah Mukhtar	Student	Universitas Hasanuddin
230	Iqbal Faturachman Usman	Student	Universitas Hasanuddin
231	Tuti Amalia	Student	Universitas Hasanuddin
232	Aulia Darnilasari	Student	Universitas Hasanuddin
233	Adil Fatih Buana	Student	Universitas Hasanuddin
234	Herryts Timisela	Student	Universitas Hasanuddin
235	A Ais Prayogi	Student	Universitas Hasanuddin
236	Putu Wuri Handayani		Universitas Indonesia
237	Nabila Clydea Harahap		Universitas Indonesia
238	Andi Musdalifah, S.KM., M.Kes		Universitas Mega Buana Palopo
239	Nurul Izzah Maisyuri		Universitas Sriwijaya
240	Guadirto, S.Hut		Universitas Tanjungpura
241	Russell Vogel		University of Oslo
242	Arwina		UPT SMAN 5 B0NE

ANNEX C: Sub-Actions and Responsible Parties

Area	Lever	Sub-Actions	Included in Mid-Term Program?	Primary Sector Responsible for Implementation	Secondary Sector
#1: Sustaining Municipal Support for the Goal of a Healthy Makassar					
Leadership, Governance, and Financing	**Data for Decision-making**	Bappeda and Kominfo should decide on regular multisector mechanism for discussing cross-sector data alerts that come up in the War Room to build in the expectation that these data will be regularly discussed and used for planning.	Yes	Kominfo, Bappeda	All departments
	Equitable Policy and Leadership	Develop municipal policies, workforce training programs and technical support to increase not just data reporting but also data usage and visualization within the War Room by city leadership, with a particular focus on getting the related sector data used as part of regular city mid-term, near-term, and long-term planning.	Yes	Kominfo, Bappeda, and Civil Registration Department	All departments
		Bappeda should regularly work across donors/NGOs/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.	Yes	Bappeda, City Office	
	Citizen Engagement	Use a system approach for Musrenbang that best utilizes citizen's feedback in the process to develop a budget and workplan each year. The method used shall be transparent, systematic, and replicable, and allow for public release of the findings.	Yes	Bappeda	
Infrastructure and Workforce	**Data for Decision-making**	Workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.	Yes	Kominfo, Bappeda	All departments
	Equitable Policy and Leadership	Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision making. This investment needs to be supported by enhancing	Yes	Kominfo	Bappeda

		workforce capacity for data managers to meet the need for qualified workforce to use IT and manage data from collection to utilization.			
	Citizen Engagement	Strengthen integrated system for managing citizen complaints with GIS technology into central War Room that is accessible for the communities to track their complaints and progress and to give feedback.	No	Kominfo	
Collaboration and Data	**Data for Decision-making**	Bappeda and Kominfo in collaboration to use collected data from communication channel users including CRS, social media, and electronic-based channel to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during Musrenbang.	Yes	Kominfo	Bappeda
	Equitable Policy and Leadership	Encourage "One Data" regulation plan to be ratified at city level. In addition, the city government to encourage a city level policy that requires all sectors government, NGOs, and private sector to share their data including mechanism, type of data, variable, data use for decision making, person in charge, and their incentive. One Data governance model among different systems can be implemented to cover many data sources and departments which involve multiple stakeholders along business process of data integration and dashboard management.	Yes	City Office	Kominfo
	Citizen Engagement	Increase outreach campaigns on key environmental health and public health topics. CRS data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or similar. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.	Yes	Health Department	Bappeda, Village Office
Community Cohesion and Awareness	**Data for Decision-making**	Increase transparency on decision making process and how selected programs were implemented - this can be done via public posting via ICT of Musrenbang rankings/ratings.	Yes	Bappeda	

	Equitable Policy and Leadership	Develop and use a city M&E plan for monitoring and progress on the "Sombere and Smart" goals that are tied to RT/RW (sub-district or kelurahan) level improvements.	Yes	Bappeda	
	Citizen Engagement	Engage Healthy Alleys to do their own prioritization exercises around what they need to improve their Healthy Alley indicators, so that they come prepared to ask for these items when it is time for Musrenbang.	No	Health Department	
		Review Musrenbang process to see whether it can be augmented by developing a year round community collaboration platform that supports standardized, trusted, and ongoing community engagement.	Yes	Bappeda	Kominfo
#2: Leading the Way on a Circular Economy					
Leadership, Governance, and Financing	**Data for Decision-making**	Managing data for sanitation management by establishing baselines or indicators for wastewater management success that include institutions, regulations, sanitation coverage of financing and operational activities.	Yes	Environmental Department, Health Department	Public Works
	Equitable Policy and Leadership	Promote sustainable use of commercial water including for agriculture, manufacturing, tourism industry, and others. In addition, it promotes the efficient use of water resources including the use of recycled water for non-essential purposes that do not include human consumption.	No	Public Works	
		Improving domestic wastewater management services such as the development of offsite sanitation systems, septic tank construction for individual homes, wastewater treatment facilities, and communal wastewater treatment facilities (communal IPAL).	Yes	Public Works	Environmental Department, Health Department
	Citizen Engagement	Empowering people to provide input and guide water-related decisions, to assess decisions taken and provide meaningful feedback on actions. Active community involvement and participations and delivery of programs and policies regarding water.	Yes	Bappeda	Kominfo

Infrastructure and Workforce	**Data for Decision-making**	Using Call Center 112 data to manage sludge services.	Yes	Public Works	Kominfo
	Equitable Policy and Leadership	Improve the technical and management skills of the domestic wastewater treatment technical implementation units by providing training, comparative studies and workshops.	Yes	Public Works	
		Provide access to clean water for all walks of life through additional pipes, maintenance of existing water resources, development of wastewater infrastructure networks, increased access to toilets facilities and sewerage for all residents.	Yes	Public Works	
		Strengthen policies and programs to protect important natural ecosystem related to water supply, water retention, water quality management, and flood alleviation DNA. In addition to policies and programs to reduce or eliminate pollution and discharge to surface and underground water sources, reduce groundwater depletion and ensure high quality water for human consumption, recreation and other needs.	Yes	City Office	Public Works, Environmental Department
		Strengthening sanitation clinic services at Puskesmas.	No	Health Office	
	Citizen Engagement	Strengthen community based disaster preparedness to mitigate the impact of disasters that occur in their environment.	Yes	Disaster Management Agency	Social Department
Collaboration and Data	**Equitable Policy and Leadership**	Ensuring community access to safely managed sanitation, which includes the entire process of managing affected water from storage, removal, to sludge waste treatment.	Yes	Public Works	
	Citizen Engagement	Active monitoring and evaluation of water infrastructure by the community, by ensuring that the data is updated and adjusted to help the improvement of the performance of water and sanity services for the maintenance and improvement of water infrastructure on a regular basis.	Yes	Public Works	

Community Cohesion and Awareness	**Data for Decision-making**	Managing data for monitoring and evaluation of community based wastewater management.	Yes	Public Works	
	Equitable Policy and Leadership	Provide assistance and encourage municipalities to develop budgets for wash (Musrenbang level) programs.	Yes	Bappeda	
		Adapting circular economic principles to water management, to produce greater economic benefits.	No	Bappeda	
	Citizen Engagement	Involve community members in the development of communal wastewater treatment plants (IPAL Communal), as well as centralized wastewater systems, so that communities are willing to benefit from a centralized wastewater system.	Yes	Public Works	
#3: Creating a Culture of Data for Health					
Leadership, Governance, and Financing	**Citizen Engagement**	School training and certification for data and for health promotion activities.	No	Kominfo, Health Department, Education Office	
		Expanding healthy aisle data poster initiatives.	No	Kominfo	
Infrastructure and Workforce	**Data for Decision-making**	To ensure fair access, it is necessary to invest in IT (mobile networks) facilities and infrastructure for communities, including excluded citizens and disadvantaged groups.	Yes	Kominfo	Private sector (e.g. internet providers)
		To ensure the sustainability of communication by using technology-based innovations, it is necessary to invest in workforce capacity by organizing training for system maintenance, data or report management, use of technology and caller handling to retain customers.	Yes	Kominfo	
	Equitable Policy and Leadership	Strengthen 112 Call Center systems, standard operational procedures, and reporting management to support strong collaboration and effectiveness in handling citizen reports within and across government agencies through co-creation activities.	Yes	Kominfo	

	Citizen Engagement	Kominfo through the village activates community complaints through community leaders by using handheld devices.	Yes	Kominfo	
Collaboration and Data	**Data for Decision-making**	Support for the use and exploitation of citizen reporting systems.	No	Kominfo	
	Equitable Policy and Leadership	Strengthen response mechanism in every sector for every line of communication, including citizen reporting systems, social media, and electronic communication channels.	Yes	Kominfo	
	Citizen Engagement	All communication channels including citizen reporting systems, social media, and electronic channels need to be massively promoted in a way/approach that can be understood by the public. This can also be done through community involvement along with posyandu and also massive promotion in public service centers. This better communication system will increase the exposure for vulnerable groups to more equitable access and better quality of life.	Yes	Kominfo	Bappeda
Community Cohesion and Awareness	**Equitable Policy and Leadership**	Enhance outreach campaign on key environmental health and public health topics. Citizen reporting systems data can be used to identify the most pressing topics, such as road safety, opening waterways by reducing floating garbage, etc. The campaigns can be timed to go hand in hand with the damp parts of the Musrenbang process to ensure that residents know what needs to be asked to fix ongoing health related problems in their neighborhoods.	Yes	Health Department	Bappeda, Village Office
	Citizen Engagement	Involve schoolchildren in various competitions to plan better physical activity spaces or other healthy spaces, and the winning design is shared with other schools, to incentivize the school to provide such space.	No	Environmental Department, Education Office	

#4: Creating a More Water-resilient City					
Leadership, Governance, and Financing	**Data for Decision-making**	Inclusion of CRS and community service coverage data into War Room to improve targeting of service.	Yes	Kominfo, Bappeda	All departments
	Equitable Policy and Leadership	Strengthen environmental health policy to encourage community and institution (government, industries, etc.) awareness and behavior on healthy environment (solid and wastewater management) by investment in providing infrastructure for waste disposal, landfill mitigation, recycling, waste convertor and waste management facilities, such as garbage library, clean water, open drain, sanitation, air pollution and community based-program such as health promotion, healthy alley, garden alley, solid waste management, and community-based wastewater treatment.	Yes	City Office	Public Works, Environmental Department
Infrastructure and Workforce	**Data for Decision-making**	Increase workforce capacity for service delivery and integrated data management across sector and use this integrated data for environmental health planning.	Yes	Environmental Department	Kominfo
	Equitable Policy and Leadership	Improvements to waste collection services, particularly in low-income areas where roads are too narrow for trucks to pass through. Testing of the waste sorting system will be carried out to determine whether it can be applied in some selected residential areas.	Yes	Environmental Department	Public Works
		Reorganize road management to be more pedestrian oriented by building and maintaining sidewalks.	Yes	Public Works	
		Launch targeted community green spaces prioritizing key areas, opportunity for enhancing utilization of collaboration space to bring programs, information, resources directly to them while also fostering community cohesion and active lifestyles.	No	Environmental Department	Public Works
		Improve human development of health cadres or sanitation officers to promote sidewalk use for pedestrian (as a form of exercise) and to promote food hygiene.	Yes	Health Department	Public Works

	Citizen Engagement	Engage communities (e.g. local leaders or religious leaders) to use sidewalks and to ensure safety and security from crime or public harassment.	No	Environmental Department	Public Works
		Understand the behavior of hawkers and identify the supports they need to enable, for example, by providing a space to street hawkers and then promoting the space to attract tourism, to enable them having a business safely without using sidewalks as their business sites.	No	Public Works	
Collaboration and Data	**Data for Decision-making**	Utilize mobile technology to improve targeting of services to where cleanup is needed and expand access to the technology for underserved populations in order to ease communication between citizens and government.	Yes	Kominfo	Bappeda
		Increase the capacity for data access located across various government agencies and departments and identify data sources and address data gaps and integrity issues for waste management activities.	Yes	Environmental Department	Kominfo
	Equitable Policy and Leadership	Engage private stakeholders such as waste management mobile application developer (garbage mall) and other private sectors through CSR program.	Yes	City Office	Bappeda
		Increase cross-sector engagement to address issues, include coordination with NGOs, local communities and donors.	Yes	City Office	Bappeda
Community Cohesion and Awareness	**Data for Decision-making**	Collaboration of NGOs and private sectors for better awareness, and engage community to adopt healthy environmental behaviors and better community-based program implementation and monitoring through mobile technology and face-to-face meetings in Posyandu village office and other community groups (women group, faith-based group, etc.).	Yes	Food Security Department	Bappeda
	Equitable Policy and Leadership	Use sub-districts/village resources (including funding) needed and explore the opportunity to foster	Yes	Environmental Department	Public Works

		innovative solutions to create financial and material resources from garbage.			
	Citizen Engagement	Gradual introduction of recycling-oriented society, a system for waste disposal for industrial and commercial sectors in urban areas.	Yes	Environmental Department	Public Works
		Strengthening Usaha Kesehatan Sekolah (UKS - School Health Business) in senior high schools by implementing "Youth Health Cadres" program (e.g. selection, training, health counselling, etc.). Cadres can be trained to promote waste management.	No	Education Office	
		Education and awareness directed at the public and dischargers to increase awareness of waste reduction, reuse, and recycling, including: implementation of environmental plans in primary schools, promotion of 3R at effective garbage collection and transportation services, and community involvement to reduce solid waste, establishment of waste sorting system.	Yes	Environmental Department	Public Works
#5: Growing a Healthier Next Generation of Citizens					
Leadership, Governance, and Financing	**Equitable Policy and Leadership**	Entry of maternal and child health programs into the priorities of the city government through bottom-up planning (Musrenbang), and top-down planning (income medium or short term achievement by the city).	Yes	Bappeda	
		Improve and strengthen policies for maternal mortality prevention and reduce child health problems in the form of efforts to prevent child marriage.	Yes	Health Department	City Office
Infrastructure and Workforce	**Data for Decision-making**	To ensure equal access to health education through the media investment in IT (mobile network) facilities and infrastructure are needed for communities including marginalized and neglected populations and promoting ways to access that information.	Yes	Kominfo	Private sector (e.g. internet providers)
	Equitable Policy and Leadership	Strengthening the capacity of officers, especially Posyandu cadres, to run community based Posyandu programs that can directly interact with mothers and children, including health monitoring.	Yes	Health Department	

		Improving the quality of health services in developing positive nutritional behaviors through diverse and nutritious food through officer and cadre training, advocacy, and public participation campaigns involving pregnant women and mothers who gave young children in the first 1,000 days from conception to age 2 as key targets.		Health Department, Women and Children Empowerment office	
		Training and strengthening the capacity of healthy workers to bridge the gaps in the implementation of the program. This step will create better coordination across institutions on safe delivery, better nutrition, immunization, and basic health services.		Health Department	
		Provide breastfeeding spaces for women in public spaces such as industry and offices.		City Office	Private sector
	Citizen Engagement	Providing a place/cubicle in the corner of the karebosi field or grassy recreation room, collaborating with the Makassar City Cooperative and SME office, to provide a joint activity space to answer the problems of maternal and child health (KIA).		City Office	Health Department
		Creating safe and green spaces around the community, playgrounds in schools, and pedestrian access around the school. Implementing health promotion of the use of motorized modes of transportation by the education office in other schools in Makassar.		Environmental Department, Education Department	
		Improving the quality of health services, especially marginalized populations in remote areas that experience the greatest hurdles to basic needs.		Health Department	
		Strengthening School Health Business (UKS) in elementary schools through the implementation of "Little Doctor" program (e.g. selection, first aid training, health counseling, etc.).		Education Department	Health Department
Collaboration and Data	**Data for Decision-making**	Strengthen data integration and sharing effort for internal parties (governments) and external parties (NGOs, and the private sector) for development, monitoring, and evaluation.		Kominfo	All departments

	Equitable Policy and Leadership	Bappeda needs to strengthen a multisector working group for maternal and child health that includes education, social (poverty), environment, public works (water and sanitation), health, food security, Kominfo, NGOs, private sector, and community-based efforts such as Posyandu, PKK, and villages.		Bappeda	All departments
		Developing cooperation and coordination with public-private partnership, such as corporate responsible models (hotels, restaurants, convenience store, etc.) through donations of money or food or through the use of private financing where the government is responsible for the socialization of programs to the community.		Bappeda	All departments
		Include a monitoring and evaluation process to determine how the number of stunting cases can be reduced.		Kominfo, Health Department, Education Department	
	Citizen Engagement	Increase exposure to health education, especially with respect to maternal and child health, through citizen reporting systems, social media, electronic media (televisions and radio) internet, and interaction with the community by Posyandu, villages, health centers, NGOs and PKK.		Health Department	
Community Cohesion and Awareness	**Citizen Engagement**	Increase community interaction and participation through socialization activities with community groups regarding childbirth in health facilities, the importance of immunization, nutrition in the first 1,000 days, and hygiene, as well as government immunization services programs.		Health Department	
		Launching green spaces for the community by prioritizing areas, opportunities to increase the utilization of cooperative spaces to bring programs, information, and resources directly while also fostering community cohesion and an active lifestyle.		Environmental Department	

#6: Encouraging Healthy Lifestyles for NCD Prevention					
Leadership, Governance, and Financing	**Data for Decision-making**	Strengthen National Health Insurance data management for regular updating and data collection, and prioritize investments in infrastructure to support internet-based data management.		Health Department	
	Equitable Policy and Leadership	Better enforcement of hygiene regulations in addition to the sale of cigarettes, alcohol, and illegal snacks.		Bappeda, Health Department	Police
		Strengthening the Mayor's regulation on non-smoking areas in Makassar city in addition to the body of routine activities carried out by the city government for promotion, monitoring and evaluation of the enforcement of non-smoking areas.		Mayor's Office	
Infrastructure and Workforce	**Data for Decision-making**	Strengthen the capacity of officers for data management and prevention of PTM in Puskesmas and city.		Health Department	Kominfo
	Equitable Policy and Leadership	Provide a safe, green, and legal space for street vendors, who can sell safe and healthy/organic food and staple foods to the community.		City Office	Health Department
		Strengthening data integration and sharing efforts for internal parties (government) and external parties (NGOs and private sector) for development, monitoring and evaluation.		Kominfo	All departments
	Citizen Engagement	To ensure fair access to health education through media, investments in IT facilities and infrastructure (mobile networks) are needed for communities including marginalized and neglected populations and promoting ways to access such information.		Bappeda, Health Department	Private sector
Collaboration and Data	**Equitable Policy and Leadership**	Strengthen strong ecosystem (infrastructure, policies, and environment) that encourages people to practice a healthy lifestyle. This needs to be led by Bappeda who encourages multisectoral projects for the government agencies, universities, NGOs and the private sectors.		Bappeda	All departments
	Citizen Engagement	Increase health outreach coverage (increasing access to needed resources) for PTM programs by		Health Department	

		strengthening and replicating community based intervention models, NGO-public partnership (Posyandu) throughout Makassar. This program needs to be driven by the needs of the community.			
Community Cohesion and Awareness	**Citizen Engagement**	Improving health education, especially with respect to maternal and child health, through citizen reporting system, social media, electronic media (television and radio), internet, and interaction with the community by Posyandu, village, Puskesmas, NGOs and PKK.		Health Department, Kominfo	Private sector, NGOs

ANNEX D: Costing Workbook and Costing Actions

Guidelines for Costing

This sheet provides details on how to calculate costs for each activity. Please write down any differences in calculations you may need to make so that we can understand how to compare costs between sectors.

General Instructions

BHC suggests using an "ingredients" approach to costing each activity. Within the costing field, the term "ingredients" refers to the resources needed to implement a program. The approach to cost analysis that focuses on identifying and then valuing those ingredients is known as the "Ingredients Method" (Levin, McEwan, Belfield, Bowden, & Shand, 2018).

Paraphrasing Institute of Education Sciences (2020), the general steps to follow are:

Phase 1: Identify Program Ingredients

A. Clarify the model for the activity - scope, timeframe, etc.

B. Choose the perspective(s) - who is accruing the costs? In this case we want to know what this will cost the government.

C. Describe key ingredients - this means personnel, facilities, equipment, supplies or other inputs - and then describe them in characteristics and quantity.

Phase 2: Price the Ingredients

A. Identify or estimate a price for each ingredient - value each program resource by estimating or determining their prices for the period.

B. Adjust costs for your context.

Phase 3: Create and Use the Cost Estimate

C. Calculate total costs

Costing Summary

	Estimated Yearly Costs		Estimated Total for Five Years (2023-2028)
#1: Sustaining Municipal Support for the Goal of a Healthy Makassar	IDR 27,813,082,919	IDR	136,377,324,158
#2: Leading the Way on a Circular Economy	IDR 193,288,744,480	IDR	958,503,642,999
#3: Creating a Culture of Data for Health	IDR 51,814,467,527	IDR	249,523,492,650
#4: Creating a More Water-resilient City	IDR 1,161,932,719,311	IDR	5,783,983,590,447
#5: Growing a Healthier Next Generation of Citizens	IDR 569,670,064,889	IDR	2,825,878,180,994
#6: Encouraging Healthy Lifestyles for NCD Prevention	IDR 300,289,063,575	IDR	1,495,598,645,177

Costing of Action #1: Sustaining Municipal Support for the Goal of a Healthy Makassar

#	Activities required	Output	Ingredients	Quantity per RW/puskesmas/etc.	SCOPE: In how many RW/sub-district/city will this be needed?	TIMELINE: How many years is this needed?	Total units per year (multiply GxH)	Cost per unit (IDR)	Overhead cost (IDR)(10%)	Cost per year in IDR ((Kx(1+L))xJ)	Total costs for 2023-2028 in IDR (MxI)
			F	G	H	I	J	K	L	M	N
	Goal: BAPPEDA and Kominfo should decide on a regular multisector mechanism for discussing cross-sector data alerts that come up in the war room to build in the expectation that these data will be regularly discussed and used for planning.										
1	**Sub-program:** Bappeda and Kominfo should decide on regular multisector mechanism for discussing cross-sector data alerts that come up in the War Room to build in the expectation that these data will be regularly discussed and used for planning.									**1,537,264,300**	**7,686,321,500**
	Coordination of regional development planning document	5 documents completed		1	5	5	5	36,712,400	0.1	201,918,200	1,009,591,000
	Multisectoral coordination	One meeting (51 departments, 100 participants)	One meeting (51 departments, 100 participants)	1	1	5	1	237,224,000	0.1	260,946,400	1,304,732,000
	Musrenbang	Musrenbang conducted (start from sub-district to city level)		1	1	5	1	976,727,000	0.1	1,074,399,700	5,371,998,500
2	**Sub-program:** Develop municipal policies, workforce training programs and technical support to increase not just data reporting but also data usage and visualization within the War Room by city leadership, with a particular focus on getting the related sector data used as part of regular city mid-term, near-term, and long-term planning.									**2,185,596,936**	**10,412,677,336**
	Community information group empowerment		Grants to community groups to share information on Musrenbang, 112, etc. 1 grant per group	1	996	5	996	1,000,000	0.1	1,095,600,000	5,478,000,000

	Analyze data and information on regional development planning	Completed 2 documents	2 documents, RKPD (Rencana Kerja Pemerintah Daerah) and RPJMD (Rencana Pembangunan Jangka Menengah Daerah)	1	2	5	2	98,426,000	0.1	216,537,200	1,082,686,000
	Training for utilization of data and information	1 training for 51 departments	1 training for 51 departments	1	1	5	1	493,377,000	0.1	542,714,700	2,713,573,500
	Coordination of regional development planning document review with other policy documents		Completed 5 documents	1	5	5	5	36,712,400	0.1	201,918,200	1,009,591,000
	Develop policies regarding information and communication	15 policies/ regulation provided	1 per department (15 departments)	1	15	1	15	7,807,687	0.1	128,826,836	128,826,836
3	**Goal: Bappeda should regularly work across donors/NGOs/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.**										
										2,154,066,856	**10,770,334,278**
	Coordination of document preparation and regional development planning	Completed 2 documents		1	1	5	1	307,322,600	0.1	338,054,860	1,690,274,300
	Provide assistance in the preparation of planning documents	12 institutions have been assisted to provide planning documents	12 institutions	1	12	5	12	16,440,583	0.1	217,015,696	1,085,078,478
	Coordination of synergistic implementation and harmonization of regional development planning	Completed 2 documents		1	1	5	1	1,453,633,000	0.1	1,598,996,300	7,994,981,500
4	**Goal: Use a system approach for Musrenbang that best utilizes citizen's feedback in the process to develop a budget and workplan each year. The method used shall be transparent, systematic, and replicable, and allow for public release of the findings.**										
										1,933,872,045	**9,669,360,223**

	Analysis of regional conditions, problems, and strategic issues of regional development	1 meeting (51 departments completed)		1	1	5	1	140,933,000	0.1	155,026,300	775,131,500
	Public consultation	1 public consultation conducted		1	1	5	1	182,266,000	0.1	200,492,600	1,002,463,000
	Multisectoral coordination	1 meeting (51 departments, 100 participants)	1 meeting (51 departments, 100 participants)	1	1	5	1	237,224,000	0.1	260,946,400	1,304,732,000
	Musrenbang city level	1 meeting (51 departments, 100 participants)	1 meeting (51 departments, 100 participants)	1	1	5	1	896,727,000	0.1	986,399,700	4,931,998,500
	Manage Madia Center event	30% departments publish their planning document	1 package per SKPD (15 SKPD have been published)	1	15	5	15	20,061,033	0.1	331,007,045	1,655,035,223
5	**Goal: Workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.**										
										636,178,840	**3,180,894,200**
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments	1 training, 20 participants from 20 departments	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
	Workshop and training to strengthen government chief information officer	1 training, 100 people	10 departments (10 people each)	1	1	5	1	109,556,000	0.1	120,511,600	602,558,000
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400	0.1	114,632,100	573,160,500
	Integrated government public service system			1	1	5	1	340,963,400	0.1	375,059,740	1,875,298,700
6	**Goal: Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision-making. This investment needs to be supported by enhancing workforce capacity for data managers to meet the need for qualified workforce to use IT and manage data from collection to utilization.**										
										3,486,653,610	**17,433,268,050**
	Manage government website	Website to increase public access available for 12 months	1 report per SKPD (25 SKPD that have been published)	1	25	5	25	17,789,400	0.1	489,208,500	2,446,042,500

	Provide mobile apps and website	4 apps developed for 1 year (60% departments publish their document)	4 apps developed for 1 year (60% departments publish their document)	1	4	5	4	312,173,775	0.1	1,373,564,610	6,867,823,050
	Strengthen Softwarehouse Makassar Technopark	1 workshop conducted	70% departments (35) integrated their data for 1 year	1	1	5	1	33,802,000	0.1	37,182,200	185,911,000
	War room management	Dissemination of integrated information		1	1	5	1	1,442,453,000	0.1	1,586,698,300	7,933,491,500
7	**Goal: Strengthen integrated system for managing citizen complaints with GIS technology into central War Room that is accessible for the communities to track their complaints and progress and to give feedback.**										
										6,783,139,000	**33,915,695,000**
	War Room management	Dissemination of integrated information		1	1	5	1	1,442,453,000	0.1	1,586,698,300	7,933,491,500
	War Room maintenance	War Room maintenance provided		1	1	5	1	724,037,000	0.1	796,440,700	3,982,203,500
	Provision of facilities and infrastructure		20 CCTV provided for 1 year	20	1	5	20	200,000,000	0.1	4,400,000,000	22,000,000,000
8	**Goal: Bappeda and Kominfo in collaboration to use collected data from communication channel users including CRS, social media, and electronic-based channel to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during Musrenbang.**										
										1,268,437,276	**6,342,186,378**
	Gateway message dissemination		1 package each year	1	1	5	1	224,023,500	0.1	246,425,850	1,232,129,250
	Electronic data integration	2 coordination meetings, 100% data and report provided	51 departments shared their data	1	2	5	2	170,481,700	0.1	375,059,740	1,875,298,700
	Preparation of digital profile of Makassar City	2 profiles provided		2	1	5	2	41,072,950	0.1	90,360,490	451,802,450
	Makassar city in figures	1 document about Makassar city data provided		1	1	5	1	196,475,000	0.1	216,122,500	1,080,612,500
	Social media monitoring	Conducted 12 workshops	1 report per activity	1	12	5	12	25,793,083	0.1	340,468,696	1,702,343,478

9	**Goal: Encourage "One Data" regulation plan to be ratified at city level. In addition, the city government to encourage a city level policy that requires all sectors government, NGOs, and private sector to share their data including mechanism, type of data, variable, data use for decision making, person in charge, and their incentive. One Data governance model among different systems can be implemented to cover many data sources and departments which involve multiple stakeholders along business process of data integration and dashboard management.**										
										513,826,830	**2,182,653,660**
	Coordination and synchronization of the collection, processing, analysis, and dissemination of multisectoral data	4 documents completed, 1 document per coordination meeting	4 documents (city development in economy document, city development profile, social document, coordination and synchronization of one health portal data)	1	4	5	4	87,500,000	0.1	385,000,000	1,925,000,000
	Develop policies related to data integration	120 participants joined the FGD (15 SKPD)	1 coordination meeting	1	1	2	1	117,115,300	0.1	128,826,830	257,653,660
10	**Goal: Increase outreach campaigns on key environmental health and public health topics. CRS data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or similar. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.**										
										3,724,727,637	**18,623,638,187**
	Environmental health service management	1 program for each Puskesmas		1	47	5	47	22,454,234	0.1	1,160,883,898	5,804,419,489
	Health promotion	12 activities for each Puskesmas	12 programs for each Puskesmas	12	47	5	564	3,045,941	0.1	1,889,701,796	9,448,508,982
	Implementation of Healthy Cities	Implemented in 47 Puskesmas	Implemented in 47 Puskesmas	1	47	5	47	7,398,660	0.1	382,510,722	1,912,553,610
	Monitoring and evaluation of healthy environmental development program	Implemented in 47 Puskesmas	Implemented in 47 Puskesmas	1	47	5	47	561,404	0.1	29,024,587	145,122,934
	Promotion of hygiene and sanitation (ProHySan) five pillars of STBM	Implemented in 47 Puskesmas	Implemented in 47 Puskesmas	1	47	5	47	5,079,432	0.1	262,606,634	1,313,033,172

11	**Goal: Increase transparency on decision-making process and how selected programs were implemented - this can be done via public posting via ICT of Musrenbang rankings/ratings.**										
										820,215,545	**4,101,077,723**
	Manage government website	Website to increase public access available for 12 months for 25 departments		1	25	5	25	17,789,400	0.1	489,208,500	2,446,042,500
	Manage Madia Center Event	30% departments publish their planning document (15 departments)		1	15	5	15	20,061,033	0.1	331,007,045	1,655,035,223
12	**Goal: Develop and use a city M&E plan for monitoring and progress on the "Sombere and Smart" goals that are tied to RT/RW (sub-district or kelurahan) level improvements.**										
										870,160,799	**3,215,770,253**
	Management and supervision of e-government in the implementation of district/city/regional government	Completed 8 reports	4 reports of optimization of Smart City Masterplan, 4 reports for MONEV	1	8	5	8	18,494,470	0.1	162,751,336	813,756,680
	Development of electronics-based government applications and business processes	Launching application and website	3 apps	1	3	2	3	114,649,873	0.1	378,344,581	756,689,162
	Development and management of Smart City ecosystems	3 districts	3 districts	1	3	5	3	99,716,631	0.1	329,064,882	1,645,324,412
13	**Goal: Engage Healthy Alleys to do their own prioritization exercises around what they need to improve their Healthy Alley indicators, so that they come prepared to ask for these items when it is time for Musrenbang.**										
										1,091,853,696	**5,459,268,480**
	Socialization and fostering clean and healthy living behavior	47 puskesmas	47 puskesmas	1	47	5	47	6,099,149	0.1	315,326,003	1,576,630,017
	Socialization for Healthy City	47 puskesmas	47 puskesmas	1	47	5	47	7,372,340	0.1	381,149,978	1,905,749,890
	Health City development plan	47 puskesmas	47 puskesmas	1	47	5	47	2,568,106	0.1	132,771,080	663,855,401
	Promotion of hygiene and sanitation	47 puskesmas	47 puskesmas	1	47	5	47	5,079,432	0.1	262,606,634	1,313,033,172

14	**Goal: Review Musrenbang process to see whether it can be augmented by developing a year round community collaboration platform that supports standardized, trusted, and ongoing community engagement.**										
										807,089,550	**3,384,178,892**
	Develop recommendations for new regulations	1 recommendation completed		1	1	5	1	98,760,000	0.1	108,636,000	543,180,000
	Research and development on community participation	1 report completed		1	1	2	1	197,354,200	0.1	217,089,620	434,179,240
	Dissemination of types, procedures, and methods for implementing governments innovation	1 activity completed		1	1	5	1	437,603,573	0.1	481,363,930	2,406,819,652
	Total Estimated Costs									**27,813,082,919**	**136,377,324,158**

Costing of Action #2: Leading the Way on a Circular Economy

#	Activities required	Output	Ingredients	Quantity per RW/puskesmas/etc.	SCOPE: In how many RW/sub-district/city will this be needed?	TIMELINE: How many years is this needed?	Total units per year (multiply GxH)	Cost per unit (IDR)	Overhead cost (IDR)(10%)	Cost per year in IDR ((Kx(1+L))xJ)	Total costs for 2023-2028 in IDR (MxI)
			F	G	H	I	J	K	L	M	N
	Sub-program: Managing data for sanitation management by establishing baselines or indicators for wastewater management success that include institutions, regulations, sanitation coverage of financing and operational activities.									**1,486,339,800**	**7,431,699,000**
	Develop planning, policies, strategies, and technical implementation of domestic wastewater management system	Completed 2 documents		1	1	5	2	675,609,000	0.1	1,486,339,800	7,431,699,000
3	**Goal: Bappeda should regularly work across donors/NGOs/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.**										
	Sub-program: Promote sustainable use of commercial water including for agriculture, manufacturing, tourism industry, and others. In addition, it promotes the efficient use of water resources including the use of recycled water for non-essential purposes that do not include human consumption.									**2,011,466,604**	**6,656,702,822**
	Socialization and community empowerment related to wastewater management systems	15 activities have been carried out	650 participants have been trained	1	15	5	15	10,241,133	0.1	168,978,700	844,893,500
	Disseminate information to public	12 activities		1	12	5	12	10,770,667	0.1	142,172,804	710,864,022
	Socialization through brochures and mass media			1	1	3	1	1,545,741,000	0.1	1,700,315,100	5,100,945,300

4	**Goal: Use a system approach for Musrenbang that best utilizes citizen's feedback in the process to develop a budget and workplan each year. The method used shall be transparent, systematic, and replicable, and allow for public release of the findings.**										
	Sub-program: Improving domestic wastewater management services such as the development of offsite sanitation systems, septic tank construction for individual homes, wastewater treatment facilities, and communal wastewater treatment facilities (communal IPAL).									**6,695,520,949**	**30,504,925,143**
	Develop planning, policies, strategies, and technical plan for domestic wastewater management system	Completed 2 documents		1	1	1	1	675,609,000	0.1	743,169,900	743,169,900
	Develop wastewater treatment	10 facilities provided	1 for each 15 sub-district (kelurahan), total 153 kelurahan	1	10	5	10	109,461,000	0.1	1,204,071,000	6,020,355,000
	Maintenance of communal wastewater treatment	10 wastewater treatment	1 for each 15 sub-district (kelurahan), total 153 kelurahan	1	10	5	10	65,632,900	0.1	721,961,900	3,609,809,500
	Provide local processing sub system	3 facilities provided	1 for each 5 districts (15 districts in total)	1	3	5	3	764,711,000	0.1	2,523,546,300	12,617,731,500
	Training for wastewater management	12 trainings conducted	Total 650 participants	54	12	5	12	21,580,271	0.1	284,859,577	1,424,297,886
	Maintenance of wastewater management systems	51 units maintained	1 unit for every 3 sub-districts (153 sub-districts)	1	51	5	51	21,504,274	0.1	1,206,389,771	6,031,948,857
	Provide fecal sludge transportation services	2 unit of fecal transportation services provided	Provide 2 units in one sub-district (kelurahan) Maradekaya Utara	2	1	5	2	5,237,500	0.1	11,522,500	57,612,500
5	**Goal: Workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.**										
	Sub-program: Empowering people to provide input and guide water-related decisions, to assess decisions taken and provide meaningful feedback on actions. Active community involvement and participations and delivery of programs and policies regarding water.									**385,036,300**	**1,500,599,100**
	Socialization and community empowerment related to wastewater management systems	15 activities conducted	650 participants	43	15	5	15	10,241,133	0.1	168,978,700	844,893,500

	Initiate wastewater management group for maintenance	30 groups formed and trained		30	1	1	1	96,496,000	0.1	106,145,600	106,145,600
	Supervision wastewater management system	Completed 1 report		1	1	5	1	99,920,000	0.1	109,912,000	549,560,000
6	**Goal: Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision-making. This investment needs to be supported by enhancing workforce capacity for data managers to meet the need for qualified workforce to use IT and manage data from collection to utilization.**										
	Sub-program: Using Call Center 112 data to manage sludge services.									**401,035,140**	**2,005,175,700**
	Electronic data integration	2 coordination meetings, 100% data and report provided	51 departments shared their data	1	2	5	2	170,481,700	0.1	375,059,740	1,875,298,700
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
7	**Goal: Strengthen integrated system for managing citizen complaints with GIS technology into central War Room that is accessible for the communities to track their complaints and progress and to give feedback.**										
	Sub-program: Improve the technical and management skills of the domestic wastewater treatment technical implementation units by providing training, comparative studies and workshops.									**559,983,877**	**2,375,336,986**
	Training for wastewater management	12 trainings conducted	650 participants	54	12	5	12	21,580,271	0.1	284,859,577	1,424,297,886
	Socialization and community empowerment related to wastewater management systems	15 activities conducted	650 participants	43	15	5	15	10,241,133	0.1	168,978,700	844,893,500
	Initiate wastewater management group for maintenance	30 groups formed and trained		30	1	1	1	96,496,000	0.1	106,145,600	106,145,600
8	**Goal: Bappeda and Kominfo in collaboration to use collected data from communication channel users including CRS, social media, and electronic-based channel to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during Musrenbang.**										
	Sub-program: Provide access to clean water for all walks of life through additional pipes, maintenance of existing water resources, development of wastewater infrastructure networks, increased access to toilets facilities and sewerage for all residents.									**2,761,420,079**	**13,807,100,395**
	Construction of groundwater wells	Groundwater provided	4 sub-districts, 1 unit each	1	4	5	4	139,337,750	0.1	613,086,100	3,065,430,500

	Breakwater development	Breakwater developed	3 locations of breakwater (Barrang Lompo island, Kodingareng Island, and Kodingareng Keke Island)	1	3	5	3	306,735,000	0.1	1,012,225,500	5,061,127,500
	Seawall construction and coast guard building	Seawalls provided	2 locations of seawalls (Metro Tanjung Bunga and Lae-lae Island)	1	2	5	2	456,393,445	0.1	1,004,065,579	5,020,327,895
	Maintenance of groundwater wells for raw water	Groundwater wells for raw water maintained	1 location for all districts in Makassar (total 15 districts)	1	15	5	15	8,002,600	0.1	132,042,900	660,214,500
9	**Goal: Encourage "One Data" regulation plan to be ratified at city level. In addition, the city government to encourage a city level policy that requires all sectors government, NGOs, and private sector to share their data including mechanism, type of data, variable, data use for decision making, person in charge, and their incentive. One Data governance model among different systems can be implemented to cover many data sources and departments which involve multiple stakeholders along business process of data integration and dashboard management.**										
	Sub-program: Strengthen policies and programs to protect important natural ecosystem related to water supply, water retention, water quality management, and flood alleviation DNA. In addition to policies and programs to reduce or eliminate pollution and discharge to surface and underground water sources, reduce groundwater depletion and ensure high quality water for human consumption, recreation and other needs.									**1,365,109,900**	**6,825,549,500**
	Strengthen data use for policy development	Coordination of city development planning document related to water supply	Completed 5 reports, conduct 1 coordination meeting for 1 report	5	1	5	5	183,562,000	0.1	1,009,591,000	5,047,955,000
	Analysis of regional conditions, problems, and strategic issues of regional development	1 meeting (51 departments completed)		1	1	5	1	140,933,000	0.1	155,026,300	775,131,500
	Public consultation	1 public consultation conducted		1	1	5	1	182,266,000	0.1	200,492,600	1,002,463,000

10	**Goal: Increase outreach campaigns on key environmental health and public health topics. CRS data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or similar. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.**										
	Sub-program: Strengthening sanitation clinic services at Puskesmas.									**1,300,340,468**	**6,501,702,339**
	Environmental health service management	1 program for each Puskesmas		1	47	5	47	22,454,234	0.1	1,160,883,898	5,804,419,489
	Quality control for drinking water (sanitation inspection, sampling, laboratory testing)	1 program for each Puskesmas		1	47	5	47	1,825,430	0.1	94,374,720	471,873,601
	Develop technical guidance for environmental sanitation (clean water and drinking water)	1 for each Puskesmas		1	47	5	47	871,989	0.1	45,081,850	225,409,250
11	**Goal: Increase transparency on decision-making process and how selected programs were implemented - this can be done via public posting via ICT of Musrenbang rankings/ratings.**										
	Sub-program: Strengthen community based disaster preparedness to mitigate the impact of disasters that occur in their environment.									**165,803,885,823**	**829,019,429,117**
	Maintenance of drainage and water resources	Rivers normalized	2,500 meters drainage normalized	1	1	5	1	49,849,322,137	0.1	54,834,254,351	274,171,271,754
	Flooding control	Pump center provided	6 units provided (1 unit for 2 districts)	1	6	5	6	16,382,642,259	0.1	108,125,438,909	540,627,194,547
	Cleaning and dredging rivers	15,000 meters have been cleaned	15,000 meters have been cleaned	1	1	5	1	2,585,629,603	0.1	2,844,192,563	14,220,962,817
12	**Goal: Develop and use a city M&E plan for monitoring and progress on the "Sombere and Smart" goals that are tied to RT/RW (sub-district or kelurahan) level improvements.**										
	Sub-program: Ensuring community access to safely managed sanitation, which includes the entire process of managing affected water from storage, removal, to sludge waste treatment.									**1,300,340,468**	**6,501,702,339**
	Environmental health service management	1 program for each Puskesmas		1	47	5	47	22,454,234	0.1	1,160,883,898	5,804,419,489
	Quality control for drinking water (sanitation inspection, sampling, laboratory testing)	1 program for each Puskesmas		1	47	5	47	1,825,430	0.1	94,374,720	471,873,601

	Develop technical guidance for environmental sanitation (clean water and drinking water)	1 for each Puskesmas		1	47	5	47	871,989	0.1	45,081,850	225,409,250
13	**Goal: Engage Healthy Alleys to do their own prioritization exercises around what they need to improve their Healthy Alley indicators, so that they come prepared to ask for these items when it is time for Musrenbang.**										
	Sub-program: Active monitoring and evaluation of water infrastructure by the community, by ensuring that the data is updated and adjusted to help the improvement of the performance of water and sanity services for the maintenance and improvement of water infrastructure on a regular basis.									**1,044,278,400**	**5,221,392,001**
	Monitoring and evaluation of healthy environmental development program	1 program for each Puskesmas	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	561,404	0.1	29,024,600	145,123,001
	Monitoring and evaluation preparation of periodic reports in terms of the implementation of regional development regarding water infrastructure by the community	Monev conducted	4 monitoring activities conducted	1	4	5	4	230,739,500	0.1	1,015,253,800	5,076,269,000
14	**Goal: Review Musrenbang process to see whether it can be augmented by developing a year round community collaboration platform that supports standardized, trusted, and ongoing community engagement.**										
	Sub-program: Managing data for monitoring and evaluation of community based wastewater management.									**4,167,799,900**	**20,838,999,500**
	Develop planning, policies, strategies, and technical implementation of domestic wastewater management system	Completed 2 documents	2	1	1	5	2	675,609,000	0.1	1,486,339,800	7,431,699,000
	Supervision of development/rehabilitation/improvement of domestic wastewater management system	1 report completed		1	1	5	1	143,558,000	0.1	157,913,800	789,569,000

	Provide local processing sub-system	3 facilities provided	1 for each 5 districts (15 districts in total)	1	3	5	3	764,711,000	0.1	2,523,546,300	12,617,731,500
	Sub-program: Provide assistance and encourage municipalities to develop budgets for wash (Musrenbang level) programs.									**1,247,346,100**	**6,236,730,500**
	Implementation of Musrenbang in terms of the development budget for WASH	Musrenbang conducted (start from sub-district to city level)		1	1	5	1	896,727,000	0.1	986,399,700	4,931,998,500
	Multisectoral coordination	1 meeting (51 departments, 100 participants)	1 meeting (51 departments, 100 participants)	1	1	5	1	237,224,000	0.1	260,946,400	1,304,732,000
	Sub-program: Adapting circular economic principles to water management, to produce greater economic benefits.									**1,277,326,600**	**6,093,610,600**
	Conduct assessment for wastewater management	Completed 1 document		1	1	1	1	66,596,000	0.1	73,255,600	73,255,600
	Develop wastewater treatment	10 facilities provided	1 for each 15 sub-district (Kelurahan), total 153 Kelurahan	1	10	5	10	109,461,000	0.1	1,204,071,000	6,020,355,000
	Sub-program: Involve community members in the development of communal wastewater treatment plants (IPAL Communal), as well as centralized wastewater systems, so that communities are willing to benefit from a centralized wastewater system.									**1,481,514,071**	**6,982,987,957**
	Socialization and community empowerment related to wastewater management systems	15 activities conducted	650 participants	43	15	5	15	10,241,133	0.1	168,978,700	844,893,500
	Initiate wastewater management group for maintenance	30 groups formed and trained		30	1	1	1	96,496,000	0.1	106,145,600	106,145,600
	Maintenance of wastewater management systems	51 units maintained	1 unit for every 3 sub-districts (153 sub-districts)	1	51	5	51	21,504,274	0.1	1,206,389,771	6,031,948,857
	Total Estimated Costs									**193,288,744,480**	**958,503,642,999**

Costing of Action #3: Creating a Culture of Data for Health

#	Activities required	Output	Ingredients	Quantity per RW/puskesmas/etc.	SCOPE: In how many RW/sub-district/city will this be needed?	TIMELINE: How many years is this needed?	Total units per year (multiply GxH)	Cost per unit (IDR)	Overhead cost (IDR)(10%)	Cost per year in IDR ((Kx(1+L))xJ)	Total costs for 2023-2028 in IDR (MxI)
			F	G	H	I	J	K	L	M	N
	Sub-program: School training and certification for data and for health promotion activities.									**458,022,940**	**2,290,114,701**
	School training for health cadres (for elementary, junior high, high school teachers, health workers and "junior" doctor)	23 puskesmas implemented the training	1 school per Puskesmas	1	23	5	23	4,701,043	0.1	118,936,388	594,681,940
	Socialization of Pesantren health posts (POSKESTREN)	23 puskesmas implemented the training	1 school per Puskesmas	1	23	5	23	3,315,674	0.1	83,886,552	419,432,761
	Conduct "Little" Doctor competition		1 competition conducted	1	1	5	1	232,000,000	0.1	255,200,000	1,276,000,000
3	**Goal: Bappeda should regularly work across donors/NGOs/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.**										
	Sub-program: Expanding healthy aisle data poster initiatives.									**1,842,487,904**	**5,811,809,322**
	Disseminate information to public	12 activities		1	12	5	12	10,770,667	0.1	142,172,804	710,864,022
	Socialization through brochures and mass media			1	1	3	1	1,545,741,000	0.1	1,700,315,100	5,100,945,300
4	**Goal: Use a system approach for Musrenbang that best utilizes citizen's feedback in the process to develop a budget and workplan each year. The method used shall be transparent, systematic, and replicable, and allow for public release of the findings.**										
	Sub-program: To ensure fair access, it is necessary to invest in IT (mobile networks) facilities and infrastructure for communities, including excluded citizens and disadvantaged groups.									**19,163,078,660**	**95,815,393,301**
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400	0.1	114,632,100	573,160,500
	Manage government website	Website to increase public access available for 12 months	1 report per SKPD (25 SKPD that have been published)	1	25	5	25	17,789,400	0.1	489,208,500	2,446,042,500

	Internet service rental	Availability of integrated internet service	30 areas	1	30	5	30	514,319,387	0.1	16,972,539,760	84,862,698,801
	War Room management	Dissemination of integrated information		1	1	5	1	1,442,453,000	0.1	1,586,698,300	7,933,491,500
5	**Goal: Workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.**										
	Sub-program: To ensure the sustainability of communication by using technology-based innovations, it is necessary to invest in workforce capacity by organizing training for system maintenance, data or report management, use of technology and caller handling to retain customers.									**942,927,700**	**4,714,638,500**
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
	Workshop and training to strengthen government chief information officer	1 training, 100 people	10 departments (10 people each)	1	1	5	1	109,556,000	0.1	120,511,600	602,558,000
	War Room maintenance	War Room maintenance are provided		1	1	5	1	724,037,000	0.1	796,440,700	3,982,203,500
6	**Goal: Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision-making. This investment needs to be supported by enhancing workforce capacity for data managers to meet the need for qualified workforce to use IT and manage data from collection to utilization.**										
	Sub-program: Strengthen 112 Call Center systems, standard operational procedures, and reporting management to support strong collaboration and effectiveness in handling citizen reports within and across government agencies through co-creation activities.									**521,546,740**	**2,607,733,700**
	Electronic data integration	2 coordination meetings, 100% data and report provided	51 departments shared their data	1	2	5	2	170,481,700	0.1	375,059,740	1,875,298,700
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
	Workshop and training to strengthen government chief information officer	1 training, 100 people	10 departments (10 people each)	1	1	5	1	109,556,000	0.1	120,511,600	602,558,000

7	**Goal: Strengthen integrated system for managing citizen complaints with GIS technology into central War Room that is accessible for the communities to track their complaints and progress and to give feedback.**										
	Sub-program: Data literacy program, either through community activity centers, health centers or schools.									**583,585,750**	**2,917,928,751**
	Improve health worker capacity on reporting system	1 training invited 47 Puskesmas	47 Puskesmas trained	1	1	5	1	83,200,000	0.1	91,520,000	457,600,000
	Maintain health information systems	47 Puskesmas conducted	1 activity per puskesmas (47 puskesmas in Makassar city)	1	47	5	47	8,121,191	0.1	419,865,600	2,099,328,000
	Update data related to health profiles	47 Puskesmas updated their data	1 activity per puskesmas (47 puskesmas in Makassar city)	1	47	5	47	1,396,521	0.1	72,200,150	361,000,751
8	**Goal: Bappeda and Kominfo in collaboration to use collected data from communication channel users including CRS, social media, and electronic-based channel to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during Musrenbang.**										
	Sub-program: Kominfo through the village activates community complaints through community leaders by using handheld devices.									**18,696,741,220**	**93,483,706,101**
	Provision of website and mobile-based application	4 applications available		1	4	5	4	312,173,775	0.1	1,373,564,610	6,867,823,050
	Gateway message dissemination	Information disseminated through government channels	1 package each year	1	1	5	1	224,023,500	0.1	246,425,850	1,232,129,250
	Internet service rental	Availability of integrated internet service	30 areas	1	30	5	30	514,319,387	0.1	16,972,539,760	84,862,698,801
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400		104,211,000	521,055,000
9	**Goal: Encourage "One Data" regulation plan to be ratified at city level. In addition, the city government to encourage a city level policy that requires all sectors government, NGOs, and private sector to share their data including mechanism, type of data, variable, data use for decision making, person in charge, and their incentive. One Data governance model among different systems can be implemented to cover many data sources and departments which involve multiple stakeholders along business process of data integration and dashboard management.**										
	Sub-program: Support for the use and exploitation of citizen reporting systems.									**515,667,240**	**2,578,336,200**
	Electronic data integration	2 coordination meetings, 100% data and report provided	51 departments shared their data	1	2	5	2	170,481,700	0.1	375,059,740	1,875,298,700

	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400	0.1	114,632,100	573,160,500
10	**Goal: Increase outreach campaigns on key environmental health and public health topics. CRS data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or similar. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.**										
	Sub-program: Strengthen response mechanism in every sector for every line of communication, including citizen reporting systems, social media, and electronic communication channels.									**741,503,836**	**3,707,519,178**
	Social media monitoring	Conducted 12 workshops	1 report per activity	1	12	5	12	25,793,083	0.1	340,468,696	1,702,343,478
	Electronic data integration	2 coordination meetings, 100% data and report provided	51 departments shared their data	1	2	5	2	170,481,700	0.1	375,059,740	1,875,298,700
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
11	**Goal: Increase transparency on decision-making process and how selected programs were implemented - this can be done via public posting via ICT of Musrenbang rankings/ratings.**										
	Sub-program: All communication channels including citizen reporting systems, social media, and electronic channels need to be massively promoted in a way/approach that can be understood by the public. This can also be done through community involvement along with posyandu and also massive promotion in public service centers. This better communication system will increase the exposure for vulnerable groups to more equitable access and better quality of life.									**3,732,189,701**	**15,260,318,304**
	Disseminate information to public	12 activities		1	12	5	12	10,770,667	0.1	142,172,804	710,864,022
	Socialization through brochures and mass media			1	1	3	1	1,545,741,000	0.1	1,700,315,100	5,100,945,300
	Health promotion including to promote using Call Center 112 for homecare and other purposes	12 activities for each Puskesmas	12 programs for each Puskesmas	12	47	5	564	3,045,941	0.1	1,889,701,796	9,448,508,982

13	**Goal: Engage Healthy Alleys to do their own prioritization exercises around what they need to improve their Healthy Alley indicators, so that they come prepared to ask for these items when it is time for Musrenbang.**										
	Sub-program: Enhance outreach campaign on key environmental health and public health topics. Citizen reporting systems data can be used to identify the most pressing topics, such as road safety, opening waterways by reducing floating garbage, etc. The campaigns can be timed to go hand in hand with the damp parts of the Musrenbang process to ensure that residents know what needs to be asked to fix ongoing health related problems in their neighborhoods.									**3,700,854,307**	**18,504,271,535**
	Environmental health service management	1 program for each Puskesmas		1	47	5	47	22,454,234	0.1	1,160,883,898	5,804,419,489
	Health promotion	12 activities for each Puskesmas	12 programs for each Puskesmas	12	47	5	564	3,045,941	0.1	1,889,701,796	9,448,508,982
	Implementation of Healthy Cities	Implemented in 47 Puskesmas	Implemented in 47 Puskesmas	1	47	5	47	7,398,660	0.1	382,510,722	1,912,553,610
	Monitoring and evaluation of healthy environmental development program	Implemented in 47 Puskesmas	Implemented in 47 Puskesmas	1	47	5	47	561,404	0.1	29,024,587	145,122,934
	Promotion of hygiene and sanitation (ProHySan) five pillars of STBM	Implemented in 47 Puskesmas	Implemented in 47 Puskesmas	1	47	5	47	5,079,432		238,733,304	1,193,666,520
14	**Goal: Review Musrenbang process to see whether it can be augmented by developing a year round community collaboration platform that supports standardized, trusted, and ongoing community engagement.**										
	Sub-program: Involve schoolchildren in various competitions to plan better physical activity spaces or other healthy spaces, and the winning design is shared with other schools, to incentivize the school to provide such space.									**915,861,529**	**1,831,723,058**
	Makassar sport competition	45 Junior Schools from 15 districts involved	3 schools each districts	3	15	2	45	15,754,342	0.1	779,839,929	1,559,679,858
	Healthy Cities competition for the schools level	47 schools involved, 1 week assessment	1 school per Puskesmas	1	1	2	1	123,656,000	0.1	136,021,600	272,043,200
	Total Estimated Costs									**51,814,467,527**	**249,523,492,650**

Costing of Action #4: Creating a More Water-resilient City

#	Activities required	Output	Ingredients	Quantity per RW/puskesmas/etc.	SCOPE: In how many RW/sub-district/city will this be needed?	TIMELINE: How many years is this needed?	Total units per year (multiply GxH)	Cost per unit (IDR)	Overhead cost (IDR)(10%)	Cost per year in IDR ((Kx(1+L))xJ)	Total costs for 2023-2028 in IDR (MxI)
			F	G	H	I	J	K	L	M	N
	Sub-program: Inclusion of CRS and community service coverage data into War Room to improve targeting of service.									**7,207,288,096**	**36,036,440,480**
	War Room management	Dissemination of integrated information		1	1	5	1	1,442,453,000	0.1	1,586,698,300	7,933,491,500
	Social media monitoring	Conducted 12 workshops	1 report per activity	1	12	5	12	25,793,083		309,516,996	1,547,584,980
	War Room maintenance	War Room maintenance are provided		1	1	5	1	724,037,000	0.1	796,440,700	3,982,203,500
	Provision of facilities and infrastructure		20 CCTV provided for 1 year	20	1	5	20	200,000,000	0.1	4,400,000,000	22,000,000,000
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400	0.1	114,632,100	573,160,500
3	**Goal: Bappeda should regularly work across donors/NGOs/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.**										
	Sub-program: Strengthen environmental health policy to encourage community and institution (government, industries, etc.) awareness and behavior on healthy environment (solid and wastewater management) by investment in providing infrastructure for waste disposal, landfill mitigation, recycling, waste convertor and waste management facilities, such as garbage library, clean water, open drain, sanitation, air pollution and community based-program such as health promotion, healthy alley, garden alley, solid waste management, and community-based wastewater treatment.									**18,240,855,930**	**87,905,692,050**
	Develop planning, policies, strategies, and technical plan for domestic wastewater management system	Completed 2 documents		1	1	1	1	675,609,000	0.1	743,169,900	743,169,900
	Develop recommendations for new regulations	1 recommendation completed		1	1	2	1	98,760,000	0.1	108,636,000	217,272,000

	Waste reduction by restriction, recycling, and reuse	Amount of garbage have been reported	282,247 ton garbage reduced	1	1	5	1	13,451,981,100	0.1	14,797,179,210	73,985,896,050
	Waste sorting by collecting, transporting, processing the end of waste at landfill/TPST/SPA in regency/city	Amount of garbage that reduced by limiting have been reported	65,549 ton garbage reduced	1	1	5	1	2,356,246,200	0.1	2,591,870,820	12,959,354,100
4	**Goal: Use a system approach for Musrenbang that best utilizes citizen's feedback in the process to develop a budget and workplan each year. The method used shall be transparent, systematic, and replicable, and allow for public release of the findings.**										
	Sub-program: Increase workforce capacity for service delivery and integrated data management across sector and use this integrated data for environmental health planning.									**982,714,700**	**4,913,573,501**
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
	Monitoring and evaluation of healthy environmental development program	Conducted in 47 Puskesmas	1 activity per Puskesmas	1	47	5	47	561,404	0.1	29,024,600	145,123,001
	Coordination and synchronization of the collection, processing, analysis, and dissemination of multisectoral data	4 documents completed, 1 document per 1 coordination meeting	4 documents (city development in economy document, city development profile, social document, coordination and synchronization of one health portal data)	1	4	5	4	87,500,000	0.1	385,000,000	1,925,000,000
	Training for utilization of data and information	1 training for 51 departments	1 training for 51 departments	1	1	5	1	493,377,000	0.1	542,714,700	2,713,573,500
5	**Goal: Workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.**										
	Sub-program: Improvements to waste collection services, particularly in low-income areas where roads are too narrow for trucks to pass through. Testing of the waste sorting system will be carried out to determine whether it can be applied in some selected residential areas.									**17,389,050,030**	**86,945,250,150**

	Waste reduction by restriction, recycling, and reuse	Amount of garbage have been reported	282,247 ton garbage reduced	1	1	5	1	13,451,981,100	0.1	14,797,179,210	73,985,896,050
	Waste sorting by collecting, transporting, processing the end of waste at landfill/TPST/SPA in regency/city	Amount of garbage that reduced by limiting have been reported	65,549 ton garbage reduced	1	1	5	1	2,356,246,200	0.1	2,591,870,820	12,959,354,100
6	**Goal: Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision-making. This investment needs to be supported by enhancing workforce capacity for data managers to meet the need for qualified workforce to use IT and manage data from collection to utilization.**										
	Sub-program: Reorganize road management to be more pedestrian oriented by building and maintaining sidewalks.									**541,237,898,339**	**2,706,189,491,693**
	Road condition survey	Completed 40 reports		1	40	5	40	23,923,025	0.1	1,052,613,100	5,263,065,500
	Road construction	153 roads have been upgraded	1 spot per sub-district (kelurahan), total 153	1	153	5	153	1,015,469,003	0.1	170,903,433,205	854,517,166,025
	Road rehabilitation	250 roads rehabilitated	1 -2 spots per sub-district (kelurahan), total 153	1	250	5	250	404,248,400	0.1	111,168,310,000	555,841,550,000
	Sidewalks construction	11,283.5 m sidewalks built		1	1	5	1	203,650,910,924	0.1	224,016,002,016	1,120,080,010,082
	Sidewalks maintenance	Sidewalks maintained		1	1	5	1	10,245,962,230	0.1	11,270,558,453	56,352,792,265
	Routine road maintenance	11 km of road already maintained		1	11	5	11	1,886,527,402	0.1	22,826,981,564	114,134,907,821
7	**Goal: Strengthen integrated system for managing citizen complaints with GIS technology into central War Room that is accessible for the communities to track their complaints and progress and to give feedback.**										
	Sub-program: Launch targeted community green spaces prioritizing key areas, opportunity for enhancing utilization of collaboration space to bring programs, information, resources directly to them while also fostering community cohesion and active lifestyles.									**250,162,914,980**	**1,232,258,368,990**
	Preparation and determination of green space management plan	Completed 2 documents		1	1	5	1	198,300,000	0.1	218,130,000	1,090,650,000
	Management of biodiversity parks outside forest areas	Completed 1 report document for 1 spot	1 area	1	1	5	1	104,103,000	0.1	114,513,300	572,566,500
	Open green spaces management (RTH)	Implemented in 12 areas	12 spots of open green spaces	1	12	5	12	18,445,290,925	0.1	243,477,840,210	1,217,389,201,050

	Training for biodiversity and open green spaces management	6 institutions/companies trained	6 companies trained and committed to join the CSR program for open green space program	1	6	5	6	25,307,500	0.1	167,029,500	835,147,500
	Biodiversity and open green spaces facilities and infrastructure management	Facilities and infrastructure maintained	1,000 trees planted, 67 units of biodiversity facilities	1	1	2	1	5,623,092,700	0.1	6,185,401,970	12,370,803,940
8	**Goal: Bappeda and Kominfo in collaboration to use collected data from communication channel users including CRS, social media, and electronic-based channel to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during Musrenbang.**										
	Sub-program: Improve human development of health cadres or sanitation officers to promote sidewalk use for pedestrian (as a form of exercise) and to promote food hygiene.									**23,225,951,429**	**116,129,757,143**
	Home industry food certification training	1 district completed the training	1 district in Makassar	1	1	5	1	234,450,000	0.1	257,895,000	1,289,475,000
	Health promotion management	12 activities conducted in each Puskesmas	12 programs for every Puskesmas	12	47	5	564	36,551,298	0.1	22,676,425,199	113,382,125,993
	Promotion of hygiene and sanitation (ProHySan) five pillars of STBM in village	47 Puskesmas have done the promotion	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	5,079,432	0.1	262,606,630	1,313,033,149
	Monitoring and evaluation of healthy environmental development program	1 program for each Puskesmas	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	561,404	0.1	29,024,600	145,123,001
9	**Goal: Encourage "One Data" regulation plan to be ratified at city level. In addition, the city government to encourage a city level policy that requires all sectors government, NGOs, and private sector to share their data including mechanism, type of data, variable, data use for decision making, person in charge, and their incentive. One Data governance model among different systems can be implemented to cover many data sources and departments which involve multiple stakeholders along business process of data integration and dashboard management.**										
	Sub-program: Engage communities (e.g. local leaders or religious leaders) to use sidewalks and to ensure safety and security from crime or public harassment.									**240,067,710,447**	**1,200,338,552,237**
	Provision of facilities and infrastructure		20 CCTV provided for 1 year	20	1	5	20	200,000,000	0.1	4,400,000,000	22,000,000,000
	Sidewalks construction	11,283.5 m sidewalks built		1	1	5	1	203,650,910,924	0.1	224,016,002,016	1,120,080,010,082
	Sidewalks maintenance	Sidewalks maintained		1	1	5	1	10,245,962,230	0.1	11,270,558,453	56,352,792,265
	Socialization	47 puskesmas	47 puskesmas	1	47	5	47	7,372,340	0.1	381,149,978	1,905,749,890

10	**Goal: Increase outreach campaigns on key environmental health and public health topics. CRS data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or similar. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.**										
	Sub-program: Understand the behavior of hawkers and identify the supports they need to enable, for example, by providing a space to street hawkers and then promoting the space to attract tourism, to enable them having a business safely without using sidewalks as their business sites.									**192,614,400**	**963,072,000**
	Preparation of rules for orderly business, and small enterprises (UMKM)	Completed 1 draft document		1	1	5	1	44,527,000	0.1	48,979,700	244,898,500
	Supervision and evaluation of rules for orderly business, and small enterprises (UMKM)	Completed 1 draft document		1	1	5	1	130,577,000	0.1	143,634,700	718,173,500
11	**Goal: Increase transparency on decision-making process and how selected programs were implemented - this can be done via public posting via ICT of Musrenbang rankings/ratings.**										
	Sub-program: Utilize mobile technology to improve targeting of services to where cleanup is needed and expand access to the technology for underserved populations in order to ease communication between citizens and government.									**3,704,648,996**	**15,122,614,782**
	Health promotion including to promote using Call Center 112 for homecare and other purposes	12 activities for each Puskesmas	12 programs for each Puskesmas	12	47	5	564	3,045,941	0.1	1,889,701,796	9,448,508,982
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400	0.1	114,632,100	573,160,500
	Socialization through brochures and mass media			1	1	3	1	1,545,741,000	0.1	1,700,315,100	5,100,945,300
12	**Goal: Develop and use a city M&E plan for monitoring and progress on the "Sombere and Smart" goals that are tied to RT/RW (sub-district or kelurahan) level improvements.**										
	Sub-program: Increase the capacity for data access located across various government agencies and departments and identify data sources and address data gaps and integrity issues for waste management activities.									**531,523,300**	**2,233,034,100**
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000

	Workshop and training to strengthen government chief information officer	1 training, 100 people	10 departments (10 people each)	1	1	5	1	109,556,000	0.1	120,511,600	602,558,000
	Supervision wastewater management system	Completed 1 report		1	1	5	1	99,920,000	0.1	109,912,000	549,560,000
	Socialization and community empowerment related to wastewater management systems	15 activities conducted	650 participants	43	15	5	15	10,241,133	0.1	168,978,700	844,893,500
	Initiate wastewater management group for maintenance	30 groups formed and trained		30	1	1	1	96,496,000	0.1	106,145,600	106,145,600
13	**Goal: Engage Healthy Alleys to do their own prioritization exercises around what they need to improve their Healthy Alley indicators, so that they come prepared to ask for these items when it is time for Musrenbang.**										
	Sub-program: Engage private stakeholders such as waste management mobile application developer (garbage mall) and other private sectors through CSR program.									**1,859,942,700**	**9,299,713,500**
	Coordination of synergistic implementation and harmonization of regional development planning	Completed 2 documents		1	1	5	1	1,453,633,000	0.1	1,598,996,300	7,994,981,500
	Multisectoral coordination	1 meeting (51 departments, 100 participants)	1 meeting (51 departments, 100 participants)	1	1	5	1	237,224,000	0.1	260,946,400	1,304,732,000
14	**Goal: Review Musrenbang process to see whether it can be augmented by developing a year round community collaboration platform that supports standardized, trusted, and ongoing community engagement.**										
	Sub-program: Increase cross-sector engagement to address issues, include coordination with NGOs, local communities and donors.									**1,537,264,300**	**7,686,321,500**
	Coordination of regional development planning document	5 documents completed		1	5	5	5	36,712,400	0.1	201,918,200	1,009,591,000
	Multisectoral coordination	1 meeting (51 departments, 100 participants)	1 meeting (51 departments, 100 participants)	1	1	5	1	237,224,000	0.1	260,946,400	1,304,732,000
	Musrenbang	Musrenbang conducted (start from sub-district to city level)		1	1	5	1	976,727,000	0.1	1,074,399,700	5,371,998,500

	Sub-program: Collaboration of NGOs and private sectors for better awareness, and engage community to adopt healthy environmental behaviors and better community-based program implementation and monitoring through mobile technology and face-to-face meetings in Posyandu village office and other community groups (women group, faith-based group, etc.).									**2,467,634,434**	**12,338,172,171**
	Health promotion	12 activities for each Puskesmas	12 programs for each Puskesmas	12	47	5	564	3,045,941	0.1	1,889,701,796	9,448,508,982
	Socialization and fostering clean and healthy living behavior	47 Puskesmas	47 Puskesmas	1	47	5	47	6,099,149	0.1	315,326,003	1,576,630,017
	Promotion of hygiene and sanitation (ProHySan) five pillars of STBM	Implemented in 47 Puskesmas	Implemented in 47 Puskesmas	1	47	5	47	5,079,432	0.1	262,606,634	1,313,033,172
	Sub-program: Use sub-districts/village resources (including funding) needed and explore the opportunity to foster innovative solutions to create financial and material resources from garbage.									**17,389,050,030**	**86,945,250,150**
	Waste reduction by restriction, recycling, and reuse	Amount of garbage have been reported	282,247 ton garbage reduced	1	1	5	1	13,451,981,100	0.1	14,797,179,210	73,985,896,050
	Waste sorting by collecting, transporting, processing the end of waste at landfill/TPST/SPA in regency/city	Amount of garbage that reduced by limiting have been reported	65,549 ton garbage reduced	1	1	5	1	2,356,246,200	0.1	2,591,870,820	12,959,354,100
	Sub-program: Gradual introduction of recycling-oriented society, a system for waste disposal for industrial and commercial sectors in urban areas.									**17,462,305,630**	**87,311,528,150**
	Preparation and implementation of waste management assessment	Completed 1 document		1	1	5	1	66,596,000	0.1	73,255,600	366,278,000
	Waste reduction by restriction, recycling, and reuse	Amount of garbage have been reported	282,247 ton garbage reduced	1	1	5	1	13,451,981,100	0.1	14,797,179,210	73,985,896,050
	Waste sorting by collecting, transporting, processing the end of waste at landfill/TPST/SPA in regency/city	Amount of garbage that reduced by limiting have been reported	65,549 ton garbage reduced	1	1	5	1	2,356,246,200	0.1	2,591,870,820	12,959,354,100

	Sub-program: Strengthening Usaha Kesehatan Sekolah (UKS - School Health Business) in senior high schools by implementing "Youth Health Cadres" program (e.g. selection, training, health counselling, etc.). Cadres can be trained to promote waste management.									**385,899,240**	**1,929,496,201**
	School training for health cadres (for elementary, junior high, high school teachers, health workers and "junior" doctor)	23 Puskesmas implemented the training	1 school per Puskesmas	1	23	5	23	4,701,043	0.1	118,936,388	594,681,940
	Healthy children's campaign	47 Puskesmas conducted health promotion	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	3,541,128	0.1	183,076,300	915,381,500
	Socialization of Pesantren health posts (POSKESTREN)	23 Puskesmas implemented the training	1 school per Puskesmas	1	23	5	23	3,315,674	0.1	83,886,552	419,432,761
	Sub-program: Education and awareness directed at the public and dischargers to increase awareness of waste reduction, reuse, and recycling, including: implementation of environmental plans in primary schools, promotion of 3R at effective garbage collection and transportation services, and community involvement to reduce solid waste, establishment of waste sorting system.									**17,887,452,330**	**89,437,261,651**
	Healthy children's campaign	47 Puskesmas conducted health promotion	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	3,541,128	0.1	183,076,300	915,381,500
	Socialization and fostering clean and healthy living behavior	47 Puskesmas have done the program	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	6,099,149	0.1	315,326,000	1,576,630,001
	Waste reduction by restriction, recycling, and reuse	Amount of garbage have been reported	282,247 ton garbage reduced	1	1	5	1	13,451,981,100	0.1	14,797,179,210	73,985,896,050
	Waste sorting by collecting, transporting, processing the end of waste at landfill/TPST/SPA in regency/city	Amount of garbage that reduced by limiting have been reported	65,549 ton garbage reduced	1	1	5	1	2,356,246,200	0.1	2,591,870,820	12,959,354,100
	Total Estimated Costs									**1,161,932,719,311**	**5,783,983,590,447**

Costing of Action #5: Growing a Healthier Next Generation of Citizens

#	Activities required	Output	Ingredients	Quantity per RW/puskesmas/etc.	SCOPE: In how many RW/sub-district/city will this be needed?	TIMELINE: How many years is this needed?	Total units per year (multiply GxH)	Cost per unit (IDR)	Overhead cost (IDR)(10%)	Cost per year in IDR ((Kx(1+L))xJ)	Total costs for 2023-2028 in IDR (MxI)
			F	G	H	I	J	K	L	M	N
	Sub-program: Entry of maternal and child health programs into the priorities of the city government through bottom-up planning (Musrenbang), and top-down planning (income medium or short term achievement by the city).									**2,386,536,900**	**11,932,684,500**
	Musrenbang	Musrenbang conducted (start from sub-district to city level)		1	1	5	1	976,727,000	0.1	1,074,399,700	5,371,998,500
	Analyze data and information on regional development planning	Completed 2 documents	2 documents, RKPD (Rencana Kerja Pemerintah Daerah) and RPJMD (Rencana Pembangunan Jangka Menengah Daerah)	1	2	5	2	98,426,000	0.1	216,537,200	1,082,686,000
	Community information group empowerment		Grants to community groups to share information on Musrenbang, 112, etc. 1 grant per group	1	996	5	996	1,000,000	0.1	1,095,600,000	5,478,000,000
3	**Goal: Bappeda should regularly work across donors/NGOs/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.**										
	Sub-program: Improve and strengthen policies for maternal mortality prevention and reduce child health problems in the form of efforts to prevent child marriage.									**8,877,459,034**	**43,871,987,830**
	Improved effort to promote health, advocacy, partnership, and community empowerment	Conducted in 47 Puskesmas	1 activity per Puskesmas	1	47	5	47	165,313,617	0.1	8,546,713,999	42,733,569,995

	Coordination of regional development planning document review with other policy documents		Completed 5 documents	1	5	5	5	36,712,400	0.1	201,918,200	1,009,591,000
	Develop policies	15 policies/ regulations provided	1 per department (15 departments)	1	15	1	15	7,807,687	0.1	128,826,836	128,826,836
4	**Goal: Use a system approach for Musrenbang that best utilizes citizen's feedback in the process to develop a budget and workplan each year. The method used shall be transparent, systematic, and replicable, and allow for public release of the findings.**										
	Sub-program: Invest in agriculture and fisheries by empowering vulnerable communities to get affordable nutritious food, such as the promotion of environmentally friendly fishing methods and the creation of food parks in a number of places (at home, at school, or community land) such as Lorong sehat activities.									**985,096,200**	**4,925,481,000**
	Certification and socialization for home food industry	4 activities	4 activities	1	4	5	4	71,955,000	0.1	316,602,000	1,583,010,000
	Inspection and socialization to ensure food providers meet health standards	Conducted for 100 food providers	Conducted for 100 food providers	1	100	5	100	1,040,880	0.1	114,496,800	572,484,000
	Inspection and socialization to ensure markets (modern and traditional) providing food meet health standards	Conducted in 8 markets	Conducted in 8 markets	1	8	5	8	62,954,250	0.1	553,997,400	2,769,987,000
5	**Goal: Workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.**										
	Sub-program: To ensure equal access to health education through the media investment in IT (mobile network) facilities and infrastructure are needed for communities including marginalized and neglected populations and promoting ways to access that information.									**17,416,236,742**	**87,081,183,712**
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400	0.1	114,632,100	573,160,500
	Development and management of Smart City ecosystems	3 districts	3 districts	1	3	5	3	99,716,631	0.1	329,064,882	1,645,324,412
	Internet service rental	Availability of integrated internet service	30 areas	1	30	5	30	514,319,387	0.1	16,972,539,760	84,862,698,801

6	**Goal: Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision-making. This investment needs to be supported by enhancing workforce capacity for data managers to meet the need for qualified workforce to use IT and manage data from collection to utilization.**										
	Sub-program: Strengthening the capacity of officers, especially Posyandu cadres, to run community based Posyandu programs that can directly interact with mothers and children, including health monitoring.									**8,739,758,915**	**43,698,794,574**
	Training and supervision of health workers	4 activities implemented	4 activities implemented	1	4	5	4	32,894,000	0.1	144,733,600	723,668,000
	Training to improve health workforce capacity	10 activities for 47 puskesmas	Conducted 10 activities	1	10	5	10	4,392,000	0.1	48,312,000	241,560,000
	Improve health promotion, advocacy, collaboration, and community empowerment	1,013 Posyandu engaged and trained for MCH program	1,013 Posyandu trained	1	1013	5	1013	7,670,029	0.1	8,546,713,315	42,733,566,574
7	**Goal: Strengthen integrated system for managing citizen complaints with GIS technology into central War Room that is accessible for the communities to track their complaints and progress and to give feedback.**										
	Sub-program: Improving the quality of health services in developing positive nutritional behaviors through diverse and nutritious food through officer and cadre training, advocacy, and public participation campaigns involving pregnant women and mothers who gave young children in the first 1,000 days from conception to age 2 as key targets.									**3,160,355,893**	**15,801,779,467**
	Capacity building for fathers who supported exclusive breastfeeding	47 Puskesmas conducted the promotion	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	1,174,741	0.1	60,734,124	303,670,621
	Provide supplements for mothers with chronic energy deficiency, toddlers with malnutrition, and provide supplements for school children	1,190 people received supplement	1,190 people received supplement	1	1190	5	1190	1,956,042	0.1	2,560,458,978	12,802,294,890
	Health promotion for exclusive breastfeeding and personal hygiene	45% toddlers get exclusive breastfeeding, 79% sub-districts implemented personal hygiene behavior	12 activities conducted	1	12	5	12	40,845,666	0.1	539,162,791	2,695,813,956
8	**Goal: Bappeda and Kominfo in collaboration to use collected data from communication channel users including CRS, social media, and electronic-based channel to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during Musrenbang.**										
	Sub-program: Launching green spaces for the community by prioritizing areas, opportunities to increase the utilization of cooperative spaces to bring programs, information, and resources directly while also fostering community cohesion and an active lifestyle.									**250,162,914,980**	**1,232,258,368,990**

	Preparation and determination of green space management plan	Completed 2 documents		1	1	5	1	198,300,000	0.1	218,130,000	1,090,650,000
	Management of biodiversity parks outside forest areas	Completed 1 report document for 1 spot	1 area	1	1	5	1	104,103,000	0.1	114,513,300	572,566,500
	Open green spaces management (RTH)	Implemented in 12 areas	12 spots of open green spaces	1	12	5	12	18,445,290,925	0.1	243,477,840,210	1,217,389,201,050
	Training for biodiversity and open green spaces management	6 institutions/companies trained	6 companies trained and committed to join the CSR program for open green space program	1	6	5	6	25,307,500	0.1	167,029,500	835,147,500
	Biodiversity and open green spaces facilities and infrastructure management	Facilities and infrastructure maintained	1,000 trees planted, 67 units of biodiversity facilities	1	1	2	1	5,623,092,700	0.1	6,185,401,970	12,370,803,940
9	**Goal: Encourage "One Data" regulation plan to be ratified at city level. In addition, the city government to encourage a city level policy that requires all sectors government, NGOs, and private sector to share their data including mechanism, type of data, variable, data use for decision making, person in charge, and their incentive. One Data governance model among different systems can be implemented to cover many data sources and departments which involve multiple stakeholders along business process of data integration and dashboard management.**										
	Sub-program: Training and strengthening the capacity of healthy workers to bridge the gaps in the implementation of the program. This step will create better coordination across institutions on safe delivery, better nutrition, immunization, and basic health services.									**8,691,446,915**	**43,457,234,574**
	Training and supervision of health workers	4 activities implemented	4 activities implemented	1	4	5	4	32,894,000	0.1	144,733,600	723,668,000
	Improve health promotion, advocacy, collaboration, and community empowerment	1,013 Posyandu engaged and trained for MCH program	1,013 Posyandu trained	1	1013	5	1013	7,670,029	0.1	8,546,713,315	42,733,566,574
10	**Goal: Increase outreach campaigns on key environmental health and public health topics. CRS data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or similar. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.**										
	Sub-program: Provide breastfeeding spaces for women in public spaces such as industry and offices.									**757,714,090**	**3,788,570,451**
	Encourage to achieve Healthy City indicators including breastfeeding space in public	Healthy City indicators achieved, implemented by all districts (Kecamatan)	Conducted in 15 districts	1	15	5	15	23,182,466	0.1	382,510,689	1,912,553,445

	Procurement of infrastructure and supporting facilities for health services		17 units available	1	17	5	17	20,064,353	0.1	375,203,401	1,876,017,006
11	**Goal: Increase transparency on decision-making process and how selected programs were implemented - this can be done via public posting via ICT of Musrenbang rankings/ratings.**										
	Sub-program: Providing a place/cubicle in the corner of the karebosi field or grassy recreation room, collaborating with the Makassar City Cooperative and SME office, to provide a joint activity space to answer the problems of maternal and child health (KIA).										
12	**Goal: Develop and use a city M&E plan for monitoring and progress on the "Sombere and Smart" goals that are tied to RT/RW (sub-district or kelurahan) level improvements.**										
	Sub-program: Creating safe and green spaces around the community, playgrounds in schools, and pedestrian access around the school. Implementing health promotion of the use of motorized modes of transportation by the education office in other schools in Makassar.									**230,201,403,986**	**1,151,007,019,932**
	Biodiversity and open green spaces facilities and infrastructure management	Facilities and infrastructure maintained	1,000 trees planted, 67 units of biodiversity facilities	1	1	5	1	5,623,092,700	0.1	6,185,401,970	30,927,009,850
	Sidewalks construction	11,283.5 m sidewalks built		1	1	5	1	203,650,910,924	0.1	224,016,002,016	1,120,080,010,082
13	**Goal: Engage Healthy Alleys to do their own prioritization exercises around what they need to improve their Healthy Alley indicators, so that they come prepared to ask for these items when it is time for Musrenbang.**										
	Sub-program: Improving the quality of health services, especially marginalized populations in remote areas that experience the greatest hurdles to basic needs.									**20,517,775,162**	**102,588,875,808**
	Homecare	Homecare are conducted for 24 hours	Conducted in Rappocini	1	1	5	1	1,505,030,550	0.1	1,655,533,605	8,277,668,025
	Health promotion including to promote using Call Center 112 for homecare and other purposes	12 activities for each Puskesmas	12 programs for each Puskesmas	12	47	5	564	3,045,941	0.1	1,889,701,796	9,448,508,982
	Internet service rental	Availability of integrated internet service	30 areas	1	30	5	30	514,319,387	0.1	16,972,539,760	84,862,698,801
14	**Goal: Review Musrenbang process to see whether it can be augmented by developing a year round community collaboration platform that supports standardized, trusted, and ongoing community engagement.**										
	Sub-program: Strengthening School Health Business (UKS) in elementary schools through the implementation of "Little Doctor" program (e.g. selection, first aid training, health counseling, etc.).									**237,872,776**	**1,189,363,879**

	School training for health cadres (for elementary, junior high, high school teachers, health workers and "junior" doctor)	23 Puskesmas implemented the training	1 school per Puskesmas	1	23	5	23	4,701,043	0.1	118,936,388	594,681,940
	School training for health cadres (for elementary, junior high, high school teachers, health workers and "junior" doctor)	23 Puskesmas implemented the training	1 school per Puskesmas	1	23	5	23	4,701,043	0.1	118,936,388	594,681,940
	Sub-program: Strengthen data integration and sharing effort for internal parties (governments) and external parties (NGOs, and the private sector) for development, monitoring, and evaluation.									**2,385,031,440**	**11,925,157,200**
	Coordination and synchronization of the collection, processing, analysis, and dissemination of multisectoral data	4 documents completed, 1 document per coordination meeting	4 documents (city development in economy document, city development profile, social document, coordination and synchronization of one health portal data)	1	4	5	4	87,500,000	0.1	385,000,000	1,925,000,000
	Electronic data integration	2 coordination meetings, 100% data and report provided	51 departments shared their data	1	2	5	2	170,481,700	0.1	375,059,740	1,875,298,700
	Coordination of synergistic implementation and harmonization of regional development planning	Completed 2 documents		1	1	5	1	1,453,633,000	0.1	1,598,996,300	7,994,981,500
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000

	Sub-program: Bappeda needs to strengthen a multisector working group for maternal and child health that includes education, social (poverty), environment, public works (water and sanitation), health, food security, Kominfo, NGOs, private sector, and community-based efforts such as Posyandu, PKK, and villages.									**2,846,342,400**	**14,231,712,000**
	Multisectoral coordination	1 meeting (51 departments, 100 participants)	1 meeting (51 departments, 100 participants)	1	1	5	1	237,224,000	0.1	260,946,400	1,304,732,000
	Musrenbang city level	1 meeting (51 departments, 100 participants)	1 meeting (51 departments, 100 participants)	1	1	5	1	,727,000	0.1	986,399,700	4,931,998,500
	Coordination of synergistic implementation and harmonization of regional development planning	Completed 2 documents		1	1	5	1	1,453,633,000	0.1	1,598,996,300	7,994,981,500
	Sub-program: Developing cooperation and coordination with public-private partnership, such as corporate responsible models (hotels, restaurants, convenience store, etc.) through donations of money or food or through the use of private financing where the government is responsible for the socialization of programs to the community.									**598,128,300**	**2,990,641,500**
	Encourage public private partnership	Private sector joined CSR (Corporate Social Responsibility) program	6 companies committed to join the CSR program	1	6	5	6	25,307,500	0.1	167,029,500	835,147,500
	Socialization for home food home industry	4 activities	4 activities	1	4	5	4	71,955,000	0.1	316,602,000	1,583,010,000
	Socialization to ensure food providers meet health standard	Conducted for 100 food providers	Conducted for 100 food providers	1	100	5	100	1,040,880	0.1	114,496,800	572,484,000
	Sub-program: Include a monitoring and evaluation process to determine how the number of stunting cases can be reduced.									**849,967,202**	**4,249,836,011**
	Action plan for food and nutrition coordination meeting for puskesmas and monitoring and evaluation of community nutrition improvement programs	Conducted in 47 Puskesmas	Conducted in 47 Puskesmas	1	47	5	47	713,546	0.1	36,890,328	184,451,641
	Breastfeeding provision monitoring in hospital	Conducted in 47 Puskesmas		1	47	5	47	1,269,244		59,654,480	298,272,400

	Community nutrition group empowerment	Conducted in 47 Puskesmas	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	1,269,244	0.1	65,619,915	328,099,574
	Supplemental feeding for pregnant women with chronic energy deficiency	Conducted in 47 Puskesmas	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	9,255,319	0.1	478,499,992	2,392,499,962
	Additional feeding recovery for malnutrition	Conducted in 47 Puskesmas	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	4,048,404	0.1	209,302,487	1,046,512,434
	Sub-program: Increase exposure to health education, especially with respect to maternal and child health, through citizen reporting systems, social media, electronic media (televisions and radio) internet, and interaction with the community by Posyandu, villages, health centers, NGOs and PKK.									**2,182,956,600**	**7,514,152,800**
	Social media monitoring	Conducted 12 workshops	1 report per activity	1	12	5	12	25,793,083	0.1	340,468,696	1,702,343,478
	Disseminate information to public	12 activities		1	12	5	12	10,770,667	0.1	142,172,804	710,864,022
	Socialization through brochures and mass media			1	1	3	1	1,545,741,000	0.1	1,700,315,100	5,100,945,300
	Sub-program: Increase community interaction and participation through socialization activities with community groups regarding childbirth in health facilities, the importance of immunization, nutrition in the first 1,000 days, and hygiene, as well as government immunization services programs.									**8,673,067,354**	**43,365,336,768**
	Community nutrition group empowerment	Conducted in 47 Puskesmas	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	1,269,244	0.1	65,619,915	328,099,574
	Capacity building for fathers who supported exclusive breastfeeding	47 Puskesmas conducted the promotion	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	1,174,741	0.1	60,734,124	303,670,621
	Improve health promotion, advocacy, collaboration, and community empowerment	1,013 Posyandu engaged and trained for MCH program	1,013 Posyandu trained	1	1013	5	1013	7,670,029	0.1	8,546,713,315	42,733,566,574
	Total Estimated Costs									**569,670,064,889**	**2,825,878,180,994**

Costing of Action #6: Encouraging Healthy Lifestyles for NCD Prevention

#	Activities required	Output	Ingredients	Quantity per RW/puskesmas/etc.	SCOPE: In how many RW/sub-district/city will this be needed?	TIMELINE: How many years is this needed?	Total units per year (multiply GxH)	Cost per unit (IDR)	Overhead cost (IDR)(10%)	Cost per year in IDR ((Kx(1+L))xJ)	Total costs for 2023-2028 in IDR (MxI)
			F	G	H	I	J	K	L	M	N
	Sub-program: Strengthen National Health Insurance data management for regular updating and data collection, and prioritize investments in infrastructure to support internet-based data management.									**23,379,103,660**	**116,895,518,301**
	War Room management	Dissemination of integrated information		1	1	5	1	1,442,453,000	0.1	1,586,698,300	7,933,491,500
	Provision of facilities and infrastructure		20 CCTV provided for 1 year	20	1	5	20	200,000,000	0.1	4,400,000,000	22,000,000,000
	Internet service rental	Availability of integrated internet service	30 areas	1	30	5	30	514,319,387	0.1	16,972,539,760	84,862,698,801
	Maintain health information systems	47 Puskesmas conducted	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	8,121,191	0.1	419,865,600	2,099,328,000
3	**Goal: Bappeda should regularly work across donors/NGOs/private sector on key coherent action areas to ensure they are aligning funding and programs with Healthy Makassar goals, and targeting alleys with highest needs.**										
	Sub-program: Better enforcement of hygiene regulations in addition to the sale of cigarettes, alcohol, and illegal snacks.									**831,578,900**	**4,157,894,500**
	Integrated coaching and supervision for traders					5				195,565,500	977,827,500
	Socialization for health and health related regulation	2 activities conducted	2 activities conducted with 100 participants in total	1	2	5	2	37,280,000	0.1	82,016,000	410,080,000
	Inspection and socialization to ensure markets (modern and traditional) providing food meet health standards	Conducted in 8 markets	Conducted in 8 markets	1	8	5	8	62,954,250	0.1	553,997,400	2,769,987,000

4	**Goal: Use a system approach for Musrenbang that best utilizes citizen's feedback in the process to develop a budget and workplan each year. The method used shall be transparent, systematic, and replicable, and allow for public release of the findings.**										
	Sub-program: Strengthening the Mayor's regulation on non-smoking areas in Makassar city in addition to the body of routine activities carried out by the city government for promotion, monitoring and evaluation of the enforcement of non-smoking areas.									**280,230,000**	**1,401,150,000**
	Socialization and monitoring of non-smoking zone	47 Puskesmas have done the program	1 activity per Puskesmas (47 Puskesmas in Makassar city)	1	47	5	47	5,962,340	0.1	280,230,000	1,401,150,000
5	**Goal: Workforce capacity for using data through changes to masters programs for each sector, civil servants training courses, or some other form of regular capacity development.**										
	Sub-program: Strengthen the capacity of officers for data management and prevention of PTM in Puskesmas and city.									**540,560,880**	**2,702,804,401**
	Maintain health information systems	Implemented health information system (ASDK, SIKDA Generic, SIGIZI, KOMDAT, etc.)	47 Puskesmas conducted	1	47	5	47	8,121,191	0.1	419,865,600	2,099,328,000
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
	Health data upgrade		47 Puskesmas conducted	1	47	5	47	1,832,106	0.1	94,719,880	473,599,401
6	**Goal: Improve government investment for facilities and infrastructure to support data management and encourage data-driven decision-making. This investment needs to be supported by enhancing workforce capacity for data managers to meet the need for qualified workforce to use IT and manage data from collection to utilization.**										
	Sub-program: Provide a safe, green, and legal space for street vendors, who can sell safe and healthy/organic food and staple foods to the community.									**244,353,284,010**	**1,221,766,420,050**
	Socialization to ensure food providers meet health standards	Conducted in 100 food provider	Conducted for 100 food providers	1	100	5	100	1,040,880	0.1	114,496,800	572,484,000
	Development of food snack and snack food center		1 activity conducted	1	1	5	1	36,291,000	0.1	39,920,100	199,600,500
	Open green spaces management (RTH)	implemented in 12 areas	12 spots of open green spaces	1	12	5	12	18,445,290,925	0.1	243,477,840,210	1,217,389,201,050
	Training for biodiversity and open green spaces management	6 institutions/companies trained	6 companies trained and committed to join the CSR program for open green space program	1	6	5	6	25,307,500	0.1	167,029,500	835,147,500

	Inspection and socialization to ensure markets (modern and traditional) providing food meet health standards	Conducted in 8 markets	Conducted in 8 markets	1	8	5	8	62,954,250	0.1	553,997,400	2,769,987,000
7	**Goal: Strengthen integrated system for managing citizen complaints with GIS technology into central War Room that is accessible for the communities to track their complaints and progress and to give feedback.**										
	Sub-program: Strengthening data integration and sharing efforts for internal parties (government) and external parties (NGOs and private sector) for development, monitoring and evaluation.									**943,749,840**	**4,718,749,200**
	Training for utilization of data and information	1 training for 51 departments	1 training for 51 departments	1	1	5	1	493,377,000	0.1	542,714,700	2,713,573,500
	Electronic data integration	2 coordination meetings, 100% data and report provided	51 departments shared their data	1	2	5	2	170,481,700	0.1	375,059,740	1,875,298,700
	Strengthening workforce capacity ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1 training, 20 participants from 20 departments trained for ICT data access and use	1	1	5	1	23,614,000	0.1	25,975,400	129,877,000
8	**Goal: Bappeda and Kominfo in collaboration to use collected data from communication channel users including CRS, social media, and electronic-based channel to identify gaps in service and inform service delivery policy as well as for program planning and budgeting. These data can be used for bottom-up planning during Musrenbang.**										
	Sub-program: To ensure fair access to health education through media, investments in IT facilities and infrastructure (mobile networks) are needed for communities including marginalized and neglected populations and promoting ways to access such information.									**18,647,779,224**	**90,792,853,619**
	Manage government website	Website to increase public access available for 12 months	1 report per SKPD (25 SKPD that have been published)	1	25	5	25	17,789,400	0.1	489,208,500	2.223.675.000
	Internet service rental	Availability of integrated internet service	30 areas	1	30	5	30	514,319,387	0.1	16,972,539,760	84,862,698,801
	Media promotion and health information system development		Conducted in 47 Puskesmas	1	47	5	47	20,839,361	0.1	1,077,394,964	5,386,974,819
	Develop recommendations for new regulations	1 recommendation completed		1	1	5	1	98,760,000	0.1	108,636,000	543,180,000

9	**Goal: Encourage "One Data" regulation plan to be ratified at city level. In addition, the city government to encourage a city level policy that requires all sectors government, NGOs, and private sector to share their data including mechanism, type of data, variable, data use for decision making, person in charge, and their incentive. One Data governance model among different systems can be implemented to cover many data sources and departments which involve multiple stakeholders along business process of data integration and dashboard management.**										
	Sub-program: Strengthen strong ecosystem (infrastructure, policies, and environment) that encourages people to practice a healthy lifestyle. This needs to be led by Bappeda who encourages multisectoral projects for the government agencies, universities, NGOs and the private sectors.									**1,613,870,488**	**8,069,352,440**
	Environmental health service management	Conducted in 47 Puskesmas	1 program for each Puskesmas	1	47	5	47	22,454,234	0.1	1,160,883,898	5,804,419,489
	Monitoring and evaluation of healthy environmental development program	Conducted in 47 Puskesmas	1 program for each Puskesmas	1	47	5	47	561,404	0.1	29,024,587	145,122,934
	Socialization and fostering clean and healthy living behavior	Conducted in 47 Puskesmas	1 program for each Puskesmas	1	47	5	47	6,099,149	0.1	315,326,003	1,576,630,017
	Develop recommendations for new regulations	1 recommendation completed		1	1	5	1	98,760,000	0.1	108,636,000	543,180,000
10	**Goal: Increase outreach campaigns on key environmental health and public health topics. CRS data can be used to identify the topics that are most pressing, such as road safety, opening drains by reducing loose garbage, or similar. These campaigns can be timed to coincide with key points in the Musrenbang process to ensure citizens know what to ask for to fix any enduring health-related issues in their neighborhoods.**										
	Sub-program: Increase health outreach coverage (increasing access to needed resources) for PTM programs by strengthening and replicating community based intervention models, NGO-public partnership (Posyandu) throughout Makassar. This program needs to be driven by the needs of the community.									**7,741,786,569**	**38,708,932,845**
	Training mental health management	1 activity conducted		1	1	5	1	33,861,200	0.1	37,247,320	186,236,600
	Health services for NCD	1 activity conducted	1 program each Puskesmas	1	47	5	47	135,395,477	0.1	6,999,946,161	34,999,730,805
	NCD control management	1 activity conducted	1 program each Puskesmas	1	47	5	47	13,628,493	0.1	704,593,088	3,522,965,441

11	**Goal: Increase transparency on decision-making process and how selected programs were implemented - this can be done via public posting via ICT of Musrenbang rankings/ratings.**										
	Sub-program: Improving health education, especially with respect to maternal and child health, through citizen reporting system, social media, electronic media (television and radio), internet, and interaction with the community by Posyandu, village, Puskesmas, NGOs and PKK.									**1,957,120,004**	**6,384,969,822**
	Strengthen community empowerment for using IT	1 training, 105 people	7 participants per area (15 areas)	1	15	5	15	6,947,400	0.1	114,632,100	573,160,500
	Disseminate information to public	12 activities		1	12	5	12	10,770,667	0.1	142,172,804	710,864,022
	Socialization through brochures and mass media			1	1	3	1	1,545,741,000	0.1	1,700,315,100	5,100,945,300
	Total Estimated Costs									**300,289,063,575**	**1,495,598,645,177**

ANNEX E: Monitoring Indicators

Coherent Action	Process and output indicators	Is this already a Healthy City indicator?	Is this a Five-Year Mid-Term Plan indicator?	Total/end goal for this indicator (baseline is 2020 unless otherwise noted)	Yearly target needed to reach this goal in 5 years	Data sources for these indicators	Impact indicators (to be determined by city)	Is this already a Healthy City indicator?	What percent of this indicator is influenced by public sector/donor partners?	What is the maximum possible change we could expect to have for this indicator?	Yearly target needed to reach the expected amount of change in 5 years	Data sources for these indicators
#1: Sustaining Municipal Support for the Goal of a Healthy Makassar	Can the public access last year's Musrenbang process results? Yes/No	No										
	# of information channels and resolved complaints, current year / # of systems integrated with GIS, last fiscal year	Yes				*						
	# of citizen complaints systems linked to data dashboard (War Room)	No										
	% of citizen complaints lodged via 112 that are resolved within 24 hours/1 week	No										
	% of users under poverty line (to be compared to % in total population of city)	No										
	Are multi-sector meetings being held on a regular basis (quarterly or more frequent)	No										
	# of NGOs, private sector, university programs that are aligning funding with Healthy Makassar goals, last fiscal year	No	Yes	Increase from 14 current organizations in 2022 to 25 in 2026								
	Total annual visitors to Makassar City government's website	No	Yes	Increase traffic by 120% by 2026								
	# of sub-districts using systems approach during Musrenbang, last fiscal year	No										
	% of Kominfo staff trained on data utilization and visualization, current year	No										
	Is a course on data use included in the civil servants training courses for Smart City leadership? Yes/No	No										
	Investment (in IDR) for facilities and infrastructure in data management, by sector, last fiscal year	No										

	# of staff trained for data management (data collection, data entry), current year	No										
	# of staff trained for IT capacity in system integration for data management platform, current year	No										
	Is civil registration data integrated into Sehattami? Yes/No	No	Yes	Increase usage of civil registration data from 1 department to all 53 departments by 2026								
	# of policy/programs to support "One Data," integrated data, and Open Data, last fiscal year	No	Yes	Increase availability of integrated data from 4% of departments in 2021 to 100% in 2022								
	# of RT/RW with M&E plan for monitoring and progress on the "Sombere and Smart," current year	No										
	% decrease/increase in total number of RT/RW designated as slum areas, last fiscal year	Yes				*						
	Is there online-based integrated public service access to Sehattami? Yes/No	No	Yes									
#2: Leading the Way on a Circular Economy	Is counseling and education related to sustainable waste management available to city staff? Yes/No and total trained	Yes	Yes	90% of all staff should receive this training by 2026		*						
	Are waste management data systems integrated into Sehattami? (Yes/No)	No										
	% of households covered by waste management (can be disaggregated by collection, waste sorting and transportation)	Yes				*						
	% of households covered by 3R waste management	Yes	Yes			*						
	% of drains or streets blocked by waste	No										
	% of schools running youth counseling/green livelihoods programs	Yes				*						
	% of schools who have had environmental health inspection, last school year	Yes				*						
	% of waste being diverted from landfills via 3Rs collection	No	Yes	Increase total waste going to recycling or compost facilities by 26-30% by 2026								
	Length of pedestrian facilities/sidewalks that are available that are suitable for use	Yes	Yes	Increase ratio of total sidewalks length to total road length from 3%-7% by 2026		*						
	# of waste management mobile applications engaged	No										

	Total private sector funding (in IDR) allocated to regenerative city projects, last fiscal year	No										
	Total public funding (in IDR) for sustainable waste management, last fiscal year	No										
	# of community green spaces/alleys launched	No	Yes	Increase total Garden Alleys from 500 alleys in 2022 to 2,500 in 2026								
	# of jobs created in the "green economy" - composting, recycling, re-purposing of waste, etc.	No										
	Are their policies available on sustainable waste management and healthy environment? Yes/No	Yes				*						
#3: Creating a Culture of Data for Health	% of schools participating in the Adiwiyata program	Yes				*						
	# of Healthy Alleys with data poster initiatives	No										
	Are government health programs available in all remote areas of the city? Yes/No	Yes				*						
	% of all city health facilities with internet access	No	Yes	100% of facilities should have internet access by 2026								
	# of staff trained for system maintenance, data, or reports managements, using the technology, and handles calls to retain customers	No										
	Are health service complaints or other public health services being managed through the Call Center 112 system? Yes/No	No	Yes	Increase online public service access by 2026								
	Have Standard Operation Procedures within Call Center 112 and across city department been updated in the last year? Yes/No	No										
	% of complaints resolved within Call Center 112 and across city department, last quarter	No										
	# of data literacy programs implemented based on Kelurahan/Kecamatan, Puskesmas, or schools	No										
	# of community based complaints through community leader using mobile device	No										
	# of citizen reporting systems in Makassar	No										

#4: Creating a More Water-resilient City	Is there a monitoring and evaluation system available for disaster management programs? Yes/No	Yes				*						
	# of community members participating in the community disaster management preparedness program	No	Yes	Increase percentage of residents receiving information about disaster risk from 80% to 100% in 2026								
	Is there a publicly available planning document for communities to use to plan for disaster resilience? Yes/No	No										
	% of population with access to proper drinking water through piped and non-piped networks, change since last year	Yes		Improve coverage from 49% to 100% in 2026		*						
	% of drinking water facilities inspected, last quarter	Yes				*						
	Average city water quality rating, last quarter	No	Yes	Improve water quality index by 57.1-60.1 points by 2026								
	% of (No Suggestions) that provide environmental health services, last year	Yes				*						
	Are there local government programs to encourage community participation, operational partners, and maintenance of drainage and sanitation systems? Yes/No	Yes				*						
	% of drainage channels that work properly, last quarter	Yes				*						
	% of drains with ecodrain concept	Yes				*						
	% of resolved complaints by information channel relating to water issues, last quarter	Yes				*						
	% of households with access for wastewater treatment/sewage system	Yes	Yes	Improve coverage of households with wastewater treatment from 88% to 100% in 2026		*						
	Is there a system operating for river water management? Yes/No	Yes				*						
	# of incidents of water pollution cases that occur due to industrial waste in a certain time period by Kelurahan/Kecamatan	No										
	# of public complaints reported to the environmental agency or local government (Kelurahan/Kecamatan) regarding incidents of water pollution cases caused by industry in the area where they live	No										

	% of households with access for fecal sludge management	Yes				*						
	Total capacity of city sanitation systems and communal waste water treatment plant	Yes				*						
	# of Regional Technical Implementation Unit for Domestic Wastewater Treatment staff trained and participating in comparative studies and workshops	No										
	Is there government regulation to encourage community participation for drainage maintenance? Yes/No	Yes				*						
	# of villages with planting tree program	Yes				*						
	Total meters of open green space area, by sub-district, last fiscal year	Yes				*						
#5: Growing a Healthier Next Generation of Citizens	% of Posyandu that are active	Yes	Yes	Increase active Posyandu from 40% to 65% in 2026		*						
	Total family planning programs available in the city	Yes				*						
	% of malnourished children getting health care	Yes				*						
	% of city-based businesses that have breastfeeding rooms	Yes				*						
	# of travel terminals with breastfeeding mother facilities	Yes				*						
	% of child care places (TPA) that meet the requirements	Yes				*						
	# of programs for people with social welfare problems (neglected children, etc.)	Yes				*						
	Total food crop production in city limits	Yes				*						
	# of organic farming programs	Yes				*						
	# of remote city areas with facilities and infrastructure for child care	Yes				*						
	% of remote areas that have city services available for transport and access support for maternal care	Yes				*						
	% of schools conducting regular health check for students	Yes				*						
	% of births delivered by skilled health workers	Yes				*						
	% of villages that have achieved UCI (Universal Child Immunization)	Yes				*						
	% of puskesmas that provide environmental health services	Yes				*						
	% of toddlers covered by growth monitoring	Yes				*						

	% of sub-districts that have implemented the nutrition-aware family program	Yes				*							
	% of villages/kelurahan that carry out the nutrition-aware family movement	Yes				*							
	Are healthy community movement regulations that include mother and child health issues available in Makassar? Yes/No	Yes				*							
	% of mothers covered by maternal and infant health programs	Yes				*							
	# of communication media campaign activities for pregnant women, last quarter	Yes				*							
	# of health facilities in remote communities in the city	Yes				*							
	Are child development systems integrated into the Sehattami? Yes/No	No											
	Total funding (in IDR) from private sector focusing on maternal and child health, last fiscal year	No											
	# of community groups providing child friendly awareness sessions	No											
	% of infants who received complete immunization	Yes				*							
	% of public schools providing safe, healthy lunches	No											
#6: Encouraging Healthy Lifestyles for NCD Prevention	% of residents with access to health insurance (disaggregated by formal and informal workers)	Yes				*							
	# of regulations related to personal hygiene and healthy lifestyle, tobacco, and alcohol consumption	Yes				*							
	Are there smoking free area policies? Yes/No	Yes				*							
	# of anti-smoking movements by community	Yes				*							
	Are there smoking free area policies for places such as health services, places of worship, public transportation, educational facilities, offices, children's play facilities, and sports facilities? Yes/No	Yes				*							
	# of informal sector traders/street vendors that are allowed, each allocated area, last quarter	No											
	# of special locations available for the informal sector by Kelurahan/Kecamatan	No											
	# of quality checks completed of products sold by street vendors, last quarter	No											
	# of public facilities available for exercise	Yes				*							

	# of activities to prevent the incidence of noncommunicable diseases in Makassar City, completed by the Health Department or other sectors, last quarter	Yes	Yes	Activities available in all sub-districts by 2026		*						
	# of routine exercise activities carried out by community groups, city government, and the private sector	No										
	% of health centers with mental health services in Makassar City	Yes				*						
	% of people with severe mental disorders receiving treatment	No										
	# of community group activities to prevent noncommunicable diseases	Yes				*						
	% of Puskesmas providing counseling programs related to noncommunicable diseases	Yes				*						

*See the Healthy City Report 2021 (Advisor Team for Healthy City Implementation in Makassar City, South Sulawesi. 2021. "Document for Verification on Healthy City Implementation in Makassar City 2022.") for more information on the sources to be used for this information.

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BUILDING HEALTHY CITIES