Republic of Indonesia

Voluntary National Review
for Implementation of

NEW URBAN AGENDA

COVER

Final Report
2021

VOLUNTARY NATIONAL REVIEW FOR IMPLEMENTATION OF NEW URBAN AGENDA

REPUBLIC OF INDONESIA

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2021

Ministry of Public Works and Housing – Republic of Indonesia

Directorate General of Human Settlements

Directorate of Housing and Human Settlements Engineering Development

VOLUNTARY NATIONAL REVIEW FOR IMPLEMENTATION OF NEW URBAN AGENDA
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PREFACE

On the commemoration of World Habitat Day 2021, the government of Indonesia has submitted a provisional report on the implementation of New Urban Agenda (NUA) in the country. The provisional report is intended to provide an overview of how Indonesia has contributed to the implementation of the NUA and what has been achieved to date. However, there are several data limitations in the report due to technical requirements of data verification and approval conditions from the respective institutions. The submission of this final report is a complement to the provisional report. The structure of the final report also follows the reporting guidelines issues by UN-Habitat.

As the focal point of UN-Habitat issues in the country, the Ministry of Public Works and Housing (MoPWH) holds responsibility for the preparation and submission of the national report on the implementation of the NUA. The report mostly derived from the census and socio-economic surveys conducted by Statistics Indonesia (BPS) and the data presented in SDGs reports issued by the SDG National Secretariat under the Ministry of Development Planning (Bappenas). However, not all data relevant to the multi-faceted aspects of NUA indicators are available in those two sources. We therefore explored data sources at various ministries, government agencies, local governments as well as from professionals, associations, academic institutions and NGOs.

The monitoring of the national implementation of NUA has adopted a participatory approach in which various stakeholders were involved and engaged through several rounds of focus group discussions (FGDs). From the entire discussions we managed to identify roles played by various actors, to identify relevant and available data, and to gain insights from a variety of cases of the NUA implementation. Through this participatory monitoring process, we have been able to grasp a bigger view of the NUA implementation in Indonesia, and have gained a better understanding of the challenges it faced. We also hope that the participatory approach adopted in the monitoring process has created a sense of ownership of the data reported which could lead to collaborations and policy coherence among various institutions involved in sustainable urban development.

We believe that this report marks a key step in the long journey towards the realization of the 2036 agenda, which provides a basis for reflection on the first quarter journey, and sheds light on future challenges.

Jakarta, December 2021

M. Basuki Hadimuljono
Minister for Public Works and Housing
Republic of Indonesia

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3M-PSN	: *Menguras, Menutup dan Mengubur – Pemberantasan Sarang Nyamuk* / Eradication of Mosquito Nest by Draining, Covering, and Burying
3T	: T*erdepan, Terluar, Tertinggal* / Frontier, outermost and underdeveloped
ADEKSI	: *Asosiasi DPRD Kota Seluruh Indonesia* / Association of City Council in Indonesia
ADKASI	: *Asosiasi DPRD Kabupaten Seluruh Indonesia* / Association of Regencies' Assemblies in Indonesia
APEKSI	: *Asosiasi Pemerintah Kota Seluruh Indonesia* / Association of Indonesia Municipalities
APJII	: *Asosiasi Penyelenggara Jasa Internet Indonesia* / Indonesian Internet Service Providers Association
APKASI	: *Asosiasi Pemerintah Kabupaten Seluruh Indonesia* / Associationf Regencies of Indonesia
APPSI	: *Asosiasi Pemerintah Provinsi Seluruh Indonesia*
ARI	: Acute Respiratory Infections
ASEAN	: The Association of Southeast Asian Nations
ASPI	: *Asosiasi Sekolah Perencanaan Indonesia* / Association of Indonesian Planning Schools
ATCS	: Area Traffic Control System
B3	: *Bahan Berbahaya dan Beracun*/ Hazardous and Toxic substances
Bappenas	: *Badan Perencanaan Nasional* / National Development Planning Agency
Baznas	: *Badan Amil Zakat Nasional* / National *Amil Zakat* Agency
BBNKB	: *Bea Balik Nama Kendaraan Bermotor.*/ Transfer Fee for Motor Vehicles
BIG	: *Badan Informasi Geospasial* / Geospatial Information Agency
BKPM	: *Badan Koordinasi Penanaman Modal* / Indonesian Investment Coordinating Board
BLK	: *Balai Latihan Kerja* / Work Training Centre
BMT	: *Baitul Maal wa Tamwil* / Syariah Co-operatives
BNPP	: *Badan Nasional Pengelola Perbatasan* / National Border Management Agency
BP2BT	: *Bantuan Pembiayaan Perumahan Berbasis Tabungan* / Savings-Based Housing Financing Assistance
BPBD	: *Badan Penanggulangan Bencana Daerah* / Regional Disaster Management Agency
BPR	: *Bank Perkreditan Rakyat* / Rural bank
BPD	: *Bank Pembangunan Daerah* / Regional government bank
BPPI	: Bumi Pelestarian Pusaka Indonesia / Indonesian Heritage Preservation Agency
BPS	: *Badan Pusat Statistik* / Statistics Indonesia
BPK	: *Badan Pemeriksa Keuangan* / The Audit Board of the Republic of Indonesia
BPM	: *Badan Penanaman Modal* / Capital Investment Board
BPPT	: *Badan Pengkajian dan Penerapan Teknologi* / Agency for the Assessment and Application of Technology
BRT	: Bus Rapid Transit

BMKG	: *Badan Meteorologi Klimatologi dan Geofisika* / Meteorological, Climatological, and Geophysical Agency
BNPB	: *Badan Nasional Penanggulangan Bencana* / National Disaster Management Authority
CEWS	: Climate Early Warning System
CSR	: Corporate Social Responsibility
DAK	: *Dana Alokasi Khusus* / Special allocation Fund
DAU	: *Dana Alokasi Umum* / General allocation funds
DBH	: *Dana Bagi Hasil* / Revenue Sharing Fund
DMC	: Domestic Material Consumption
DRR	: Disaster Risk Reduction
E-RTLH	: *Elektronik-Rumah Tidak Layak Huni* / Electronic Uninhabitable Housing system information
FGD	: Focus Group Discussion
FLPP	: *Fasilitas Likuiditas Pembiayaan Perumahan* / Housing Financing Liquidity Facility
FPR	: *Forum Penataan Ruang /* Forum of spatial management
GDP	: Gross Domestic Product
GHG	: Green House Gas
GRMS	: Governmental Resource Management Information System
IAI	: *Ikatan Arsitek Indonesia* / Indonesian Institute of Architects
IALI	: *Ikatan Arsitek Lansekap Indonesia* / Indonesian Society of Landscape Architects
IAP	: *Ikatan Ahli Perencanaan Indonesia* / Indonesian Association of Planners
IARKI	: *Ikatan Ahli Rancang Kota Indonesia* / Indonesian Institute of Urban Designers
IBF	: Impact Based Forecasting
ICT	: Information Communication Technology
InaSafe	: Indonesia Scenario Assessment for Emergencies
InaWare	: Indonesia All Warning, Analysis and Risk Evaluation
InaTEWS	: Indonesia Tsunami Early Warning System
IPP	: Independent Power Producer
IRL	: Investment Readiness Level
ISPU	: *Index Standar Pencemar Udara* / Air Pollution Standard Index
Jakstranas	: *Kebijakan dan Strategi Nasional* / National Policy and Strategy
KBKT	: *Kawasan Bernilai Konservasi Tinggi* / High Conservation Value Areas
KEE	: *Kawasan Ekosistem Esensial* / Essential Ecosystem Areas
Kehati	: *Keanekaragaman Hayati* / Biodiversity
Kopdit	: *Koperasi Kredit /* Credit Union
Kotaku	: *Kota Tanpa Kumuh* / City Without Slums Program
KPR	: *Kredit Perumahan Rakyat* / Subsidized Mortgages
KPBU	: *Kerjasama Pemerintah dan Badan Usaha* / Public Private Partnership
KPPN	: *Kawasan Perdesaan Prioritas Nasional /* National Priority Rural Areas
KSA	: *Kawasan Suaka Alam* / Nature Reserve Area
KSM	: *Kelompok Swadaya Masyarakat* / Community Self-Help Group
KSP	: *Koperasi Simpan Pinjam* / Credit and savings co-operatives
KPA	: *Kawasan Pelestarian Alam* / Nature Conservation Area
KPN	: *Kebijakan Perkotaan Nasional* / National Urban Policy
KPP	: *Kelompok Pemanfaat dan Pemelihara* / Benefit and Maintenance Group

KTM	: *Kota Terpadu Mandiri* / Independent Integrated Cities
LABA	: Local Annual Budget Allocation
LAPAN	: *Lembaga Penerbangan dan Antariksa Nasional* / National Institute of Aeronautics and Space
LAWP	: Local Annual Working Plans
LCR	: Land Consumption Rate
LDKP	: *Lembaga Dana dan Kredit Pedesaan* / Independent regional government owned microfinance institution
LIPI	: *Lembaga Ilmu Pengetahuan Indonesia* / Indonesian Institute of Sciences
LMDP	: Local Medium-Term Development Plan
LP2B	: *Lahan Pertanian Pangan Berkelanjutan* / Sustainable Food Agricultural Land
MCR2030	: Make Cities Resilience 2030
MEWS	: Meteorology Early Warning System
MHEWS	: Multi Hazard Early Warning System
MRT	: Mass Rapid Transit
MoAASP	: Ministry of Agrarian Affairs and Spatial Planning
MoCSMEs	: Ministry of Cooperatives and Small and Medium Enterprises
MoEF	: Ministry of Environment and Forestry
MoEMR	: Ministry of Energy and Mineral Resources
MoF	: Ministry of Finance
MoH	: Ministry of Health
MoHA	: Ministry of Home Affairs
MoL	: Ministry of Labour / Manpower
MoPWH	: Ministry of Public Works and Housing
MoSA	: Ministry of Social Affairs
MoT	: Ministry of Transportation
MoTCE	: Ministry of Tourism and Creative Economy
MoVDDRT	: Ministry of Villages, Development of Disadvantaged Regions, and Transmigration
Musrenbang	: *Musyawarah Perencanaan Pembangunan* / Development Planning Consultation Forum
Musrenbangda	: *Musyawarah Perencanaan Pembangunan Daerah* / Local Development Planning Consultation Forum
NDC	: Nationally Determined Contributions
NUA	: New Urban Agenda
NUA VNR	: New Urban Agenda Voluntary National Review
OJK	: *Otoritas Jasa Keuangan* / Financial Services Authority
OSS	: Online Single Submission
P2KH	: *Program Pengembangan Kota Hijau* / Green City Development Program
P2L	: *Pekarangan Pangan Lestari* / Sustainable Food Yard
P3KP	: *Program Penataan dan Pelestarian Kota Pusaka* / Heritage City Management and Preservation Program
PAD	: *Pendapatan Asli Daerah* / Regional Original Income
PATROL TARU	: *Sistem Pantau dan Kontrol Penataan Ruang*
PBB-KB	: *Pajak Bahan Bakar Kendaraan Bermotor* / Motor Vehicle Fuel Tax
PBRS	: *Pembangunan Rumah Baru Swadaya* / Self-built Houses New Development
Perda	: *Peraturan Daerah* / Local Regulation
Perpres	: *Peraturan Presiden* / Presidential Regulation

Perum Perumnas	: *Perusahaan Umum Pembangunan Perumahan Nasional* / National Housing Development Corporation
PGR	: Population growth rate
PHBS	: *Perilaku Hidup Bersih dan Sehat* / Clean and healthy living behavior
PKB	: *Pajak Kendaraan Bermotor* / Motor Vehicle Tax
PKK	: *Pemberdayaan Kesejahteraan Keluarga* / Family Welfare Empowerment
PKPA	: *Pusat Kajian dan Perlindungan Anak* / Study and Protection of Children Foundation
PKRS	: *Peningkatan Kualitas Rumah Swadaya* / Self-built Houses Quality Improvement
PLBN	: *Pos Lintas Batas Negara* / National Border Areas
PLTS	: *Pembangkit Listrik Tenaga Surya* / Solar Power Plants
PLTAL	: *Pembangkit Listrik Tenaga Air Lau*t / Ocean Current / Wave Power Plants
PLTB	: *Pembangkit Listrik Tenaga Bayu* / Wind Power Plant
PLTBg	: *Pembangkit Listrik Tenaga Biogas* / Biogas Power Plant
PNM	: *Pemodalan Nasional Madani*
POME	: Palm Oil Mill Effluent
PPDPP	: *Pusat Pengelolaan Dana Pembiayaan Perumahan* / Housing Finance Fund Management Center
PPKM	: *Pemberlakuan Pembatasan Kegiatan Masyarakat* / Community Activities Restrictions Enforcement
PPLB	: *Pos Pengawas Lintas Batas /* Cross-border Checkpoint
PSBE	: *Penghargaan Subroto Bidang Efisiensi Energi* / Subroto Award for Energy Efficiency Sector
PSMP	: *Program Pembiayaan Swadaya Micro Perumahan* / Housing Micro Financing Program
PSN	: *Proyek Strategis Nasional* / National Strategic Projects
PTSP	: *Pelayanan Terpadu Satu Pintu* / Integrated One Stop Service
RAN-API	: *Rencana Aksi Nasional-Aksi Perubahan Iklim* / National Action Plan on Climate Change Adaptation
RDF	: Refuse Derived Fuel
RDTR	: Detailed Spatial Plan
RKP	: *Rencana Kawasan Permukiman* / Settlement Area Plan
RP3KP	: Rencana Pembangunan dan Pengembangan Perumahan dan Kawasan Permukiman / Housing and Human Settlement Development Plan
RPJM	: *Rencana Pembangunan Jangka Panjang Nasional* / National Long-term Development Plan
RPJMN	: *Rencana Pembangunan Jangka Menengah Nasional /* National Medium-term Development Plan (every five years)
RPTRA	: Child-friendly Integrated Public Space
RTH	: *Ruang Terbuka Hijau* / Green Open Space
RTLH / Rutilahu	: *Rumah Tidak Layak Huni* / Uninhabitable house
RTRW	: *Rencana Tata Ruang Wilayah* / Spatial plan
RUPTL	: *Rencana Usaha Penyediaan Tenaga Listrik* / National Electricity Supply Business Plan
Sanimas	: *Sanitasi Berbasis Masyarakat* /Community-Based Sanitation
SBUM	: *Subsidi Bantuan Uang Muka* /Down Payment Subsidy
SDGs	: Sustainable Development Goals
SDGs VNR	: Sustainable Development Goals Voluntary National Review

SiKasep : *Sistem Informasi KPR Subsidi Perumahan* / Information system for applying subsidized home mortgage program
SiKumbang : *Sistem Informasi Kumpulan Pengembang* / Information system for Housing Developers
SiPetruk : *Sistem Informasi Pemantauan Konstruksi* / Information system for Construction monitoring
Sireng : *Sistem Informasi Registrasi Pengembang* / Registration system for developers
SiRUK : *Sistem Informasi Rumah Umum dan Komersial* / Public and Commercial Housing Information System
Sirusun : *Sistem Informasi Rumah Susun* / Flats Information System
Sirusus : *Sistem Informasi Rumah Khusus* / Specific Housing Information System
SIPD : *Sistem Informasi Pemerintah Daerah* / Local Government Information System
SIUP : *Surat Izin Usaha Perusahaan* / Business License
SMI : *Sarana Multi Infrastruktur*
SMV : Special Mission Vehicles
SOE : State-owned Enterprise
SOIC : State of Indonesian Cities
SUPAS : *Survei Penduduk Antar Sensus* / Inter-Census Population Surveys
Susenas : *Survei Sosial Ekonomi Nasional* / National Socio-Economic Survey
TAPERA : *Tabungan Perumahan Rakyat* / Public Housing Savings
TB : *Taman Buru* / Hunting park
TKDD : *Transfer ke Daerah dan Dana Desa* / Transfers to Regions and Village Funds
TOD : Transit Oriented Development
TPA : *Tempat Pemrosesan Akhir* / Landfill
TPS3R : *Tempat Pengolahan Sampah* Reduce-Reuse-Recycle / Reduce-Reuse-Recycle Waste Processing Sites
UCLG-ASPAC : United Cities and Local Governments Asia Pacific
UMKM : *Usaha Mikro, Kecil dan Menengah* / Micro Small Medium Enterprise
UNDRR : United Nations Office for Disaster Risk Reduction
USP : *Unit Simpan Pinjam* / Credit and savings unit
WPS : *Wilayah Pengembangan Strategis* / Strategic Development Region
Zakat : Obligatory payment made annually under Islamic law on certain kinds of property and used for charitable and religious purposes

EXECUTIVE SUMMARY

Law number 1 in 2011 on Housing and Human Settlement mandates the active participation of Indonesia in the international community, including activities of the United Nations Center for Human Settlements (UN-Habitat). The spirit of international commitments such as Agenda 21 and the Habitat Agenda that housing is a basic right and adequate and affordable housing for all are in line with Law number 1 in 2011. Furthermore, the goal of the National Long-term Development Plan 2005-2025 (Law number 17 year 2007) aims to reach cities free of slums by 2025.

The Presidential Decree Number 59 Year 2017 on the Implementation of the Sustainable Development Goals (SDGs) mandates the formation of a National Coordinating Team led by the Ministry of National Development Planning (Bappenas) and SDG Secretariat to monitor and report the progress of implementation. The decree also provides direction to all Ministries to synchronize the targets of National Medium Term Development Plan 2015-2019 with SDG targets and to prepare a national road map as guidance for ministries and local governments in preparing their medium-term development plan and road map to achieve the SDGs. Thus, the implementation of SDGs has been institutionalized from the highest national level to subnational entities, and integrated into national and sub-national development planning.

Furthermore in 2021, Bappenas issued Ministerial Decree number Kep. 67/M.PPN/HK/06/2021 on the Establishment of the Strategic Coordinating Team for National Urban Development. The decree mandates the coordination and synchronization of urban development policies that accommodate the SDGs and the New Urban Agenda, and build partnerships with stakeholders to achieve these goals.

The vision, principles and commitments of the New Urban Agenda are all linked to the 17 goals of the Sustainable Development Goals, in particular Goal 11 "Make cities and human settlements inclusive, safe, resilient and sustainable' and its indicators that are referred to in this report.

Part 1 Transformative Commitments

Sustainable Urban Development for Social Inclusion and Ending Poverty

Transformative commitments for sustainable urban development are strongly kept and put into action. Indonesia has continuously been increasing social inclusion in order to ending poverty. The steady decrease of the poverty rate, both in urban and rural areas, was partly contributed by social support programs and massive efforts to reduce inequal access to basic needs. Inequality between men and women and people with disabilities in employment has continued to be addressed. Non-discrimination principles regarding gender inequality and toward marginalized communities have continued to be incorporated into legislations. Efforts to ensure equal access to public spaces are tackled by providing cycling lanes and bike-sharing stations. To ensure pedestrians can walk safely and have pleasant walking experience, several road spaces have been reclaimed to widen sidewalks and some other corridors are transformed as car-free-day area on the weekend.

In housing development, despite the fact being the highest expenditure per capita compared to other commodities, more than one third of the Indonesian population is still living in slums, informal settlements or inadequate housing. The government initiated the One Million Houses Program in 2015 to overcome the housing shortage by construction of housing (rental and ownership) by public, private, sector, and community. To increase access to adequate and affordable housing, the government liquidity facility has reduced the interest rates to 5%. Inequality in housing has been reduced since informal workers can have access to and women are found to have larger proportion of property ownership. Slum areas have continuously been upgraded for the last five decades with the latest program being integrated to community empowerment.

In a similar matter, the basic services provision has been increased to improve access to drinking water, proper sanitation, and solid waste disposal through various programs, such as Drinking Water Grant and Improvement of Solid Waste Management. Safe and efficient public transport system has also been improved with the provision of Bus Rapid Transit and Transit-Oriented Development (TOD). Complimentary to public transport provision, free school bus, school safety zone, and school safety route schemes have also been implemented. Access to modern renewable energy is also being improved by building solar and ocean wave power plants as well as processing waste to refuse-derived fuel. ICT in Indonesia has been accessed by more than 171 million people (2020) and listed as the 4th country with the largest population supported by fibre optic network within the Palapa Ring project.

Sustainable and Inclusive Urban Prosperity

For urban prosperity and opportunities for all, inclusive economic growth was steadily increasing. In addition to large proportion of informal employment, 99.99% of Indonesian enterprises are categorized in Micro, Small and Medium Enterprises which contributed to more than half of GDP (2018). Many efforts have been made to ease business permits, including the shortened process of getting business license and Online Single Submission (OSS), and the Job Creation Law.

Sustainable urban prosperity is ensured by diversification, including the creative economy dominated by culinary, fashion, and craft subsectors in five provinces and digital economy growth with several unicorn e-commerce. Additionally, capacity development to increase technical and entrepreneurial skills are given and resulted in more than 80 % of youth to have ICT skills. Based on spatial point of view, 11 new city developments outside Java Island are in place.

Environmentally Sustainable and Resilient Urban Development

Notable efforts to create environmentally sustainable and resilient urban development have also been done both on land and coastal areas. Indonesia has committed to reduce GHG emission, with energy, building and waste as the leading sectors, and kept increasing budget allocation for climate change. Disaster early warning systems, multi-hazard mapping and spatial planning have been utilized to reduce disaster risk.

Sustainable management and use of natural resources, domestic material consumption, have also been encouraged along with resource conservation and waste reduction, reuse and recycling. Smart city approach that leverages digitization, clean energy and technologies has been implemented in various ways. In building sector, for example, with energy efficiency approach.

Part 2 Effective Implementation

Building Governance Structure

As a supportive framework, decentralization which took place since 1998 allows for selected authorities given to municipalities/regencies. It also enables subnational and local governments to cooperate with national government in multi dimensions. Housing provision, urban policy development and planning, as well as mobilization of endogenous resources and revenues. Direct citizen involvement in participatory planning have also been made possible through *musrenbang* (Development Planning Consultation Forum), by which women and children needs are acknowledged and their aspirations are prioritised. In infrastructure provision, women are also involved in the planning and maintenance of sanitation and waste management projects.

Planning and Managing Urban Spatial Development

In planning and managing urban spatial development, housing is integrated to urban development plans, culture is appreciated and incorporated into heritage city programs. Urban planner as a multi-disciplinary profession is developing rapidly to incorporate architect as well as urban designer. Role of small and intermediate cities are also increasing. Implementation of sustainable multimodal public transport systems including non-motorized options has been translated into TOD.

Means of Implementation

As means of NUA implementation, endogenous (internal) sources of finance have been collected reaching to more than 60% proportion of domestic funding. Financial transfers have also been implemented to local governments from the national government in addition to multilateral cooperation. City-to-city cooperation has been established by nearly 60 cities, allowing for developing capacities and fostering exchanges of urban solutions and the prominent mutual learning role of ICT. Ultimately, ICT has played a prominent role in implementing NUA, including in housing provision, slum upgrading program, and spatial planning.

Conclusions

Apart from the significant progress made in NUA implementation, the impact of Covid-19 pandemic to every aspect of urban development is unavoidable. Like many countries worldwide, Indonesia has been seriously affected by the Covid-19 pandemic. Before the pandemic, significant progress was made in implementing of the SDGs and NUA, particularly in reducing poverty and inequality, improving connectivity and maritime development, and improving infrastructure for information and technology. However, these achievements were not happening fast enough and since the pandemic, progress was either stalled or reversed. Poverty and unemployment have been slightly increased in urban areas even though social security expenses were made higher. Though Indonesia is well-known for

its large proportion of informal employment, the pandemic has contributed to an increase of informal employment in service and manufacturing sectors due to many companies and the service sector have had to close their businesses or shift production. Nevertheless, capacity development, as well as ICT support alongside the National Economic Recovery Program have been put in place as a sustainable strategy to overcome the negative impacts.

Other challenges remained, such as geographical factors and the characteristics of multi-disaster threats, increased populations potentially exposed to natural disasters, and lack of preparedness. A considerable amount of critical land to be restored, lack of energy diversification and inefficient use of natural resources posed challenge on sustainable development. Other challenges include low tax compliance, inadequacy of taxation human resources, and the need to increase the fixed broadband network. Indonesia's Development priorities include strengthening human development through poverty reduction and basic services improvement; reducing regional disparities through connectivity and maritime development; increasing economic value-added and job creation; and overcoming the digital divide. Since 2016, and on some aspects maybe prior to that, Indonesia has shown progression in all NUA. The outstanding performance confirms that Indonesia is moving towards the successful achievement of the 2036 Agenda.

Updates to the provisional report

Several data have been updated for this final report, adjusting to the latest available data in 2019-2020 on mortgage rate to GDP, waste managed, renewable energy share, the ratio of land consumption to population growth, green area per capita, recycling rate, and percentage of commuters using public transport are among others. Meanwhile, other than data, narratives which describe system of multi-hazard monitoring and early warning system, as well as publicly accessible plan, have also been complemented.

Additional good practices have been included in this final report, which falls into the following 5 sub-categories: Sustainable Urban Development for Social Inclusion and Ending Poverty, Sustainable and Inclusive Urban Prosperity and Opportunities for All, Resilience, Mitigation, and Adaption of Cities and Human Settlements, Sustainable Management and Use of Natural Resources, and Information Technology and Innovation. From previously 16 cases, the total amount of best practices in this report has now reached 34 cases with better coverage between the major islands of Indonesia.

STAKEHOLDER PARTNERSHIPS AND COMMITMENTS

Indonesia has made a prompt response to the birth of the New Urban Agenda (NUA) by translating the NUA to Bahasa Indonesia in 2017. Additionally, Indonesia has also written eight Practical Guidelines for Implementing NUA through the collaboration of the Ministry of Public Works and Housing (MoPWH) of the Republic of Indonesia, Kemitraan Habitat, and Ruang Waktu Knowledge Hub. The books consist of 8 series: 1) Introduction to NUA, 2) Housing and Basic Services, 3) Disaster and Urban Environment, 4) Urban Governance, 5) Transportation and Urban Mobility, 6) Spatial Planning and Urban Development, 7) Economic Development and Urban Financing, and 8) Urban Socio-cultural (figure 1).

Figure 1: Practical Guidelines for Implementing NUA in Indonesia

Source: MoPWH, 2017

In 2019, the NUA Practical Guideline on Disaster and Urban Environment was tested in DKI Jakarta and Kupang, East Nusa Tenggara, through collaboration between KARINA, RuangWaktu, and Kemitraan Habitat. Jakarta Berketahanan was also involved in the DKI Jakarta testing. Through a focused group discussion, stakeholders identified priority issues and policy options relevant to the implementation of NUA, within the sector of disaster and environment in particular. In addition, this discussion forum also gained inputs to improve the guidelines.

At the national level, the President appointed the National Development Planning Agency (Bappenas) as coordinator of the SDGs Implementation team, and setting up a national secretariat on SDGs, guidelines for coordination, planning, monitoring and evaluation of SDGs in Indonesia. This includes following up of action plans by ministries and local governments. Since NUA has adopted several SDGs, the MoPWH works closely with the SDGs secretariat.

This structure of this report has conformed to the metadata indicators and report guideline provided by UN-Habitat. Most of the data to support this report was obtained from census and socio-economic surveys by Statistics Indonesia, and SDGs reports issued by the SDG national Secretariat under Bappenas. However, not all of the multi-faceted aspects of NUA indicators are readily available in our country. Therefore, we explored data sources at various ministries, government agencies as well as sub-national governments, professionals, associations, academics, NGOs etc. Secondary data are available in their annual reports, e-books, and other publication provided on their websites. Another means to obtain data has

also been executed by sending formal data requests and inviting to Focus Group Discussions (FGDs) prior to writing this implementation of NUA report (figure 2).

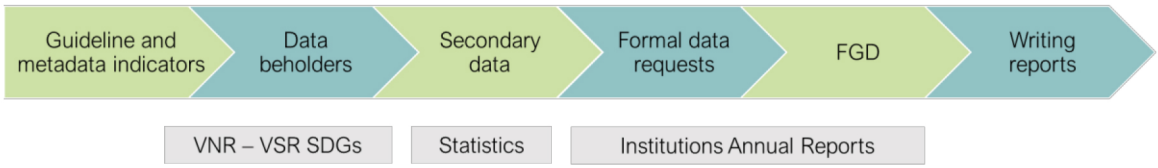

Figure 2: NUA Reporting Data Sources and Process

The writing of this report has engaged various stakeholders in the process to obtain data, insights and compiling good practices in the implementation of the NUA, as well as confirming the data collected. Without the participation of all these stakeholders, it would be impossible to complete this report. From the initial identification, there were at least 20 data beholders to be approached. However, from the total of 8 rounds of FGDs within the 5 months period (figure 3), we have learnt that there are plenty more data beholders to collaborate with—reaching up to 70 departments across ministries and not to mention local government agencies in 514 cities/regencies and 34 provinces. In the FGDs, we have communicated and seek for collaboration with several departments in the following ministries: Bappenas, Statistics Indonesia, Ministry of Home Affairs, Ministry of Agrarian Affairs and Spatial Planning, Ministry of Environment and Forestry, Ministry of Transportation, Ministry of Energy and Mineral Resources, National Disaster Management Agency, Meteorology, Climatology and Geophysics Agency. There are also several of local government associations that have been involved, including APEKSI, ADEKSI, APKASI, and UCLG-ASPAC. For local governments, we have collaborated with the Regional Planning Agencies of Surabaya, Semarang, Balikpapan, Denpasar, Office of Communication, Informatics, and Coding of Yogyakarta City, and Office of Environment of West Java Province.

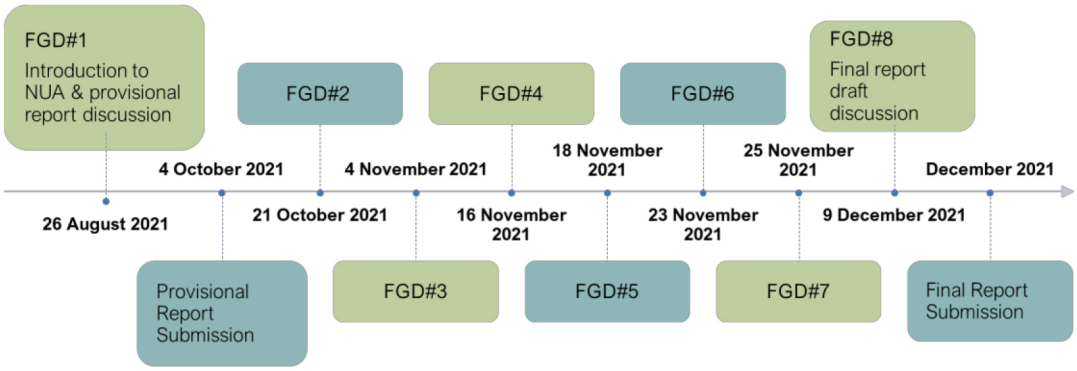

Figure 3: NUA Participatory Reporting Process

COVID-19 RESPONSE

The Covid-19 first case was detected in Indonesia in early March 2020 and quickly spread across the country. The transmission of the Covid-19 virus is significantly higher in high-density urban areas compared to rural areas. Up until July 2021, 25% of total number of cases are found centred in DKI Jakarta as Indonesia's capital and the rest in other most urbanized areas in the country, according to Indonesia's Covid-19 Control Task Force. West Java (18%), Central Java (11.1%) and East Java (8.7%), where major metropolitan areas are located, are among the highest cases while in other areas the transmission cases are below 5%. One of the factors of high transmission factors in these urban areas is the high mobilization across city boundaries. Another factor is due to circular migration during holidays which is bound to result in streaking in addition to cases.

The government of the Republic of Indonesia has made significant efforts responding to Covid-19, by providing healthcare, financial assistance, as well as economic recovery programs. Soon after the first case of Covid-19 in Indonesia was found, the Control Task Force was established. At the end of March 2020, the Government Regulation Number 21 of 2020 was enacted that allows local governments to carry out the emergency programmes in health services under the approval of the Minister of Health.

Local governments must promptly deal with the crisis; several provinces and cities that had the highest number of the Covid-19 cases carried out both Large-Scale Social Restrictions / LSR (*Pembatasan Sosial Berskala Besar / PSBB*) and Micro-Scale Social Restrictions / MSR (*Pembatasan Sosial Berskala Kecil / PSBK*) to break the chain of transmission of the virus in Indonesia. The social restrictions included the prohibition of on-campus school activities, limitations for on-site office work except of essential sectors, limitations on public facilities and transportation, and prohibitions on other social activities including religious activities, all to keep the people at home and minimize the risk of infection. These provinces and cities include Jabodetabek Metropolitan Area (DKI Jakarta Province, Bogor, Depok, Tangerang, Bekasi), West Sumatera Province, Bandung Metropolitan Area (Bandung, West Bandung, Sumedang and Cimahi), Tegal City, Makassar City and Pekanbaru City. In total, there were 2 provinces and 16 cities that carried out the restrictions in April 2020.

The Law Number 2 of 2020 on National Financial Policy and Financial System Stability for Covid-19 Pandemic Management forms as a legal basis to change other regulations designated to expedite resource allocations in response to the Covid-19 pandemic. The regulations allow for adjusting Local Annual Working Plans and Local Annual Budget Allocations without approval from the local House of Representatives. Policies prioritize refocusing of programmes/activities towards social economic protection. Local budgets are redirected toward emergency programmes in health service, job creations, subsidies and grants for low-income families.

Ministerial budget accordingly has also been reallocated and refocused since mid-year of 2020 in order to be handed over to healthcare and economic recovery programs; at least 38% of ministerial budgets were reallocated. In July 2021, further action was taken in order to prevent the spreading of the new Delta variant of Covid-19 outbreak through tighter

activity and curfew program known as *Pemberlakuan Pembatasan Kegiatan Masyarakat (PPKM)* and taking travel and meeting budgets out of state budget – this means all ministries are no longer allowed to hold travelling activities as well as offline meetings outside the office.

During the pandemic, the economic declines cannot be avoided. Data shows a correlation between social and mobility restrictions to poverty: Provinces with high mobility reduction tend have a more significant increase of poverty. People who work in informal sector and the industry are more likely to lose income due to the inability to work from home. The government responded in several programmes to protect the social and economy conditions, especially toward the vulnerable groups. Through collaborative efforts between the MoSA and the MoF, the government has initiated programmes like. Assistance is also provided in a Pre-Work program, electricity discount, internet package to students and teachers, and the Cash for Work Program (*padat karya tunai*) from MoPWH. These programs were distributed to beneficiaries in 34 provinces and meant to become a trigger to drive the national economy and strengthen purchasing power to maintain the national economic growth in a positive direction.

Furthermore, besides the regulations that aim for the large-scale activity restrictions, individuals and communities' actions were also taken during the pandemic. Everyone is encouraged to adjust the health protocol in their everyday life called 5M; *Mencuci tangan* (wash hands), *Memakai masker* (use mask), *Menjaga jarak* (keep the minimum distance), *Menjauhi kerumunan* (avoid crowds), and *Mengurangi mobilitas* (reduce the mobility). The protocol aims for the individuals to protect themselves from the virus. Meanwhile, the 3T (testing, tracing, and treatment) system continues to be implemented with the help of the communities; to break down the transmission chain of the virus.

Alongside with the health protocols, the vaccinations program started in early January 2021 aiming for vulnerable people as the prioritized groups. The phasing and determination of priority groups for vaccine recipients is carried out by considering the World Health Organization (WHO) Strategic Advisory Group of Experts on Immunization (SAGE) Roadmap as well as a study from the National Immunization Expert Advisory Committee (Indonesian Technical Advisory Group on Immunization). The first stage of the vaccination program was done exclusively for frontline medical workers in January-April 2021, followed up with the second stage for public workers and elderly people. Meanwhile, the vaccinations for the public started in early July 2021 which was then followed by children aged 12 years old and above in mid-July 2021. In total, 58 million and 32 million people have received the first dose and second dose respectively in late August 2021 and the vaccination rate has reached 1 million people per day. Majority of vaccinations are managed centrally through government healthcare system, which in the end have also incorporated digitalization on registry and certification process. Nevertheless, vaccination injections have also been managed by other parties, such as private companies.

Indonesia has also increased the Bed Capacity of hospitals by retrofitting flats into emergency hospitals. The Nagrak low-cost apartment complex (Rusunawa) in North Jakarta and Pasar Rumput Rusunawa in South Jakarta are two of the latest flats converted into COVID-19 isolation facilities reserved for asymptomatic and patients with light COVID-19 symptoms. The former athletes village emergency hospital in Kemayoran, Central Jakarta,

which had a capacity of at least 7,000 patients, designated to treat moderate and severe cases.

In July 2021, further mobility restrictions were taken in order to suppress the increasing rate of infection and prevent the spreading of the new Delta variant of Covid-19 outbreak through tighter activity and curfew program known as Emergency Public Activity Restrictions (*Pemberlakuan Pembatasan Kegiatan Masyarakat / PPKM darurat*). These emergency restrictions are enacted on varying levels depending on the severity of cases in a region. Minister of Home Affairs instruction (*Inmendagri*) No. 15, 18, and 24 year 2021 stipulate the implementation of *PPKM Darurat* in Java and Bali. Furthermore, Sumatera, Kalimantan, Sulawesi, Nusa Tenggara, Maluku, and Papua *PPKM* concept regulated in Minister of Home Affairs Instruction No. 25/2021. Finally, Covid-19 optimization was managed by handling command posts on micro-level and the implementation of *PPKM* level 3 to 1 which was set in Instruction of Minister of Home Affairs No. 15 and 26 the year 2021. As a result, the trend of Covid-19 active cases had dropped from 574,135 cases at the highest point on 24 July to 273,750 cases on 24 August 2021.

The SDGs national VSR 2021 reported that local government's responses related to the pandemic in general and in relation to SDGs attainment. More than half surveyed local governments (LGs) mentioned that they have taken steps to refocus development projects and budget reallocation to address the Covid-19 pandemic situation. Budget reallocation is the most immediate action taken to anticipate the pandemic impacts, aiming at providing direct financial support for the most vulnerable residents. Meanwhile, refocusing development vision and missions is least often taken by local governments considering their longer impacts to local development outputs and outcomes. Such an anomalous situation results in delaying development programmes/activities set in LMPDs. This leads some local governments to re-examine LMPDs and readjust them. Despite the Covid-19 pandemic condition that affected multiple sectors, the technology sector continues to soar high. Digitalization was seen as a solution to meet people's basic needs in the middle of mobilization restrictions, creating a new lifestyle in the new normal era.

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1

Transformative Commitments for Sustainable Urban Development

1.1 Sustainable Urban Development for Social Inclusion and Ending Poverty

1.1.1 Social Inclusion and Ending Poverty

The Government of Indonesia has had a far-reaching effort in ending poverty in many dimensions, not only in physical but also in social and structural. Poverty related to basic services provision, related to access to land and providing multiple opportunities are being unlocked. Poverty eradication related to vulnerable groups, are being promoted as well.

1.1.1.1 Eradicate poverty in all its forms

The New Urban Agenda aims to end poverty and hunger in all its forms and dimensions (NUA §3). Like SDGs, eradicating poverty in all its forms is elaborated in seven targets: eradicate extreme poverty, reduce poverty by at least 50%, implement social protection systems, equal rights to ownership, basic services, technology, and economic resources, build resilience to environmental, economic, and social disasters, mobilize resources to implement policies to end poverty, and create pro-poor and gender-sensitive policy frameworks. These targets are meant to ensure that everyone, regardless of their sex, age, or disabilities, will have capacity to participate in society effectively by having the ability to provide health care, to provide enough food and clothes, access to a job to earn a living as well as access to credit.

Recognizing the poverty level is one of the information that is continuously being monitored and evaluated. It has become one of the key indicators for measuring progress of development. Based on Statistics Indonesia, through National Socio- Economic Survey (Susenas) records the proportion of population below the national poverty line decreased from 11.1% in 2015 to 9.2% in 2019. For the extreme poverty, defined as a condition where people's welfare is below the extreme poverty line - equivalent to USD 1.9 PPP (Purchasing Power Parity). According to Indonesia's SDGs VNR 2021, it has decreased in line with the national poverty. From previously 7.5% in 2015, the extreme poverty population has decreased to become 3.7% in 2019 but unfortunately, has been followed by an increase reaching to 4.2% in 2020 (Figure 1.1).

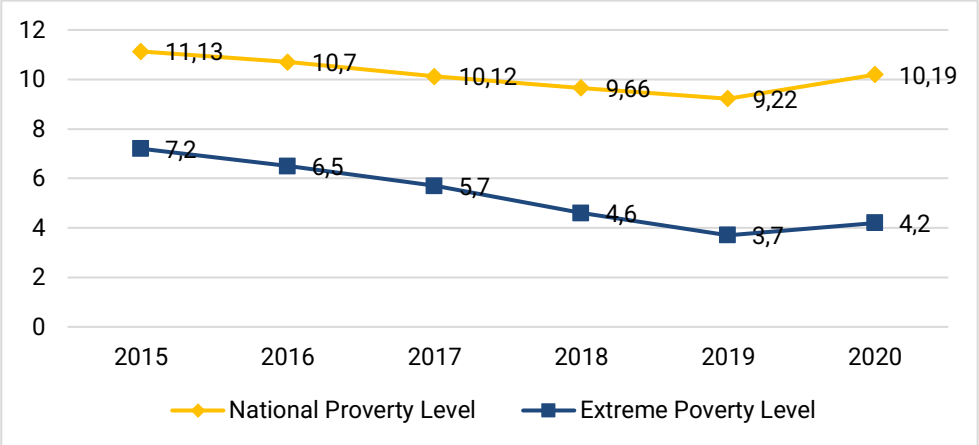


Figure 1. 1 National and Extreme Poverty Rates (PPP $1,9 per day) (%), 2020

Source: (Bappenas, 2021)

Looking at the decreasing rate of extreme poverty, with average of -1.2% in 4 years from 2015 to 2019, is interestingly having exceeded the national poverty line rate. The decrease of the extreme poverty rate is partially related to the expanding government-initiated social support on Hope Family Program or *Program Keluarga Harapan (PKH)*. In 2020, however, such proportion increased to 10.19%. The worrying increase of the poverty rate is related to the Covid-19 pandemic. It has made it harder to reach the previous prediction on poverty eradication.

In urban as well as rural areas, poverty rates have decreased within the period of 2015 to 2019 similarly of 0.7% (figure 1.2). Moving forward to 2020, the poverty rate in the urban areas increases about 1.32% while in rural areas is about 0.60%. The poverty rate in rural areas consistently decreased during five years from 14,2% in 2015 to 12,8% in 2019 and 2020. However, in urban areas, the high infection rate and restricted movement have reduced economic activities. This led to job losses, especially in labour-intensive sectors and triggered a wave of out-migration to rural areas. Such vulnerability shown in urban areas is previously thought to affect rural areas as productive workers create economic opportunities positively. However, this does not last long, as the unemployed need time to sort and configure whether they stay or move back.

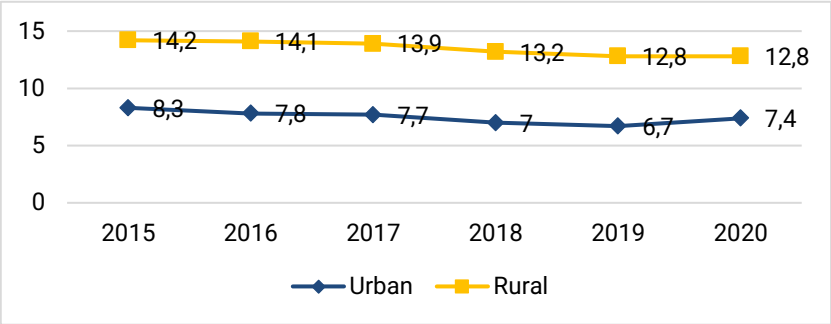


Figure 1. 2 Poverty Level in Urban and Rural Areas (%), 2015-2020

Source: (Bappenas, 2021)

From the age group a higher poverty rate is found in the early age group (under 18 years), reaching a gap of approximately 3,5% throughout 2015 to 2020. Between the two groups, however, both have pretty steadily decreased 2% from 2015 to 2019 and unfortunately have an increase of 0,4% in 2020 (figure 1.3).

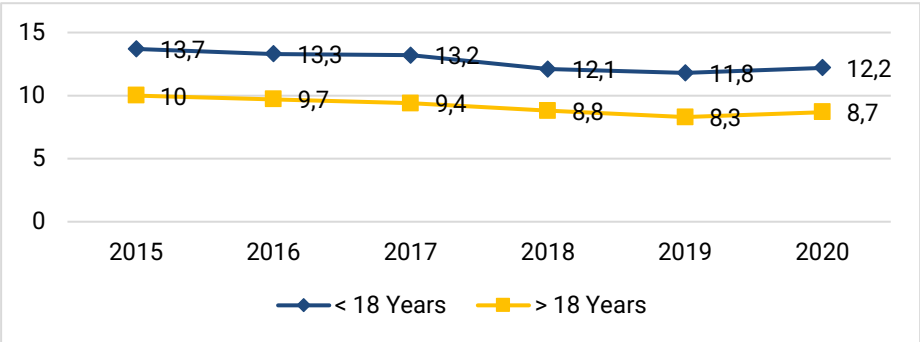


Figure 1. 3 Poverty Level by Age (%), 2015-2020

Source: (Bappenas, 2021)

Poverty eradication efforts made by the Indonesian government are reflected in the decrease of poverty. The poverty level using the indicator of purchasing power parity (PPP) USD 1,9 per capita/day of the World Bank showed a significant decrease from 18,43% in 2009 to 2,7% in 2019. Similar success has also been found in the national poverty in which the population who live under the national poverty line has decreased from 14,15% in 2009 to 9,22% in 2019. Although there has been an increase of poverty in 2020, it should be noted that from the parameter of extreme poverty such increase is low since we have decreased the population who live under the extreme poverty from 4,8% in 2018 to 4,2% in 2020. Unfortunately, however, the same thing cannot be found from the parameter of the national poverty level. The pandemic has impacted poverty to grow from 9,22% in 2019 to 10,19% in 2020. Such a rate has pushed Indonesia 3 years backwards to the poverty level prior to 2017. Looking at the enormous implications of the Covid-19 pandemic to the economy, we can still argue that the government has made substantial efforts to survive.

The poverty decrease rate of 0.48% per year prior to Covid-19 may be seen as relatively low compared to our previous rate in the 1990s. With the escalating problems of poverty eradication or the last mile problem, nonetheless, such rate should be appreciated. There were 3 (three) factors contributing to a consistent decreasing poverty rate. Firstly, stable economic growth. Even though Indonesian economic growth is not as fast as the more dynamic countries, it decreased poverty. Secondly, the economic gap has been consistently reduced from 2015 to 2019. Economic growth with decreasing gap indicates inclusivity where the poor also benefit from such growth. Thirdly, government policy, social security programs. From 2015 to 2019, government expenses allocated to social security have increased. In 2015 there were merely 0.47% of Gross Domestic Product (GDP), while in 2019 has increased to 0.94% of GDP. It has doubled in proportion.

The Covid-19 pandemic has brought the Indonesian poverty level equal to what it had been in 2017. The national government has stepped up with emergency funding of IDR 200 trillion for social security toward poverty alleviation. Funding for social security has increased by 4.4% from previously 13.7% in 2015 to 18.1% in 2020 especially due to counter the impact of the Covid-19 pandemic.

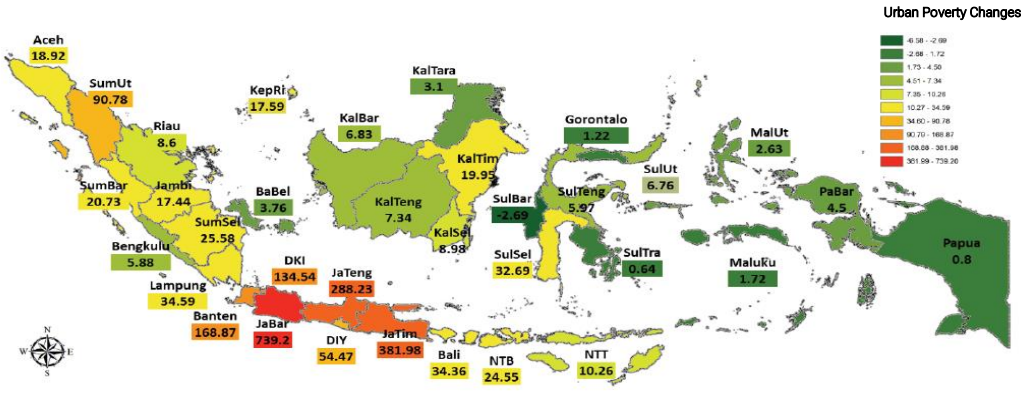


Figure 1. 4 Changing Numbers of Urban Poor Population Among Provinces in Indonesia (in thousand), September 2019-2020

Source: (Bappenas, 2021)

The above map shows a changing number of urban poor among provinces between September 2019 – 2020 (figure 1.4). Nation-wide, urban poor has increased by 2.7 million people where 2.2 million are found in urban areas. The highest increasing number of urban poor within the one year period of crisis takes place in Java Island of nearly 80% (1.7 million people). It is followed by those in Sumatera, Kalimantan, Sulawesi and Eastern Indonesian islands. The overwhelming burden for social support will be felt disproportionately among islands. The total number of poor people in Indonesia is 25.14 million, whereas the number of urban poor is 9.99 million in 2019. The latter number is down by 0.2% from that of 2018. Meanwhile, the rural poor are larger than the urban poor, which is 15.15 million people.

1.1.1.2 Address inequality in urban areas by promoting equally shared opportunities and benefits

Sustained, inclusive and sustainable economic growth is a critical element of sustainable urban and territorial development, and that cities and human settlements should be places of equal opportunities (NUA §43). The Government of Indonesia has been using the concept of the Human Development Index (HDI), initiated by UNDP, as a measuring approach when assessing the progress of development. One of the critical measurements is the equality of opportunities and benefits between men and women. This can be measured among others by Gender Development Index / GDI *(Indeks Pembangunan Gender*/IPG), which can describe benefits gained by men and women whilst reflecting their opportunities and obstacles encountered. GDI consisted of the following data: life expectancy, expected years of schooling, mean years of schooling, and income level prediction. In 2018, the GDI in Indonesia was 90.99 on a scale of 0-100. In 2019, the GDI increased by 0.08% but slightly decreased by 0.01% to become 91.06 in 2020. Overall, the GDI is closer to 100 % and indicates a smaller development gap between men and women (MoPWH, 2017) (Statistics Indonesia, 2021).

Even though GDI shows near balance equality between men and women, there is quite a gap in labour participation rates between men and women, with men accounting for 84 % and women 55 % (National Labour Force Survey, Feb 2020). Based on National Labour Survey February 2021, the unemployment rate in Indonesia decreased to 6.26% in February 2021 and is still dominated by men (6.81%) compared to women (5.41%). The unemployment rate is a valuable measure of the underutilization of the labour supply. These figures reflect the inability of an economy to generate employment for those persons who want to work but are not doing so, even though they are available for employment and actively seeking work, in Indonesia is low. The efficiency and effectiveness of the Indonesian economy to absorb its labour force and of the performance of the labour market is pretty high.

Another increasingly used measurement is the Gender Empowerment Index (GEI), which focuses on women participation in politics, public decision-making, and economic activities. as of 2018, GEI of Indonesia has reached to 72.1 and continue to increase to 75,2 (2020). When looking at the distribution among provinces, there is no indication that the more urbanized the provinces the higher their GEIs. For example, several provinces in Java Island, the highly urbanized island, still have GEI lower than the national average. If looking at the representation of women within the three fields, about 47% of women have

professional positions, 35% engage in economic activities and 17% are active in parliaments.

The national government has also made a breakthrough in reducing employment inequalities by enacting Law number 8 of 2016 on Disabled People. For example, there has been a special allocation for recruiting people with disabilities in government offices and affirmative action for recruiting persons from the eastern part of Indonesia: Papua and West Papua.

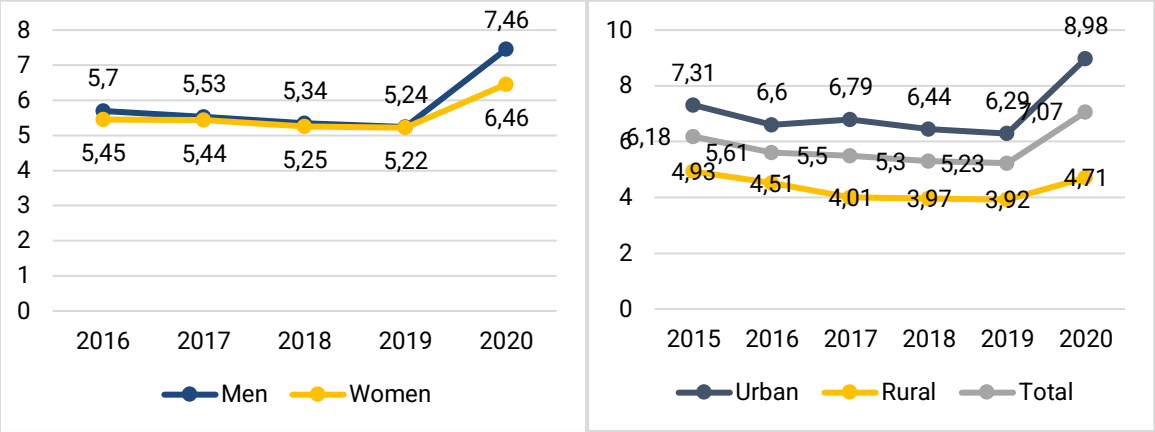


Figure 1. 5 Unemployment Rate by Sex (2016-2020) and Urban-Rural Areas, 2015-2020 (%)

Source : Statistics Indonesia (2019) & Bappenas (2021)

Unemployment issues are also at the core of addressing inequality. National Labour Survey in February 2021 records a downward trend in the open unemployment rate from 6.18% in 2015 to 5.23% in 2019. The pandemic in 2020, the unemployment rate in Indonesia bounces back to 7.07%. In urban areas, the unemployment rate was consistently higher than in rural areas (figure 1.5). Higher education levels of urban labour made them more likely to report their unemployment status than their counterparts in rural areas. During the Covid-19 pandemic, higher unemployment rate in urban areas is likely due to the substantial number of jobs lost because of the mobility restrictions and their impacts on labour-intensive, service sectors that operate in many urban areas. Meanwhile, in rural areas where most economic activities are engaged in the agricultural and extractive sectors, the open unemployment rate grows less than in urban areas. Labour movement from urban to rural areas intensifies during the COVID-19 pandemic due to job losses in urban areas or in service sectors including tourism sector.

Indonesia is committed to inclusive sustainable urban development. In this regard, the Indonesian government agreed to end poverty and reduce the growing inequality (NUA §25). The Gini Coefficient is a well-known measure that can monitor whether inequality is inclining or declining. Income inequality is a major urban issue. Many cities have Gini coefficients above 0.40, which is the International Alert Line. The Gini index in Indonesia has decreased from 0.402 in 2015 to 0.380 in 2019. During this period, the Gini coefficient decreased rapidly in urban areas (-8.6%) compared to rural areas (-5.7%). Indonesia's economic growth has increased more equal opportunities for diverse groups to participate in economic activities in rural rather than urban areas.

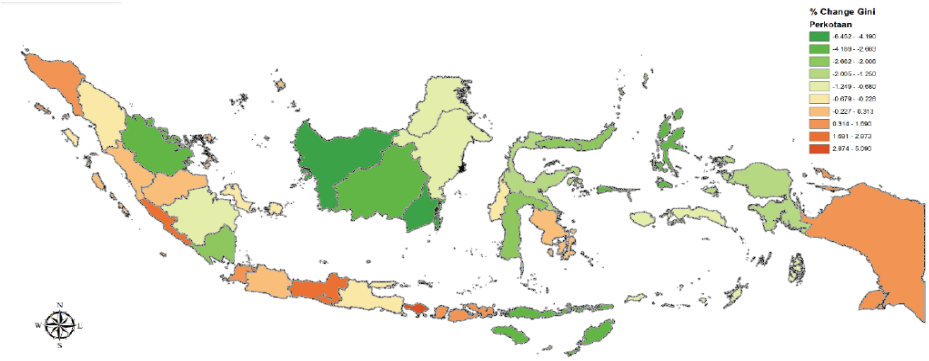


Figure 1. 6 Percentage of Change in Urban Gini Ratio (September 2019-2020)

Source : (Bappenas, 2021)

Figure 1.6 shows percentage of change in the Urban Gini Ratio among Provinces, between 2019 and 2020. The darker red colour means a higher percentage of Gini ratio. The location of the higher percentage of Gini Index change takes place scattered. Kalimantan, part of Sulawesi dan Maluku experienced a lower change of Gini Index, while Java and part of Sumatera and of Papua experienced a higher change of Gini ratio.

1.1.1.3 Enhance social inclusion of vulnerable groups (women, youth, older persons and persons with disabilities and migrants)

Indonesia is committed to promoting increased security of tenure for all, permitting a continuum of land and property rights, and recognizing that security of land tenure for women as key to their empowerment, and setting up effective administrative systems (NUA §35). The focus on land tenure reflects the recognition that land is a key economic unit forming the basis for its activities. It also acknowledges that women's access, ownership of and/or control of land is critical for poverty reduction, food security, inclusiveness, and overall sustainable development objectives.

Data on women recognized as having a legal right to property inheritance and ownership is useful to indicate social inclusion in housing. There has been a tendency of higher numbers of female property owners in comparison to male even though by a slight difference (Bappenas, 2021). Throughout the period of 2015 to 2020, property ownership has only slightly changed. From previously 82% of men and 84% of women in 2015-2016, it has been on approximately 79% of men and 81% of women for the past three years. In 2020, proportion of female property owners is 82.14% while male is 79.71% (See Figure 1.7).

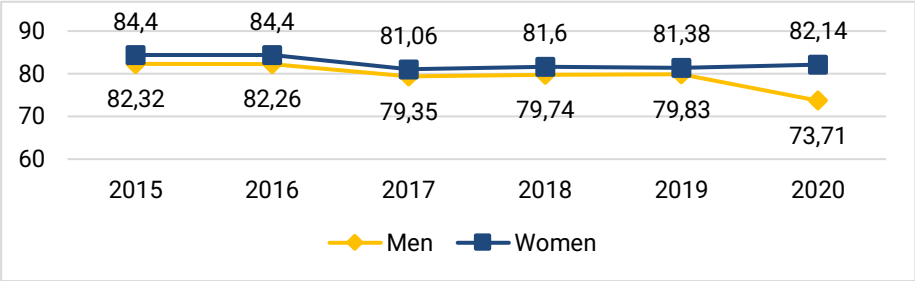


Figure 1. 7 Property Ownership by Sex (%), 2015-2020

Source : (Bappenas, 2021)

The New Urban Agenda calls for adequate housing for all (NUA §31). Such commitment can be achieved if only there is disappearing barrier to discrimination in housing. As the third biggest democracy in the world, Indonesia is highly committed to exercise democracy, as well as to enforce the law and non-discriminative practices, especially towards vulnerable groups to achieve an inclusive development. Indonesia has established the Indonesian Democracy Index (IDI) since 2009, and a province-based democracy indexes have been developed since 2010. IDI scored 74,91 in 2019 which increased by 2,53 points from the previous year. This IDI score is the highest ever in Indonesia Democracy Index history ever since IDI was first established in 2009, exactly a decade. However, in 2020, IDI points decreased slightly to 73,66 points (Figure 1.8).

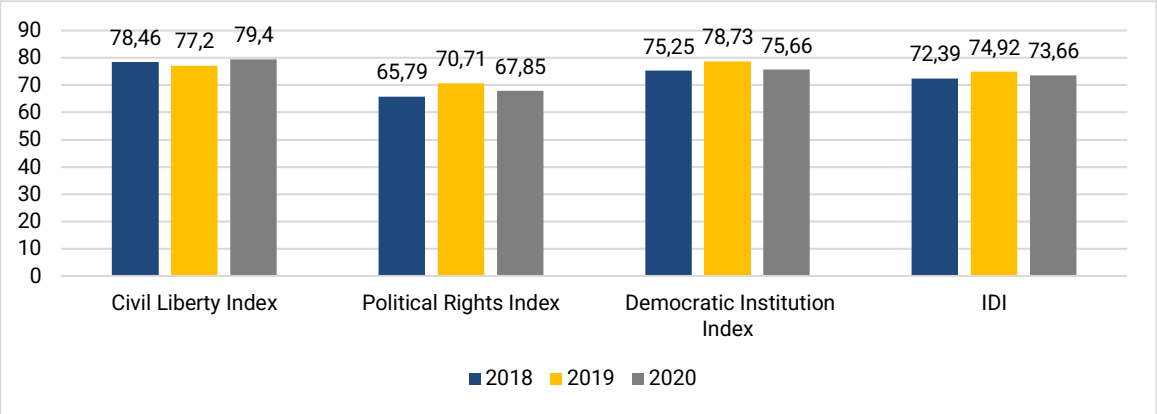


Figure 1. 8: Indonesia Democracy Index, 2018 – 2020

Source: Statistics Indonesia/BPS, 2020

This IDI score is measured using three indexes; Democratic Institution Index, Civil Liberty Index and Political Rights Index. In terms of data for social inclusion of vulnerable groups, freedom of discrimination variable in particular which belongs to Civil Liberty Index is useful[1]. Freedom of discrimination has been increasing from 90.74 in 2017, to 91.77 in 2018, and 92.35 in 2019 but to decline again to 90.88 by 2020. In more detail, the Civil Liberty Index of IDI consisted of 8 (eight) indicators. Data on presence of national legislation forbidding discrimination in housing, access to public facilities and social services based on race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, or other status is mostly correlated to two indicators: written rules limiting freedom of religious activities; and written rules discriminating gender, ethnic and groups. While the first indicator had scored 80.43 in 2018 and increased to 84.02 in 2020, the second indicator has also increased from 91.67 in 2017 to 92.16 in 2018 and 92.65 in 2020. While the indicator of written rules discriminating gender, ethnic and groups have been identified, it can be assumed that a similar condition applies to housing, access to public facilities and social services.

[1] **Civil Liberty Index influenced by various variables such as freedom of speech or expression, freedom of assembly and freedom of association, freedom of belief, and freedom of discrimination.**

The Government of Indonesia, in fact, have enacted several regulations regarding disabled people. Law Number 8 of 2016 on Disabled People states that disabled people, among others, have the right to education, employment, public and social services, as well as to be free from discrimination. This Law has been further elaborated in Government Regulation Number 42 of 2020 on Accessibility to Settlements, Public Services, and Protection from Disasters for Disabled People. In public facilities, access for disabled people is ensured to be provided with the enactment of Ministerial Regulation of Public Works and Housing No 14 of 2017 on Accessibility Requirements on Buildings and the newest Government Regulation Number 16 of 2021 on Buildings. These two regulations have determined the dimensions and specifications of building elements to be accessible for disabled people, elderly, women, and children.

In the New Urban Agenda, there is commitment to promote safe, inclusive, accessible, green, and quality public spaces, and facilitate access for persons with disabilities to public spaces (NUA §36, 37 & 53). In cities, due to a neglect of public space both in quality and quantity, there is a need to revise and expand the ratio of land allocated to public spaces to make them more efficient, prosperous, and sustainable. Efforts to provide open space for public use in Indonesia have been set up through spatial management at the city and provincial levels. There are also standards applied for public space for neighbourhood units.

Since 2011, the Green City Development Program (P2KH) has been initiated. Green city concept, initiated through the Ministry of Public Works and Housing (MoPWH), was a metaphor with the basis on green growth through blue-green infrastructure to create a liveable city. The focus of blue-green infrastructure is a balance between the natural environment and water system by using three approaches of nature, community, and engineering. It requires cooperation among related sectors as well as optimizing utilization of existing infrastructure. Implementing blue-green infrastructure creates added value on the aspects of stormwater runoff management, natural landscape design by maximizing greenery, and creation of microclimate and clean air for the regions. By 2016, it was recorded to have 194.68-billion-IDR budget.

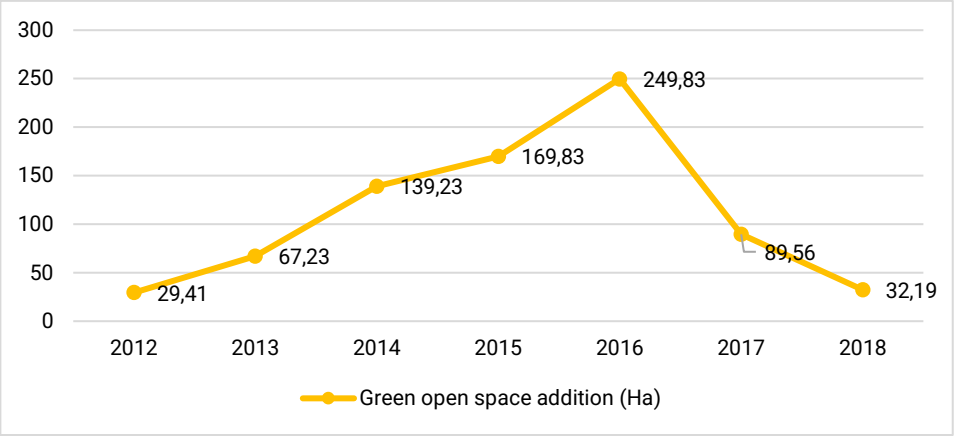


Figure 1. 9 Green Space Addition (Ha) under the Green City Development Program (P2KH), 2012 - 2018

Source: MoPWH, 2019

The green space addition consistently climbed up in terms of the total area (Ha) from 2012-2016 (Figure 1.9). The highest green space addition in a year is in 2016 where it added 249 hectares under the P2KH alone. However, the number in 2017 and 2018 shows that the addition of green space went a bit slow, hitting only 89,56 Ha and 32,19 Ha each year respectively. Even so, despite the bottlenecks, the P2KH continues to give the best effort in order to serve green space in Indonesia. The participated cities/regencies of P2KH distributed across Indonesia with around 174 masterplans, 174 green community maps, 174 green community forums, 200 green festivals, 250 green community actions, and over 75.000 participation from the green communities. Over 248 of green public open spaces have already been built with 272,05 Ha of the total area. Distribution of 174 P2KH participating cities/regencies across Indonesia can be seen below (Figure 1.10). Examples can be found at Batu 10 park in Tanjung Pinang, Pantai Panjang park in Bengkulu, and Fatmawati park in Wonosobo. Details about Fatmawati Park in Wonosobo is provided in the last part of this report.

Figure 1. 10: Distribution of 174 P2KH Participating Cities/Regencies Across Indonesia (2019)
Source: Green City Development Program, Achievements and Evaluation of Implementation 2011 – 2018

While efforts to provide public open space have been made in various ways, data on average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities is still unavailable. There are reasons for such unavailability. Firstly, while some cities have listed the amount and total area of green open space, it does not differentiate between private and public space. Secondly, there is some methodology limitations of the three-step process defined in NUA indicators. While it is still possible to conduct spatial analysis to delimit the city/urban extent and subsequently to identify open public spaces, it is challenging to identify public open space that may have hard surfaces compared to green areas that may be easier to identify. It is also difficult to estimate the total area allocated to streets that are expected to include alleyways in Indonesia. In the high density Indonesian urban areas, there are vast proportion of kampung and mapping its alleyways is quite challenging since many houses are built overarching the alleyways—making identification from aerial map sometimes impossible. It is also difficult to estimate share of population with access to open public spaces within 400 meters walking distance out of the total population in the city/ urban area and

disaggregation of the population with access by sex, age and persons with disabilities. Such estimation requires detailed spatial analysis with support from local demographic data, which is rarely to be found, if not unavailable in Indonesia.

1.1.1.4 Ensure equal access to public spaces including streets, sidewalks, and cycling lanes

Indonesia is committed to promoting safe, inclusive, accessible, green, and quality public spaces, including streets, sidewalks, cycling lanes and parks, that are multifunctional areas for social interaction and inclusion, human health, and well-being (NUA §37). Indonesia as a result promotes streets designed with side sections to allow for walkability and cycling which contribute to improving health and well-being (NUA §100), and promote affordable, accessible, and sustainable urban mobility by prioritizing walking and cycling over motorized transportation (NUA §114). Such commitments have been legalized in the regulation and implemented at the sub-national level with several good practices.

Cycling as a choice of transportation during the pandemic has gained audiences, including in Indonesia. A thousand percent increase was recorded in June 2020 in Jakarta (ITDP, 2020), Such an increase was inseparable from the cycling infrastructure developed in the previous years. DKI Jakarta government has initiated a cycling path with a total of 578.8 kilometres for use by 2030. The city of Surabaya, through the Surabaya Transportation Agency, built cycling lanes with a total length of 15,029 meters.

Figure 1. 11: Cycling Lanes around Block M MRT Station, DKI Jakarta

Bandung municipality, within a three-year period (2014 - 2017) has built thirty (30) thematic parks and created a program of car-free-day on several street segments on Sundays which allowed people to walk, jog, stroll, and cycle. It eventually morphs into entertainment, exhibitions, and informal shopping where street vendors occupy street segments. Bandung municipality has also built a bicycle path and engaged in a bike sharing program. Further details about Bandung Bike Sharing (Boseh) Programmes can be found in the last part of this report.

Despite such efforts to increase sidewalks and cycling lanes, statistical data on the proportion of the length of sidewalks and of cycling lanes to the length of road in cities are mostly unavailable. In DKI Jakarta Province, there is a total of 98.67 km length of cycling lanes which are distinguished into five types. On-road cycling lanes with more than 64 km in total are the most commonly found. Other types of cycling lanes, separate, permanent, and sidewalk lanes, are only found in 10 to 12 km each. Sharing lanes, as the least common type, are found in only 0.28 km. Compared to the total road length in DKI Jakarta, which comprised 6,492 km, proportionally there is only 1.52 % of cycling lanes.

While data on cycling lanes are limited, length of sidewalks are quite sufficient. Length of sidewalk only increased by 6,511.79 km within the period 2004-2019 to reach 543,073.65 km. The addition of sidewalk area since 2004 is 123,414.25 km to reach 994,972.33 km in 2019. Compared to road length data and assuming sidewalk length going stagnant, it can be calculated that sidewalks in Indonesia are found merely on 22.73% of its roads. At local level, several data are available: In DKI Jakarta, sidewalks improvement have been increasing from 47.97 kilometres in 2016 to 118 kilometre in 2018. Meanwhile, in Surabaya it was recorded to have 101 km of sidewalks in 2020.

Figure 1. 12 Child-friendly Integrated Public Space Clilitan, Jakarta

Source: MoPWH (2019)

The Indonesia government has also attempted to accommodate the needs of persons with disabilities in public spaces. In order to support equality for everyone, there are several policies that regulate universal design and have been implemented in several facilities that are friendly to persons with disabilities. The facilities have not been evenly distributed in cities across Indonesia. Some examples are: the S portal facility made of stainless steel for wheelchair users, guiding block as a guide for the blind, the availability of ramps on the People's Crossing Bridge (JPO) and the Pelican Crossing Facility that facilitates the mobility of wheelchair users in DKI Jakarta. In addition, priority waiting seats are also available at every station and airports, there are priority seats and space for wheelchair users in public transportation such as electric train (KRL) and Trans Jakarta buses.

In addition, to create child-friendly spaces, the Government provides public green open space and city parks accompanied by educational facilities for children. Currently, DKI Jakarta has more than 290 public spaces in the form of parks with the concept of RPTRA (Child-friendly Integrated Public Space) equipped with various interesting playground, CCTV surveillance, open multipurpose halls, sports fields, toilets public and toilets for persons with disabilities, interaction parks, amphitheatres and composting or waste sorting facilities. The city of Surabaya has also been leading in the practice. In 2020, the area of green open space in the city of Surabaya has reached 21.99 percent with total 275 hectares from overall city's area, with more than 912 green open spaces.

1.1.2 Access to adequate housing

Housing provision has been implemented through many schemes and efforts including financial entity and private partnership. Dissemination about standards of adequate housing has also carried on to the larger society to provide adequate housing and basic infrastructure.

1.1.2.1 Ensure access to adequate and affordable housing

The New Urban Agenda's vision is guided by the principle of "Leave no one behind" by ending poverty by providing access (among other things) to adequate and affordable housing (NUA §14). Housing should not take a considerable portion of total household income. In many countries, housing and transportation costs are the most significant expenditure items, hence they deserve monitoring. The bigger the share of the housing and transportation expenditures, the less money is left for other household needs.

Access to adequate and affordable housing has three indicators: Median amount of money spent on housing and transportation per household as a percentage of the median annual household income of tenants; Ratio of the median free-market price of a dwelling unit and the median annual household income; and Percentage of people living in unaffordable housing. From the indicators, ratio of the median free-market price of a dwelling unit and the median annual household income is yet to be available.

Data on average monthly per capita expenditure by group of goods (in IDR) in Indonesia, 2013-2019 shows an increase in per capita expenditure every year. In 2019, the expenditure reached the highest point, reaching IDR 1.388.212 per capita. Meanwhile, the average annual per capita income in 2019 was IDR 59.1 million and decreased to IDR 56,9 million in 2020. Based on these figures, the proportion of monthly expenditure in housing, fuel, lighting, and water in 2019 is about 26% (Figure 1.13).

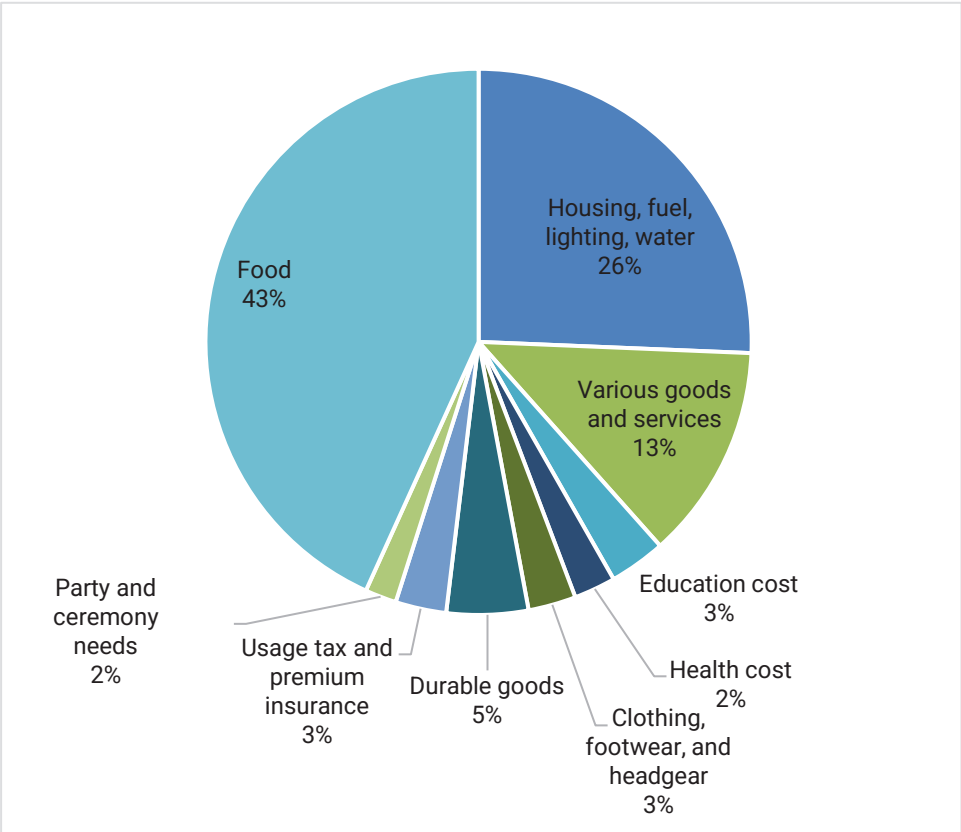


Figure 1. 13 Percentage of Monthly Expenditure Average by Group of Goods in Indonesia, 2019

Source: Statistics Indonesia (2020)

The average monthly per capita expenditure for non-food items in Indonesia is higher than expenditure for food items. The percentage of average per capita expenditure for non-food reached 57%, leaving expenditure on food behind t 43%. Based on monthly per capita expenditure for non-food commodity percentage in 2019, the largest expenditure is on housing, fuel, lighting, and water commodities which took 26% from overall expenditure.

Ownership housing

Affordable and adequate housing is defined as housing that meets the criteria of building safety, minimum floor area and health for the residents, and is affordable for all income levels (Law number 1 / 2011 on Housing and Settlement Area). Government programs for affordable housing are targeted mostly at low-income households, those who have limited purchasing power to fulfil their housing needs and require government assistance. The MoPWH is responsible to determine the income level of low-income households eligible for government subsidy. The latest MoPWH Regulation number 242 / 2020 sets the maximum income level at IDR 8 million, interest rate of 5%, maximum subsidy 5% and max tenor 20 years. The housing price ceiling is set for landed houses (building area 21-36 sqm, land area 60 -200 sqm) based on region and apartment units (floor area 21 – 36 sqm) based on construction costs per province.

As part of the One Million Houses Program launched by President Joko Widodo in April 2015, the Housing Financing Liquidity Facility (FLPP) is aimed to increase affordability. The FLPP funds are blended with capital market funds, to lower interest rates up till 5% from the current market rate of 12%. Since it was first launched in 2010, the KPR FLPP (FLPP mortgage program) program has supported more than 764.000 households with liquidity funds totalling IDR55.6 trillion (currency 1 USD = IDR14.500). The FLPP home mortgage is offered by 42 participating banks and the houses are supplied by private developers and Perum Perumnas (the National Housing Development Corporation) in 34 provinces of Indonesia.

Since 2018, the Housing Finance Fund Management Center (PPDPP) has improved their services in delivering FLPP with digital products that are easily accessed by stakeholders. There are SiReng (2018), Registration System for Developers; SiKasep (2019) an Information System on Subsidized Mortgage (demand) for prospective buyers; SiKumbang in 2020 (Information System for Housing Developers), as a means of registering houses by developers to obtain house identification numbers; and SiPetruk (2021), a monitoring application to ensure the quality of housing construction. These digital applications have made it easier for households to choose a house and buy their first home, especially during the Covid-19 pandemic (to be explained in Part 2).

Rental housing

Most local governments of metropolitan and large cities have built rental apartment units, referred to as *rusunawa* as an affordable option to low-income people who are temporary working in the city. The construction of low-cost houses carried out by the MoPWH in 2020 consists of 787 flats. The achievement of the One Million Houses Program in total has resulted in 5.765.387 unit by the end of 2020. For a single year, by November 2021, however, the program has resulted into the construction of 743,712 houses for low-income units and 187, 880 houses for other income groups. Low-cost houses are accessible to low-income people with several categories: single person with 6 million IDR

income per month; couple with 8 million IDR income per month; and 1.5 –2 million higher income for Papua and West Papua residents.

The MoPWH has also implemented Self-built Housing Stimulant Funding or *Bantuan Stimulan Perumahan Swadaya* (BSPS) program. There are five requirements to accept such funding which indicate inadequate housing: floor covering made of dirt or low-quality wood; wall made of bamboo or low-quality wood; lack of ventilation or natural lighting; roof made of leaves or decayed clay roof tiles; and moderate to heavily damaged or inadequate living space. From 2015 to 2019, the funding has been used to upgrade a total of 700.641 houses and build 35.215 new houses. The upgraded houses are mostly located in Papua and followed in Java, while the newly built houses are mostly in Java. For amount of funding itself, there are two categories that received an increase: *Peningkatan Kualitas Rumah Swadaya* / Self-built Houses Quality Improvement (PKRS) to become IDR 17,5 and 35 million depending on location; and IDR 35 million for *Pembangunan Rumah Baru Swadaya* / Self-built Houses New Development (PBRS). These fundings are intended to cover the two costs of building materials and labour.

(1). (2)

Figure 1. 14 Flats built by MoPWH for government officials in Maluku (1) and Pasar Jumat, DKI Jakarta (2)

Source: MoPWH, 2020

The construction of houses for low income was also carried out by other Ministries / Institutions which has reached 51,136 units which divided into Regional Government (33,925 units), developer (388,639 units), Corporate Social Responsibility (CSR) (3,681 units) and community 4,960 units. Meanwhile, for the non-low-income groups 178,885 units were built and the community was 14,038 units. MoSA, for example, contributed through the Social Rehabilitation of Uninhabitable Houses (RS-Rutilahu) program. Intended to improve the quality of housing for the poor through repair/rehabilitation of uninhabitable housing conditions, with priority on roofs, floors, walls, and toilet facilities, the RS-Rutilahu Program requires it to be constructed by a group consisting of a minimum 5 (five) and maximum 15 (fifteen) households. The amount of RS-Rutilahu social assistance by MoSA in 2019 was IDR 15,000,000 per house and now has increased to become IDR 20,000,000.

1.1.2.2 Provide access to sustainable housing finance options

There are many reasons to monitor mortgage debt. Most households cannot afford to pay for a house or flat without getting a mortgage loan. Hence, the availability of

mortgage loans is key to increasing homeownership. Increasing homeownership is one of the significant ways to achieve adequate housing for all, one of the key commitments in the New Urban Agenda (NUA §31). Houses and apartments are also a major asset for households. The more mortgage loans are available, the more households become homeowners. There are also macroeconomic reasons for monitoring mortgage debt, policies must be in place to ensure that borrowers purchase properties they can afford. It is crucial to monitor mortgage debt. The financial crisis in 2008/2009 began in the housing sector.

There are efforts to ensure access to sustainable housing finance options. With a ratio of mortgage debt to GDP reaching merely at 2.9 % in 2017[1], all housing finance programs involve government funding. As government resources are limited, subsidies for housing finance are not sustainable. In 2005, the government established PT Sarana Multigriya Finansial (SMF), an independent company to support decent and affordable housing by developing a secondary mortgage market, increasing the availability of long-term housing funding, and enabling affordable homeownership. SMF has played a leading role in reducing the government portion of FLPP, so that the available funding can finance more homeownership.

In 2016, the Law Number 4 in 2016 regarding of Public Housing Savings Program was launched. The regulation is intended to shift government funding to independent and more sustainable funding. The funds are collected periodically from employers and employees based on a certain percentage and managed under a special account by the Housing Savings Board. The funds can be used to purchase or repair their first home and returned to participants at the termination of their contract term. During the first stage, all government/civil servants are participants of the public housing program. In the next stages, hopefully all workers will participate in the public housing savings program. The program prioritizes low-income employees with salary under IDR 8 million (following the regulation from the MoPWH).

The regulation states that the public housing savings can use external funds such as FLPP. It further states that the FLPP funds are to be transferred to the Housing Savings Board as government investment. The FLPP home mortgage will continue under the Housing Savings Board with some adjustments.

In 2020, the Indonesian Government budgeted investment for housing financing assistance through Housing Financing Liquidity Facility (FLPP) amounting to 102.500 housing units with an allocation of FLPP funds of IDR 11 trillion. As of December 31, 2020, the realization of FLPP funds was IDR 11.23 trillion for 109,253 housing units. This realization figure includes the distribution of *KPR Sejahtera* which comes from the bailout of 14,580 units of executing banks with a value of IDR 1.46 trillion. The total accumulated distribution of FLPP funds from 2010 to December 2020 was 764,855 units with an FLPP value of IDR 55.60 trillion. Most beneficiaries are informal workers (57%) and 43% formal.

Based on data from Statistics Indonesia, as of August 2019 shows that 55,57% of the total workforce of 133,56 million people is informal worker sector. Informal sectors, which include entrepreneurs, traders, freelancers, and others, unfortunately, have problems

in accessing bank loans, including financing of homeownership. One of the programs to give access to funding for affordable housing for informal workers is implementing the housing program for drivers involving collaboration between SMF with Grab Indonesia, government agencies, and private companies. SMF collaborates with Grab Indonesia by cooperating with Non- Bank Financial Institution (NFBI) to channel mortgage financing to Grab's Drivers. The key to the success of this program lies in the product features that are designed to fully accommodate the needs of drivers in buying house such as ease of credit terms, small down payment, affordable credit process costs, and the fixed interest rate for a maximum tenure of 15 years and considered low if compared to regular mortgage schemes by banks which apply floating rates (Housing Finance International IUHF Autumn, 2020).

1.1.2.3 Establish security of tenure

Indonesia is committed to promoting increased security of tenure for all, with particular attention to security of land tenure for women as key to their empowerment, including through effective administrative systems (NUA §35). In addition, this is supported by a commitment to encourage the development of policies, tools, mechanisms and financing models that promote access to a wide range of affordable, sustainable housing options (NUA §107). The land is one of the four factors of production that are needed to produce goods and services; the other three are labour, capital, and entrepreneurship.

The definition of security of tenure based on the Ministry of Agrarian Affairs and Spatial Planning / National Land Agency (MoAASP) is "land rights are rights obtained by law between the right holder and the land including the space above the land and/or the space below the ground to control, own, use, and utilize, as well as maintain the land, the space above the land, and/or the underground" (Regulation of The Minister of Agrarian and Spatial Planning Number 1/2021 concerning E-Certificate). Types of security of tenure in Indonesia include property rights, building use rights, use rights, business use rights, management rights, proprietary rights to flat units and *wakaf* land.

A new policy on e-land certificates during COVID-19 pandemic is launched. The purpose is to register legal ownership of land throughout Indonesia, including to facilitate public access to apply for land certificates, and to reduce deficiencies and legal uncertainty in the land sector. This policy aims to reduce illegal land transaction practices frequently occur because of boundary disputes. The introduction of the e-certificate is also to accelerate the digital transformation of the land cadastre. MoAASP introduced other electronic/digital services, including mortgage service (ROYA), information on certificates of land value zone and certificate checking. With the existence of a digital service system, it is helpful to reduce queues at the land office during the pandemic.

Increasing efforts to secure tenure rights in Indonesia have been made at diverse types of land that affect various social groups and gender affiliation. Chapter 1.1.1.3 explains Indonesia's effort to secure tenure rights in terms of property ownership by sex between 2015-2020.

By area of residence, it is worth noticing that the proportion of secure tenure rights of land, with legally recognized documentation, and who perceive their rights to land as secure in 2015 to 2020 in urban areas had less proportion of property ownership than in rural areas. There was a significant difference between the proportion of property ownership in urban (average on 72%) and in rural (average on 90%). Both house ownership in urban and rural areas decreased in 2017 and grew slightly from 2018 to 2020 (Figure 1.15).

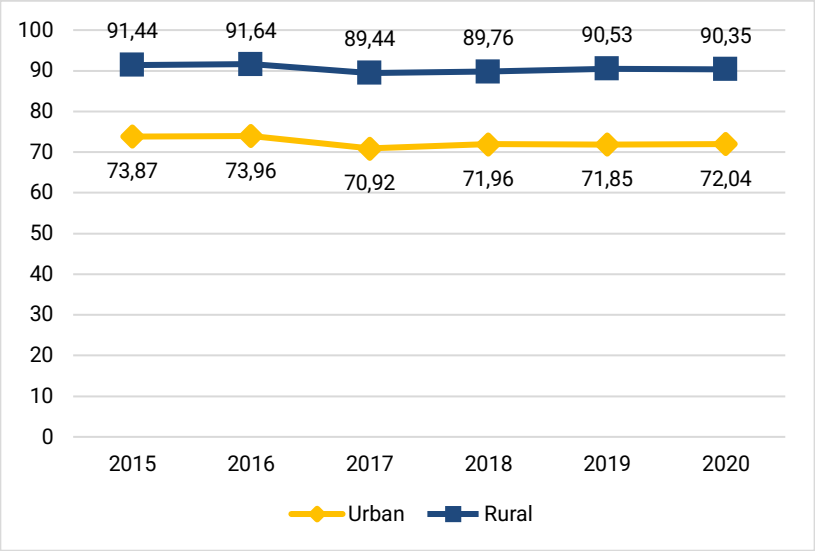


Figure 1. 15: Proportion of Household to Owned Houses Based on Area (%), 2015-2020

Source: (Bappenas, 2021)

Indonesia supports incremental housing, self-build schemes, and upgrading slums and informal settlements (NUA §107). Indonesia also agreed to promote planned urban extensions and infill whilst focusing on renewal, regeneration and retrofitting of urban areas, including the upgrading of slums and informal settlements, and avoiding spatial and socioeconomic segregation and gentrification (NUA §97).

1.1.2.4 Establish slum upgrading programmes

Indonesia is committed to promoting national, subnational, and local housing policies that support the incremental realization of the right to adequate housing for all as an element of the right to an adequate standard of living including construction of dwellings (NUA §31). Reaching the commitments of the New Urban Agenda requires substantial improvement is the living standards of slum dwellers. The future increase in urban population will require housing. In addition, the population that is currently living in slums will also require their housing to be either upgraded or be moved to new adequate housing. Hence, it is particularly important to monitor the level of investment in residential buildings.

Based on Statistics Indonesia in 2020, 10,04% of Indonesia's households are still living in slums. This figure shows a decreased number of slum households from 2018 from where it was on 10,24% to become 8,34% in 2020 (Figure 1.16).

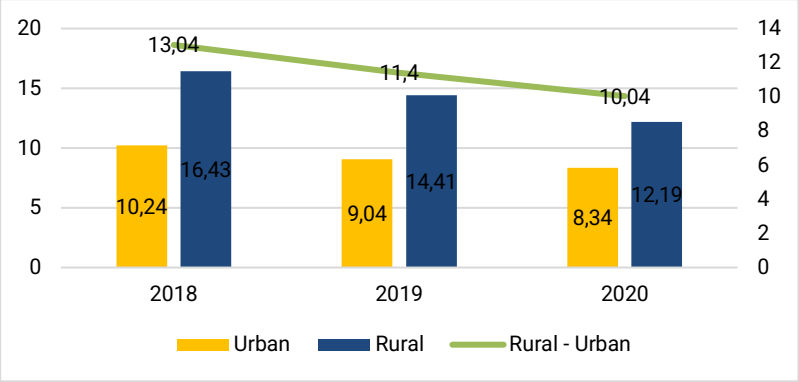


Figure 1. 16 Proportion of Household Living in Slums by Area (%), 2018-2020

Source: Statistics Indonesia, 2020

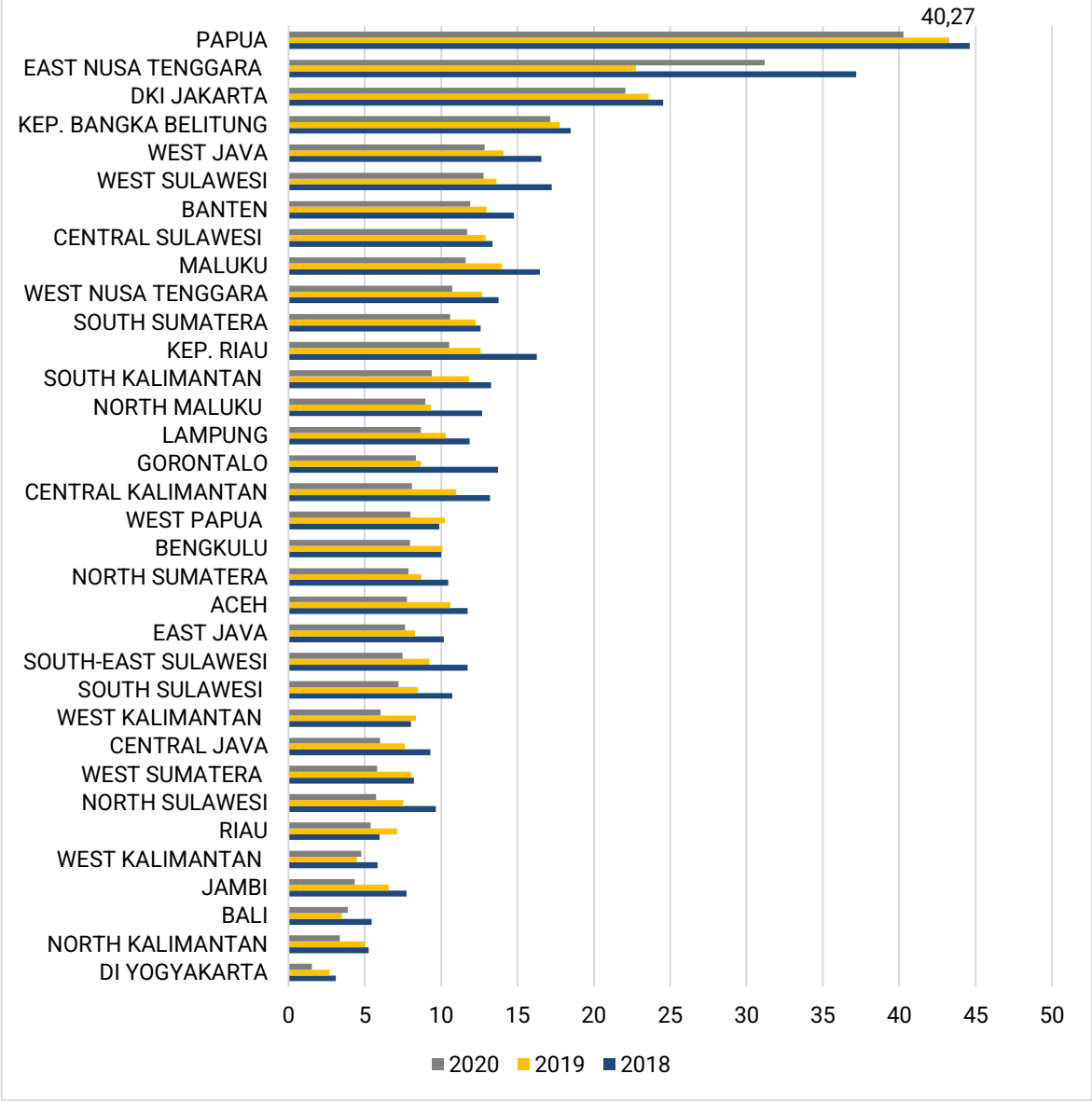


Figure 1. 17: Households Living in Slums by Province in Indonesia (%), 2018-2020

Source: Statistics Indonesia, 2020

Statistics Indonesia (2020) shows that urban households living in slums decreased from 13,04% to 10,04% from 2018 to 2020. The provinces with the highest rate of slums households in 2020 are Papua (40,27%), East Nusa Tenggara (31,18%), and DKI Jakarta (22,07%). The percentage of urban slum household in Papua and DKI Jakarta were decreased from 2018 to 2020. Despite the successful reduction of slums, up until today, providing affordable housing is still a big challenge for Indonesia.

Data on the total investment in housing (both formal and informal sectors in the urban area), as a percentage of gross domestic product is available from the real estate sector. Statistics Indonesia recorded that while the manufacturing sector has contributed the most significant portion of GDP within the year 2016-2019, real estate sector has been at the lowest four with an increasing contribution up to approximately 300,000 billion IDR. Such contribution is less than one-tenth of the manufacturing industry sector.

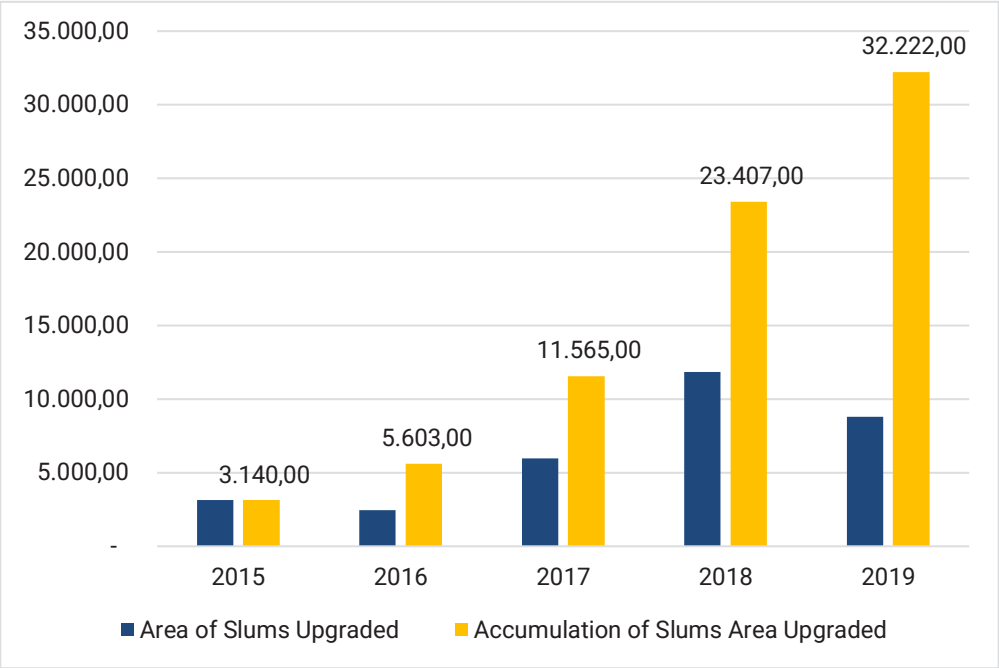


Figure 1. 18: Slum Upgrading Output (hectare), 2015-2019

Source: MoPWH, 2020

While indicator on urban slum household of Statistics Indonesia is measured by access to safe drinking water and sanitation, less than 7.2 sqm living space per capita, and access to adequate quality of roof, floor, and walls, a rather different measurement has been done by the MoPWH by which slum upgrading is within the main task and function. In MoWPH, slum is measured in number of cities, and total area upgraded.

Data on the total investment in housing for the informal sector is derived from the budget for the Settlement Infrastructure Program taken by the MoPWH, which was IDR 23,36 billion in 2019. The data on the proportion of cities with slum upgrading programmes can be correlated with the number of slums upgrading locations and areas. In 2019, the MoPWH had the following targets: 1,043 locations with 8,724.61 hectares of heavy slum; 1,754 locations with 14,135.89 hectares of moderate slum; 1,902 locations with 12,154.81 hectares of light slum; and 2,356 locations with 9,292.83 hectares of undefined slum.

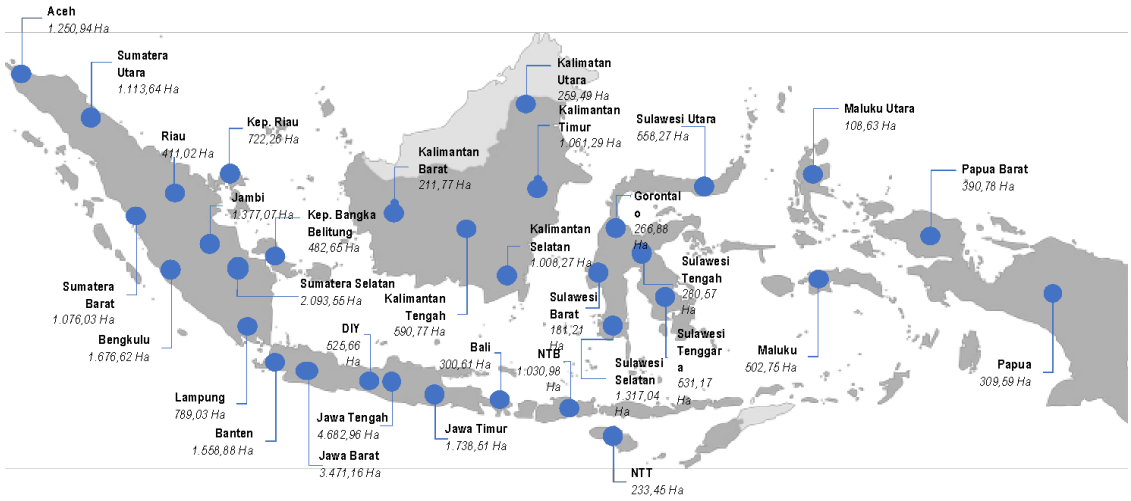


Figure 1. 19 Distribution of Slum Upgrading in Indonesia, 2015-2019

Source: MoPWH 2020

The Indonesian government continues to strive to implement poverty alleviation programs by reducing the number of slums as the root of problems in urban areas. In the handling slum areas, the government implements the City Without Slums Program (*Kotaku*) which was developed to support the 100-0-100 movement, in order to provide 100% access to safe drinking water, reduce the slum areas to 0%, and 100% access to sanitation. Kotaku aims to synergise between community-based infrastructure development and encourage the role of local governments. Kotaku has helped improve 38,431 hectares of urban areas by 2019. The fulfilment of access to basic utilities is expected to encourage city residents to increase their productivity and live a more decent life (MoPWH, 2017). At the end of 2019, the achievement in slum settlement upgrading in Indonesia was 32,222 Ha. This achievement leaves a gap of 6,209 ha.

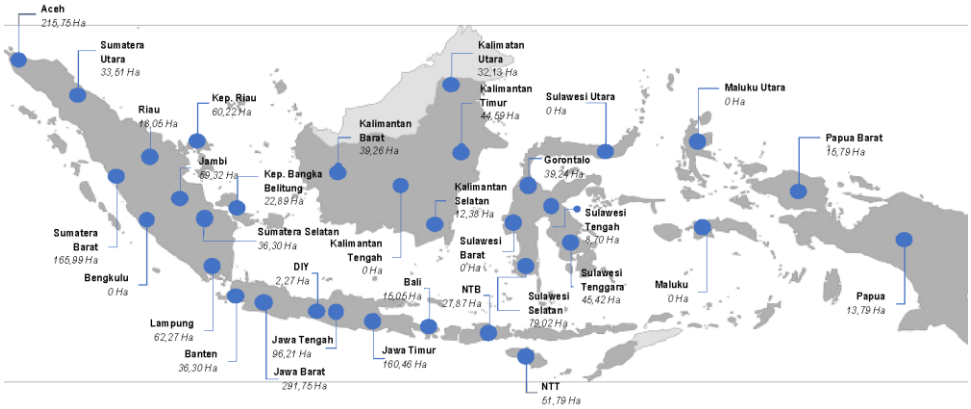


Figure 1. 20 Distribution of Slum Upgrading in Indonesia 2020

Source: MoPWH 2021

From 2020 to 2024, the concept of slum upgrading has been implemented more comprehensively by handling slum settlement based on needs, having a quick impact, providing social and economic value, and changing the face of the area through the application of rejuvenation and resettlement patterns. As one of the more comprehensive

steps in handling slum settlements, integrated slum management was initiated through the Special Allocation Fund (DAK) program for the Integration of Housing and Settlements, Drinking Water, and Sanitation which was implemented in 11 districts/cities. Actions offered in the DAK integration program are slum areas rejuvenation and resettlement. In 2020, the Integration DAK was still in the planning phase. In 2020, the achievement of the slum upgrading is 1,686.31 ha spread across various regencies and cities in Indonesia. Several good examples of slum upgrading programmes could be seen in Jangkok River, Mataram City and Tukad Bindu in Denpasar city.

1.1.2.5 Integrate housing into urban development plans

Indonesia committed to increasing the availability of different safe housing options affordable and accessible to households at different income levels, as well as integrating marginalized communities and homeless persons to prevent segregation. Indonesia also resolved to improve the living conditions of homeless people, facilitate their full participation in society and eliminate homelessness (NUA §33). All urban residents need adequate and affordable housing to experience a good standard of living and have economic security. The indicator will determine if governments are spending enough and being effective with spending on housing. However, affordable housing may not be available in the private real estate market. Hence, governments may need to invest in residential housing for low-income residents or implement policies that encourage household access to mortgages.

In Indonesia, there are several ways to implement the urban development plans into regulations, namely Medium-Term Development Plan (RPJM) and Spatial Plans (RTRW). Medium-Term Regional Development Plan in which hereinafter is to be referred as the Regional RPJM, is the regional development plan document for a period of five (5) years, which is the specification of the vision, mission and program of the regional head guided by the Regional Long-Term Development Plan (Regional RPJP) and by taking into account the National Long-Term Development Plan (National RPJP). Meanwhile, Spatial Plan, known as RTRW, focuses more on spatial aspects, such as spatial structure, pattern plan, and land use control directions. Currently, 53 cities and regions have Regional RPJM. Until 2015, there are 25 out of 34 provinces; 329 out of 399 regions; and 84 out of 93 cities with Regional RTRW that regulate the provincial, regionals, or municipal development.

West Sumatra Province is one of the good examples of integrating housing into urban development plans. The province has formulized Housing and Human Settlement Development (RP3KP) and already legalized it as Regional Regulation (Perda) No. 7 of 2016 concerning RP3KP West Sumatra Province. The regulation regulates housing and human settlement development aspects that are integrated with the province's Regional Spatial Plan (2016-2032) that was formalised through West Sumatra Provincial Regulation number 13 in 2012. The development for the RP3KP initiated in 2015 as a follow-up to institutional strengthening from the Directorate of Settlement Area Development, Directorate General of Human Settlements MoPWH.

At the national level, urban development is included in the National Medium-Term Development Plan or known as National RPJM as well as National Spatial Plan (National

RTRW). Therefore, several programmes are being implemented to improve the quality of life for the people of Indonesia, most notably in the housing aspect. In 2019, MoPWH budget comprised IDR 485.43 billion (0.3%) for the housing funding development program and IDR 8.464,1 billion (6.8%) for the housing development program. From this budget, 48,8 thousand apartment units, 119,6 thousand commercial houses, 29.3 thousand special and self-built houses have been built in addition to 236 thousand improved houses.

The form of housing subsidies from the MoPWH are grants and financing facilities. The ministry provides housing subsidies in financing facilities, through the Housing Financing Liquidity Facility (FLPP), Down Payment Subsidy (SBUM), Subsidized Mortgages (KPR), Housing Micro Financing Program (PSMP), Low Income Public Housing Development, Savings-Based Housing Financing Assistance (BP2BT), Public Housing Savings Program (*Tabungan Perumahan Rakyat*/TAPERA). One of the efforts made by the MoPWH is to target 222,876 housing finance assistance units for the 2021 Fiscal Year with a total budget allocation of IDR 21.63 trillion. Meanwhile, data on the output and budget allocation in the previous years are provided in figure 1.21 and 1.22.

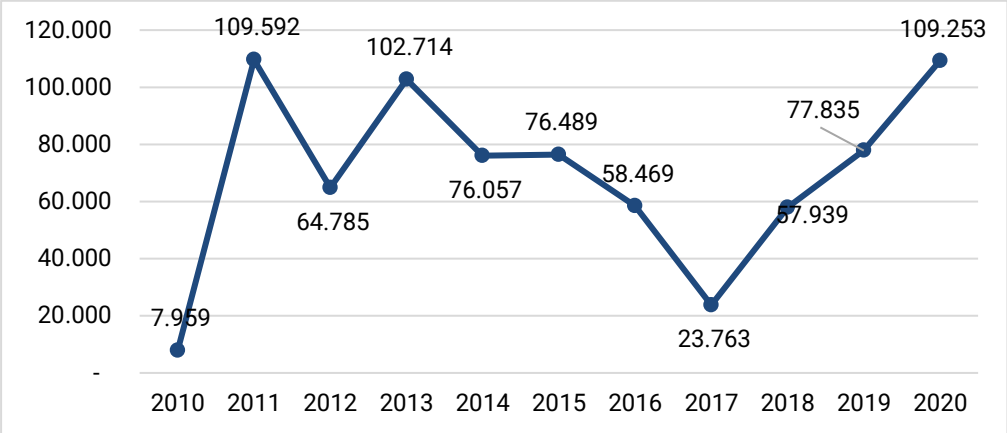


Figure 1. 21: Housing Finance Assistance Units, 2010-2020

Source: (MoPWH, 2020)

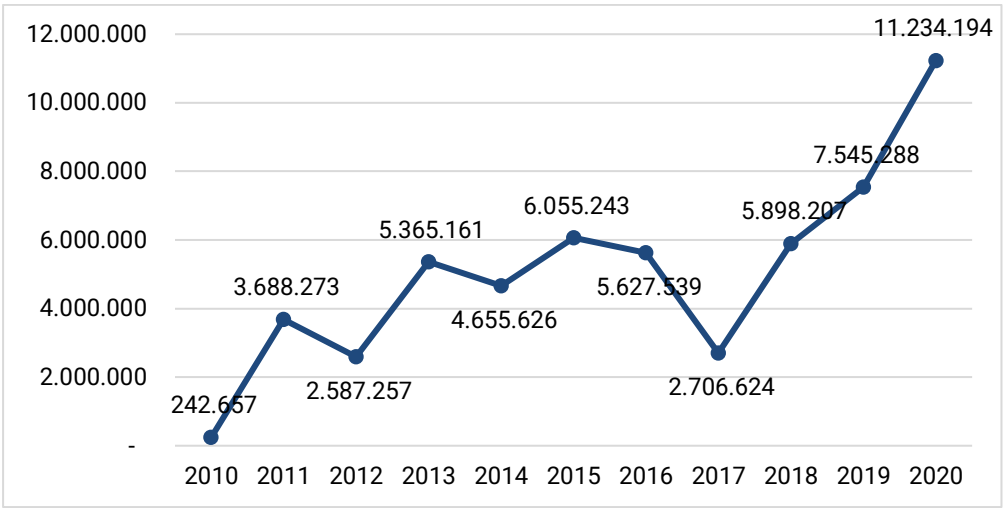


Figure 1. 22: Budget Allocation of FLPP (Million IDR), 2010-2020

Source: (MoPWH, 2020)

On the national level, the percentage of government budget dedicated to housing and public infrastructure is shown in National Government Expenditure Budget data by purpose (billion IDR) for 2013–2015. The National Government expenditure budget spent for housing and public facilities in 2015 was IDR 20.466 billion (1.42 billion USD), 2014 was IDR 31.487 billion (2.18 billion USD), and 2013 was IDR 30.722 billion (2.13 billion USD). The expenditure budget spent for housing and public facilities decreased from 2013 to 2015. The National Government expenditure budget in 2013-2015 spent most of the budget on public services reaching 64% annually. Meanwhile, the smallest expenditure budget was spent on tourism and culture (<1%).

1.1.3 Access to Basic Services

1.1.3.1 Access to safe drinking water, sanitation and solid waste disposal

The aim is to determine the portion of the population with "sustainable access" to "safe drinking water, basic sanitation". The indicator also addresses dimensions of accessibility, availability, and quality. It is essential to ensure universal and equitable access to safe and affordable drinking water for all (NUA §119). The indicator considers safe management of faecal waste and discharge of untreated wastewater. Hand washing is a key factor in reducing the spread of diseases. In the New Urban Agenda, Indonesia committed to strengthening the sustainable management of resources, including land, water (oceans, seas and freshwater), environmentally sound management and minimization of all waste.

For this sub-category, data on the proportion of population using safely managed drinking water services, the proportion of population using safely managed sanitation services, and proportion of municipal solid waste collected and managed in controlled facilities out of total Municipal Solid Waste generated by cities are replaced with proxy indicators available in Indonesia.

Based on the 2019 SDGs achievement report, the data of 6.1.1, namely the percentage of households with access to adequate drinking water sources, is high nationally. The percentage in 2015 had reached 84.95 percent and consistently continued to increase until in 2019 - it reached 89.27 percent. The unsafe drinking water source, most affected by unprotected wells, reached 4.06 percent. On the other hand, it is also important to note that the source of drinking water used mainly by households is refilled water, which is considered an unsustainable drinking water source.

For sanitation, National RPJM 2020-2024 mentioned Sustainable Sanitation Service indicators that should be achieved by 2024 such as 90% access to basic sanitation (including 15% safely managed access) and 0% of open defecation. It changed the previous target of achieving 100% universal access in 2019 as mentioned in National RPJMN 2015-2019. Based on Susenas KOR (processed by Statistics Indonesia in 2020), the percentage of households with basic access (including safely managed access) increases consistently every year. For example, in 2020, 79.53% of households has access to basic sanitation, increased by 11.58% from 2015.

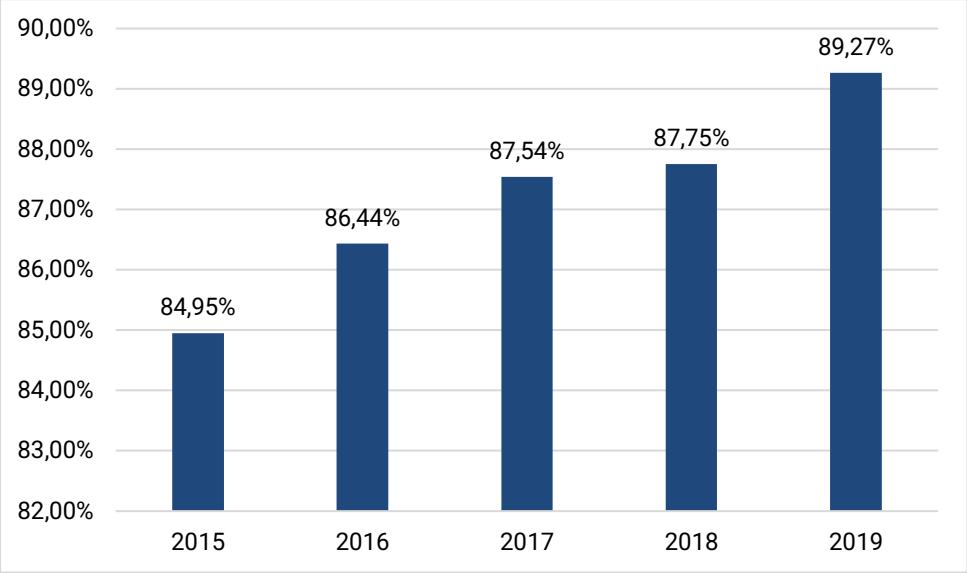


Figure 1. 23: Households with Proper Drinking Water Sources (%), 2015-2019

Source: (Bappenas, 2019)

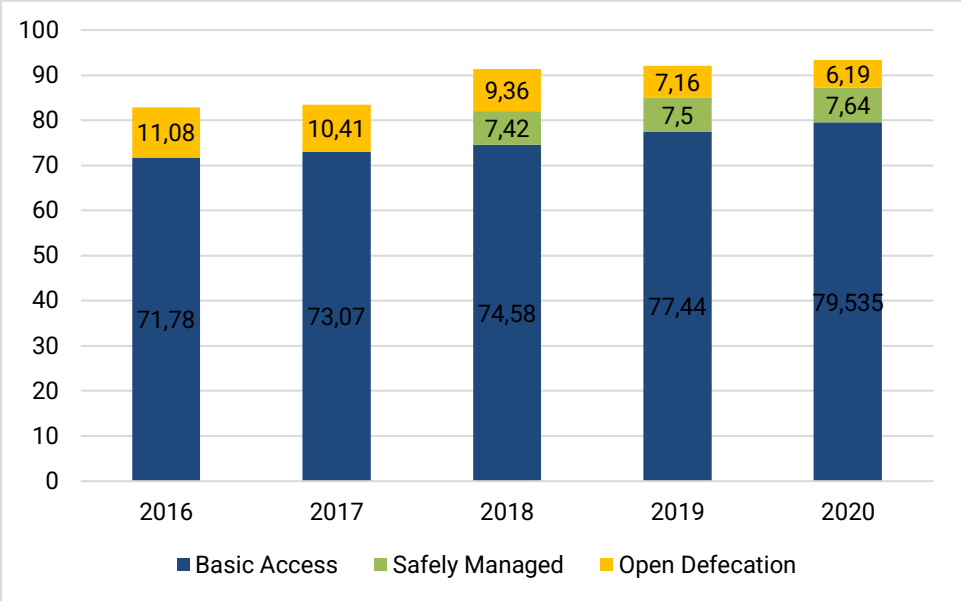


Figure 1. 24 Households with Adequate Sanitation Facilities (%), 2016-2020

Source: (Bappenas, 2020)

The figure above (Figure 1.24) is data on the percentage of households with adequate sanitation facilities from 2016 to 2020. Based on the graph, it can be seen that the percentage of households using basic sanitation access had increased from 71,78% in 2016 to 79,53% in 2020. Also, the percentage of households with open defecation has decreased 4,89% from 11,08% in 2016 to 6,19% in 2020. Meanwhile, safely managed sanitation has increased 0,22% from 7,42% in 2018 to 7,64% in 2020.

The success rate for handling national waste has only reached 67.4 percent and has not yet reached the specified target of 80%. In addition to waste handling data, urban household access to waste management services has only reached 59.08 percent handling

and 1.55% reduction (Susenas MKP 2016, processed by Statistics Indonesia). Data of Municipal Solid Waste (MSW) collected and managed are assembled by the MoEF. Detailed data on waste managed at 254 municipalities (49.4 % of total amount of municipalities) can be accessed online at sipsn.menlhk.go.id. Nonetheless, data from 73 cities in Indonesia available at sipsn calculated into 11,366,903.88 ton of solid waste are produced, and 89.92 per cent of that are collected and managed (10,148,449.96 ton) annually.

Meanwhile, the total amount of waste managed in 2020 has been claimed to reach 10,908,576 tons (MoEF, 2020). The Ministry of Environment and Forestry (MoEF) reported that in 2020, there was an increase in the amount of waste reduction by 39,680 tons through the implementation of extended producer responsibility (EPR), the implementation of the National Policy and Strategy (Jakstranas) for Household Waste Management and the Guidance and Facilitation of Waste Banks. In addition, there was an increase of 10,853,092 tons of waste that was handled through the implementation of monitoring and evaluation of a clean, shady and sustainable city. Detailed data on waste managed at 254 municipalities (49.4 % of total amount of municipalities) can be accessed online at sipsn.menlhk.go.id.

Based on Law Number 18 of 2008 concerning Waste Management, the government of Indonesia collaborates with the municipalities are responsible to ensure that waste management will be implemented in a good manner and based on environmentally sound management, in line with the objective of this Act. The management of waste is conducted based on the principle of responsibility, sustainability, profitability, justice, awareness, togetherness, safety, security, and economic value.

On the habit of hygiene, the average national population who has the proper hand washing habit is 46.49% (Statistics Indonesia, 2019). Proportion of the population. Having Handwashing Facilities with Soap and Water tends to fluctuate from 2017-2019. For example, in 2017, the proportion of the national population with handwashing facilities with soap and water was 68.16%. This proportion increased in 2018 to 78.87%, then decreased in 2019 to 76.07%.

1.1.3.2 Access to safe and efficient public transport system

Indonesia committed to promoting access for all to safe, affordable, accessible and sustainable urban mobility by integrating transport and mobility plans into overall urban and territorial plans and encouraging a wide range of transport and mobility options by supporting a significant increase in accessible, safe, efficient, affordable and sustainable infrastructure for public transport, and providing better and coordinated transport and land-use planning (NUA §114).

Statistics Indonesia (2014) reported that people mostly walk or use motorbikes. A total of 48.14% of people do not use a vehicle to work and 44.99% do not use a vehicle to go to school. A total of 44.18% of people use motorbikes to go to school, and 37.02% to work. The rest use public transportation, bicycles, cars, trains, and rickshaws to work and go to school. It goes to show that while half of the households walk and another half are still depending on their motorcycle, public vehicles are yet to be relied on (Figure 1.25).

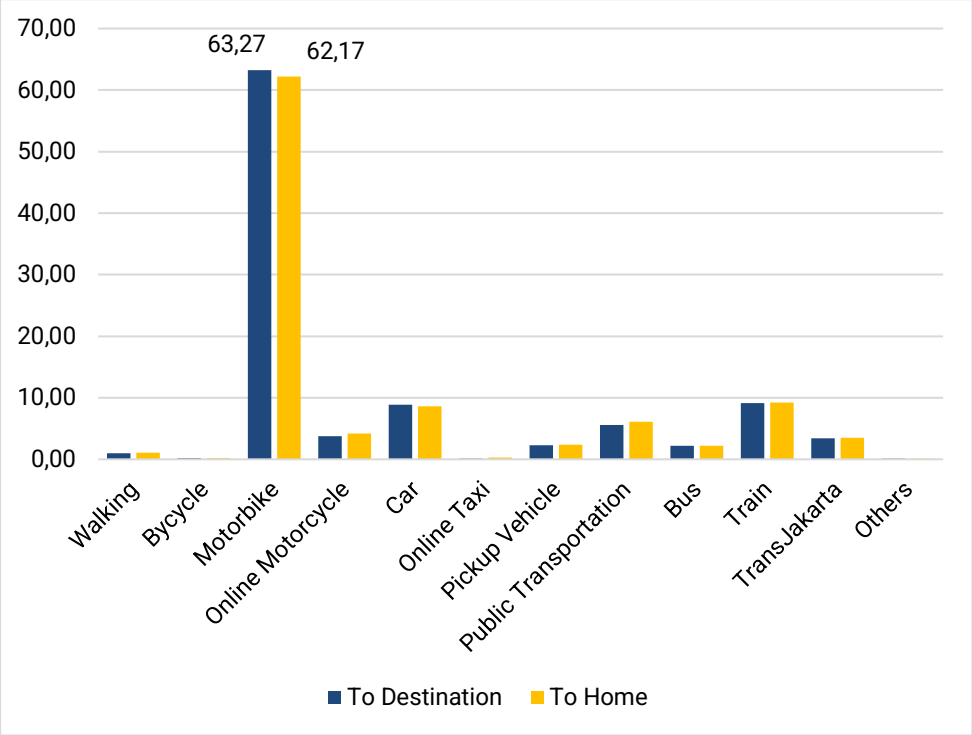


Figure 1. 25: Percentage of Jabodetabek Commuters based on Transportation Mode (%), 2019

Source: Statistics Indonesia, 2019

Urban Public Transport Market Share (%) (as a proxy indicator for the percentage of users of public transportation modes in urban areas) in 2019 has reached 32% (Bappenas, 2019). For Jabodetabek commuters, however, Statistics Indonesia recorded that in 2019 only 20.36% and 21% people use public transportation to and from their destinations respectively. This proportion is calculated from several categories in figure 1.25: public transportation, bus, train, and Transjakarta. Proportionally, 80.5% of these commuters are worker. Majority of people either use paratransit (including online motorcycle and car, such as Gojek and Grab), pick up by their office/school bus, drive private vehicles, ride bicycle, or walk. However, overall, nearly two-thirds of people use their motorbikes (figure 1.25). Statistics Indonesia has also conducted survey to know these commuters' preference to use private vehicles and paratransit rather than public transportation and unfortunately 91.6% show no intention to shift toward public transportation use mostly due to long travel time and impractical reasons.

One of the government's efforts to improve accessibility for citizens is to provide several mass transportations such as BRT (Bus Rapid Transit), LRT (Light Rail Transit) and MRT (Mass Rapid Transit) in several cities in Indonesia. The development of mass transportation, whether based on roads, rails or rivers, is a development priority that increasingly implemented by many large cities. Six metropolitan cities in Indonesia, such as Jakarta, Surabaya, Bandung, Medan, Semarang and Makassar, have started to develop road and rail-based mass transportation, which is primarily aimed to increase the use of public transportation in metropolitan cities in Indonesia, from the current rate of approximately 5-25%. One of the good examples in implementing mass transportation is Suroboyo bus in Surabaya city (see last part of this chapter).

Table 1. 1 Bus-Based Transportation in Indonesia

Bus Rapid Transit	City	Amount of Service Corridors
Transjakarta	Jakarta	15
Transpakuan	Bogor	3
Batik Solo Trans	Surakarta	8
Trans Semarang	Semarang	4
Trans Jogja	Yogyakarta	17
Trans Metro Bandung	Bandung	1
Trans Musi	Palembang	8
Trans Padang	Padang	6
Trans Mamminasata	Makassar	11
Trans Bandar Lampung	Bandar Lampung	7
Trans Sarbagita	Denpasar	4
Trans Mebidang	Medan	2
Suroboyo Bus	Surabaya	4
Trans Metro	Pekanbaru	2
Trans Batam	Batam	8
Trans Kawanua	Manado	1
Trans Hulotalangi	Gorontalo	1
Trans Ambon	Ambon	3
Trans Tangerang	Tangerang	3

Source: (MoPWH, 2017)

The direction of transportation development for cities in Indonesia is currently moving towards mass transportation, especially in the form of BRT. Until 2017, there were 14 cities in Indonesia that had BRT T systems. However, the level of community satisfaction with this transit system is still low. The existing system is not integrated yet and cannot be relied on by the community. To support the development of mass transportation, cities began to clean up and implement urban pedestrianization programs. Pedestrianization is part of the process of forming a pedestrian city that will support the development of mass transportation (MoPWH, 2019).

The pedestrianization program is one of the efforts implemented by cities to support the development of mass transportation. Cities in Indonesia that are already developing mass and pedestrian transportation include Jakarta, Bogor, Surakarta, Semarang, Yogyakarta, Bandung, Palembang, Padang, Makassar, Bandar Lampung, Denpasar, Medan, Surabaya, Pekanbaru, Batam, Manado, Gorontalo, Ambon and Tangerang. With a pedestrianization urban program, the city is working to strengthen its citizens by encouraging the use; provide a conducive environment for them to walk. The pedestrian design was also made by considering the needs of all levels of society, including people with disabilities. Citizens have enthusiasm and support the pedestrianization program which can be seen from the Pedestrian Coalition formation (MoPWH, 2019).

1.1.3.3 Access to modern renewable energy

Indonesia committed to ensuring universal access to affordable, reliable and modern energy services by promoting energy efficiency, sustainable renewable energy; as well as supporting subnational and local efforts to utilize renewable energy in public

buildings and advancing its use in residential buildings by mandating installation in building codes (NUA §121). Renewable energy technologies represent a major element for tackling the critical global problem of climate change. Importantly, this indicator focuses on the amount of renewable energy actually consumed. By focusing on consumption by the end user, it avoids the distortions caused by the fact that conventional energy sources are subject to significant energy losses along the production chain.

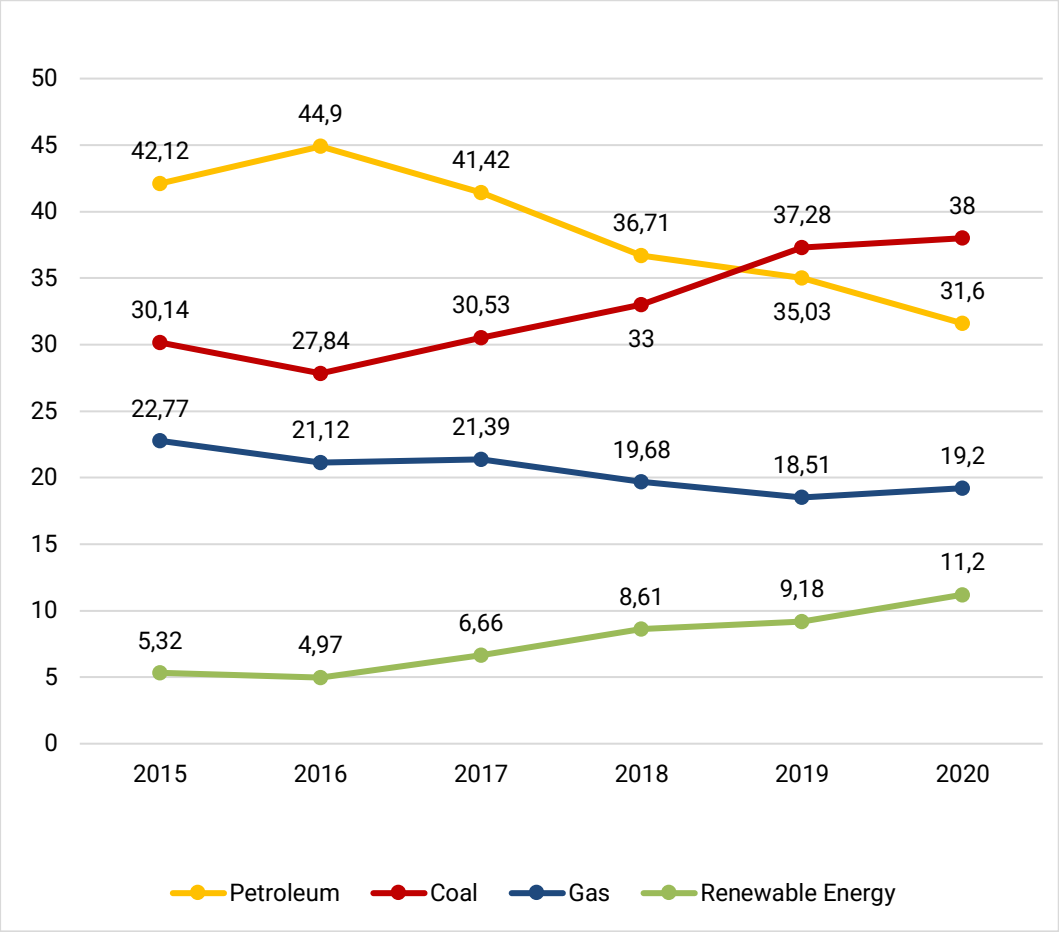
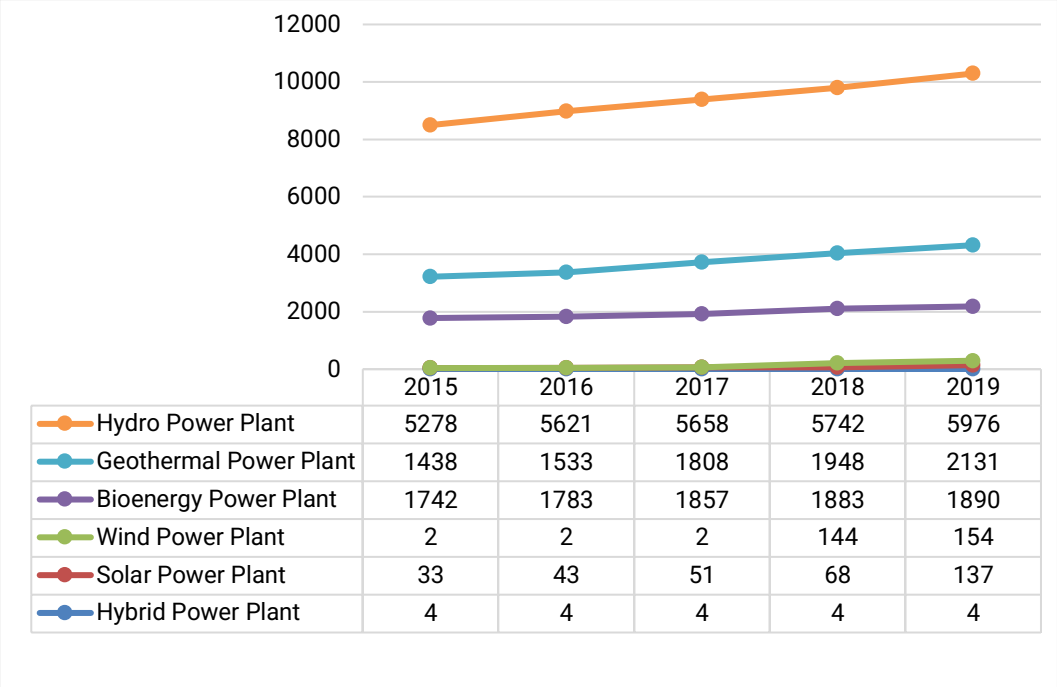


Figure 1. 26: National Energy Mix (%), 2015-2020

Source: MoEMR, 2020

There are various challenges in the implementation of renewable energy such as the lack of national commitment, the need for substantial investment funds, the high price of EBT technology, and widespread social issues related to community resistance. The Indonesian government began to move to the use of environmentally friendly energy, such as wind power and micro-hydro. In developing environmentally friendly green energy and providing electricity for the community, the Ministry of Energy and Mineral Resources (MoEMR) aims to increase the capacity of Renewable Energy Power Plants. In 2020, 175.6 MW of Renewable Energy Power Plants have been installed, consisting of 16.9 MWp Solar Power Plants, 145 Hydro Power Plants, and 13.7 Bioenergy Power Plants. The addition also increases the share of renewable energy in the national energy mix from 9.18 % in 2019 to 11.2 % in 2020 (MoEMR, 2020).



	2015	2016	2017	2018	2019
Hydro Power Plant	5278	5621	5658	5742	5976
Geothermal Power Plant	1438	1533	1808	1948	2131
Bioenergy Power Plant	1742	1783	1857	1883	1890
Wind Power Plant	2	2	2	144	154
Solar Power Plant	33	43	51	68	137
Hybrid Power Plant	4	4	4	4	4

Figure 1. 27: Development of Installed Capacity of Renewable Energy Power Plants (MegaWatt), 2015-2019

Source: MoEMR, 2020

Target for the application of renewable energy as the main energy is 23% of the total national energy application in 2025. The strategy for accelerating the application of renewable energy includes strengthening regulations (green RUPTL, Draft of Presidential Regulation on Renewable Energy, Ministerial regulations related to rooftop solar power plants; development of non-electric renewable energy, b30, green biofuel; development of renewable energy potential (solar, wind, and sea); development of interconnection and smart grids; reduction of fossil power plants (early retirement, cofiring, application of carbon tax)

The government's effort for improving renewal energy through The MoEMR continues to optimize the potential for solar energy by preparing to install hundreds of thousands of Rooftop Solar Power Plants (PLTS) in the household sector. This idea will be named *Energi Surya Nusantara*, as part of the government's strategy to utilize solar energy as well as a stimulus for economic recovery (green economy) after the Covid-19 pandemic. In addition, the government is also developing PLTS in the ex-mining area of 2,300 MW, with details of Bangka Belitung (1,250 MW), West Kutai (1,000 MW), and Kutai Kartanegara (53 MW). Meanwhile, the floating PLTS will be built with a capacity of 857 MW spread across Central Java (Wonogiri Reservoir, Mrica Reservoir in Banjarnegara), East Java (Sutami Reservoir in Karangkates, Wonorejo Reservoir in Tulungagung), West Java (Jatiluhur Reservoir, Saguling Reservoir), and West Sumatra (Singkarak Reservoir).

The MoEMR is also developing Ocean Current/Wave Power Plants (PLTAL), tidal power, and ocean thermal energy. It is expected that by 2025 ocean currents generated from PLTAL are in the development stage, in the future this ocean power will help achieve the energy policy target of 23% of Indonesia's energy mix, in accordance with the energy

mix vision 2025. The Wind Power Plant (PLTB) is one of the great potentials in the development of national electricity, especially in areas that have potential wind speeds above 4 meters per second (m/s). The provinces with great wind energy potential are East Nusa Tenggara (10,188 MW), East Java (7,907 MW), West Java (7,036 MW), Central Java (5,213 MW) and South Sulawesi (4,193 MW). A wind power plant has been built, in Sidrap, South Sulawesi with an average wind speed of 7 m/s. 30 wind turbines that operate with a capacity of 2.5 Mega Watt (MW) or 75 MW in total (MoPWH, 2017).

The use of renewable energy continues to increase in Indonesia. Until 2019, renewable energy share in the total final energy consumption has increased two-fold in five years from 9.2 percent to 11.2 percent and it is expected to double again and achieve 23 percent by 2025. This achievement is still far from the target set in the 2015-2019 National RPJP. However, the Indonesian government pledged to reduce greenhouse gas emissions by 26% by the year 2020. Therefore, Indonesia has embarked on a mixed energy use policy with at least 23% coming from new and renewable energy by 2025. Malang Regency in East Java utilizing methane gas resulted from waste residue in the landfill (TPA), while Cilacap and Tuban reducing the pile of waste in the landfill with processing the waste into Refuse Derived Fuel (RDF) for cement plants. Further details about Waste to Energy good practice will be explained in the last part of this report.

To reach the 2025 goal, the use of renewable energy as fuel is being increasingly encouraged by increasing the mandatory biodiesel blending to B-30. The government also continues to encourage the construction of power plants by prioritizing the use of local energy resources.

1.1.3.4 Access to Information Communication Technology (ICT)

By adopting the New Urban Agenda (NUA), Indonesia committed to promoting equitable and affordable access as well as promoting appropriate measures in cities and human settlements that facilitate access to public information and communication (including information and communications technologies) and to encouraging urban-rural interactions and connectivity by strengthening sustainable transport and mobility, and technology and communications networks and infrastructure, based on planning instruments of the integrated urban and territorial approach (NUA §34, 36 and 50). The Internet has become a major way for accessing information, especially regarding science, technology, and innovations.

The following data is internet users in Indonesia (Figure 1.28). Based on Indonesian Internet Service Providers Association (APJII) data, the internet penetration in Indonesia have reached 73.7% (171.26 million). For Indonesia, the use of the internet is not new, although the use has begun to increase in the last decade. Starting with very few users in the 1990s, based on the World Bank's World Development Indicators (WDI), today, about half of the population is internet users. Additionally, based on Internet World Stats (2020), internet users in Indonesia have increased from previously 88.1 million in 2014 to become 171,26 million in 2020. In 2018, 106 million of social media accounts came from Indonesia.

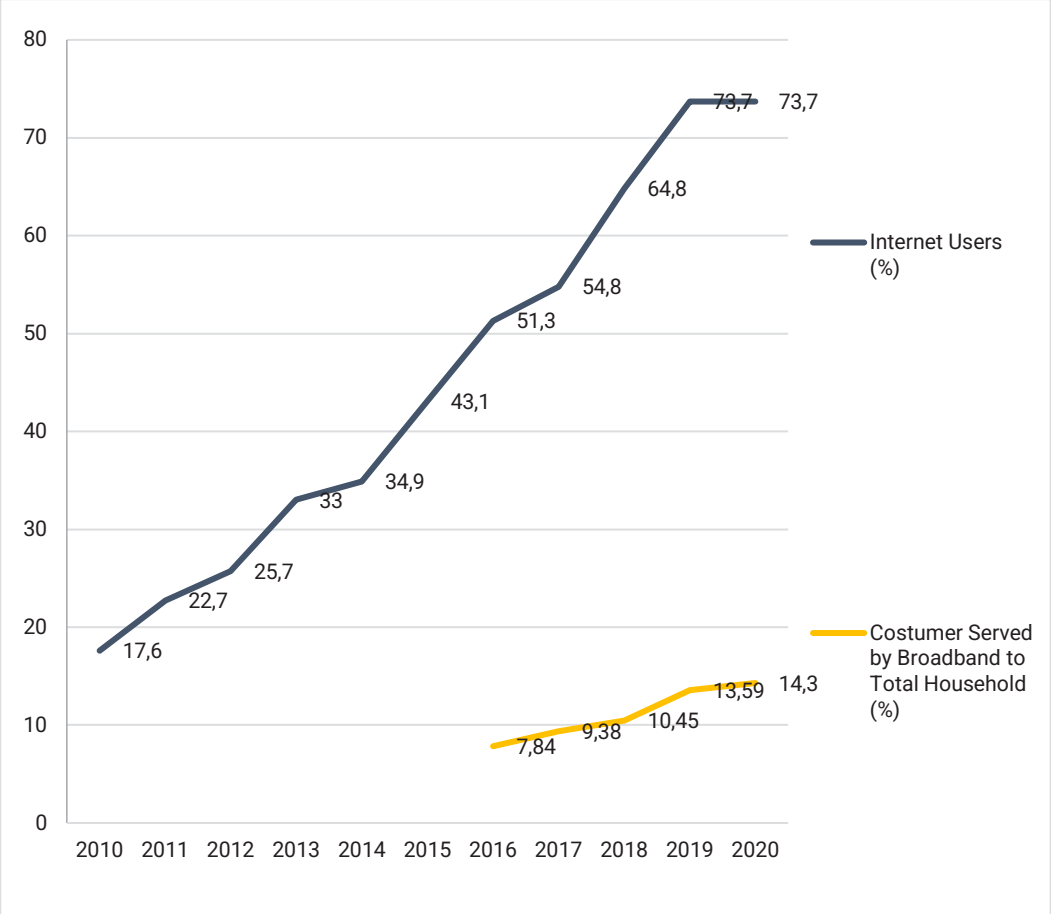


Figure 1. 28: Internet Users in Indonesia (%), 2010-2020

Source: (Bappenas, 2019)

On the demand side, as welfare lifts up, internet use also increases as well. The statistics indicate that customers served by the broadband almost doubled in five years since 2016 from previously only 7.84% of the total population to become 14.3% by 2020. On the supply side, this is not separated from the massive development of internet infrastructure over the country, even until sub-district level. In 2019, there were only 35.75% sub-districts served by fiber-optic networks, while a year later it jumped to 57.58%.

Spatial digital divide is much more obvious to see. More than half of internet users are in Java, the main island with the most densely populated area, while the rest is unevenly distributed among the five groups of islands. Users in Sumatera take the second rank, while Maluku and Papua islands in the eastern part of the country take the smallest one.

Indonesia is listed as the 4th country in the world with the largest population of internet users (Internet World Statistics, 2020). This is supported by the number of districts/cities covered by national fibre optic. Up to 2018, 499 out of 514 districts/cities have been covered with 3G networks, and 492 of them have connected to 4G networks. In 2019, it was targeted that all districts and cities will be connected to broadband backbone network jointly developed by telecommunication operators and cooperation between the Government and Business Entity through the Palapa Ring project to overcome the digital divide.

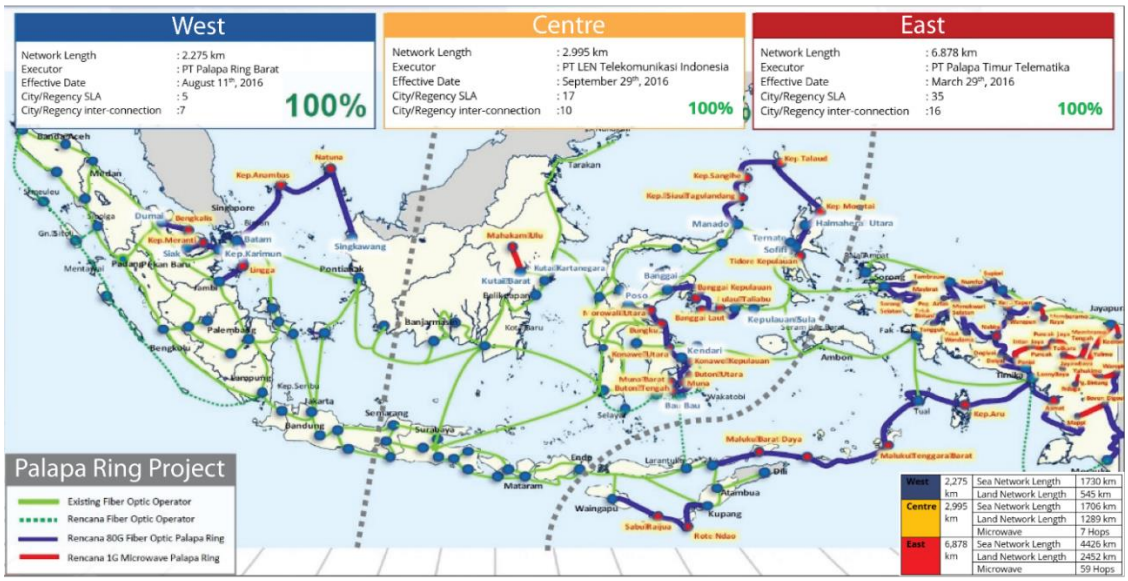


Figure 1. 29 Fiber Optic Network, Palapa Ring Project, 2019

Source: https://www.baktikominfo.id/

Figure 1.29 shows that the percentage of the national fiber-optic backbone network that connects district/city capitals has reached 100% (Bappenas, 2019). The penetration rate of fixed broadband access in urban and rural areas still reaches 10.30% of households in urban areas from the target set at 71% of households in urban areas. Meanwhile, the proportion of the population served by mobile broadband has reached 120.53% in 2018.

1.2 Sustainable and Inclusive Urban Prosperity and Opportunities for All

1.2.1 Inclusive Urban Economy

1.2.1.1 Achieve productive employment for all including youth employment

Indonesia committed to increasing economic productivity by providing the labour force with access to income-earning opportunities, knowledge, skills and educational facilities that contribute to an innovative and competitive urban economy (NUA §56). The share of youth not in employment, education, or training (youth NEET rate) provides a measure of youth who are outside the educational system, not in training and not in employment. It includes discouraged youth workers and those who are outside the labour force due to disability and engagement in household chores, among other reasons.

During 2010-2020, the proportion of youth not in Educational, Employment or Training (NEET) in Indonesia did not change significantly. In 2010, the percentage of NEETs was 25.6% and fell to 21.77% in 2019. Despite lower, the percentage of NEETs more than double when compared to the national unemployment rate (5.23%), indicating that the participation of youth population in the economic activities has not been optimum and

exacerbated by the impact of the pandemic which caused NEET to increase to 24.28% by 2020.

Indonesia highlighted the need to take advantage of the opportunities presented by urbanization as an engine of sustained and inclusive economic growth, social and cultural development, and environmental protection, and of its potential contributions to the achievement of transformative and sustainable development (NUA §4). The New Urban Agenda redresses the way cities and human settlements are planned, designed, financed, developed, governed and managed which contribute to end poverty and hunger in all its forms and dimensions; reduce inequalities; promote sustained, inclusive, and sustainable economic growth (NUA §5). The real GDP per employed person being a measure of labour productivity, this indicator represents a measure of labour productivity growth, thus providing information on the evolution, efficiency, and quality of human capital in the production process.

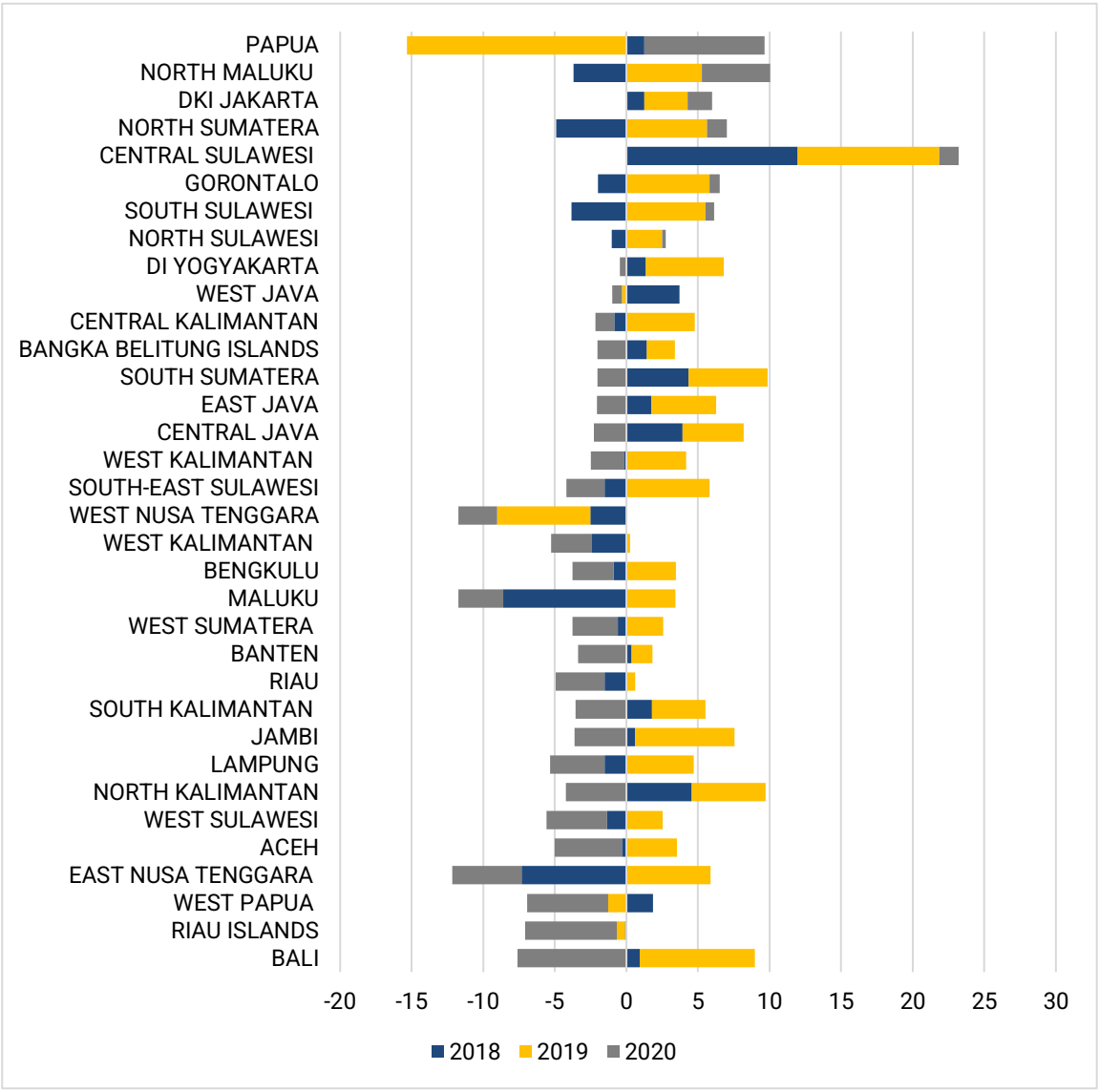


Figure 1. 30: GDP Growth Rate Per Employed Person by Province Per Year, 2018-2020

Source: Statistics Indonesia 2020

Data on GDP growth rate per worker/ Real GDP growth rate per employed person shows 2.94% in 2019. More effort needs to be done to diversify, improve and bring innovative technology, including through sectors that provide high added value and are labour intensive. Based on the data on the GDP Growth Rate/Real GDP Growth Rate Per Employed Person Per Year 2018-2020 (Figure 1.30), it can be seen that the GDP Growth Rate by province tends to fluctuate, decreasing and increasing from year to year. The province with the highest growth rate in 2020 is Papua with 8.39%. The province with the highest labour GDP growth rate during the 2018-2020 period was Central Sulawesi in 2018 with 9.86%. Meanwhile, the province with the lowest GDP growth rate in 2020 is Bali with -7.60%. The province with the lowest labour GDP growth rate in the 2018-2020 period was Papua in 2019 with -15.34%.

1.2.1.2 Support the informal economy

One of the commitments in the New Urban Agenda was to recognize the contribution of the working poor in the informal economy, particularly women, as well as gradually transition workers and economic units from the informal to the formal economy by combining incentives and compliance measures, while ensuring preservation and improvement of existing livelihoods (NUA §59). In contexts where social protection coverage is limited, social security benefits (such as unemployment insurance) are insufficient or even non-existent, and/or where wages and pensions are low; individuals may have to take up informal employment to ensure their livelihood. In these situations, indicators such as the unemployment rate would provide a very incomplete picture of the labour market situation, overlooking major deficits in the quality of employment. Statistics on informality are key to assessing the quality of employment in an economy.

Based on SDGs VNR 2021, the proportion of informal employment in non-agriculture (service and manufacturing sectors) has increased: the service sector increased from 46.16% to 50.46%; the informal manufacturing sector increased from 38.97% to 44.31% in 2020. For manufacturing, the proportion of informal workers is around 44.31% in 2020 from previously 41.09% in 2018. Finally, almost half of workers in the service sector work in the informal sector, or about 50.46% in 2020.

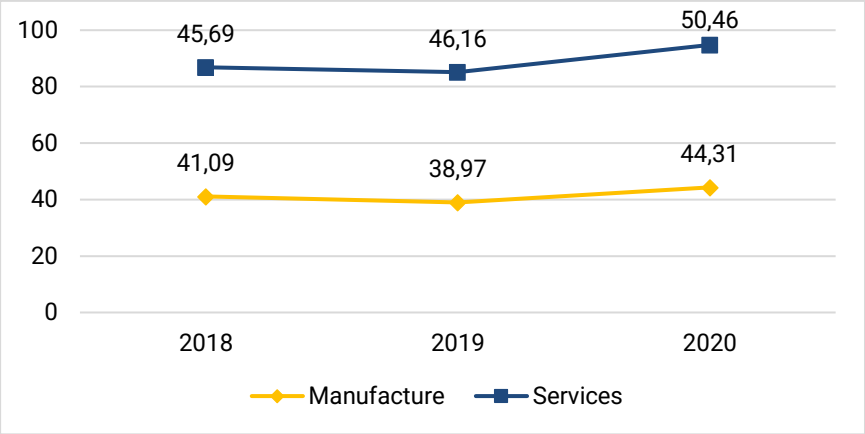


Figure 1. 31 Proportion of Informal Work in Non-agriculture (Services and Manufacture Sectors) (%), 2020

Source: (Bappenas, 2021)

An increasing number of informal jobs in manufacturing and services have been affected by the pandemic. Many companies and the service sector have had to close their businesses or shift production. The following figure (Figure 1.31) is the proportion of non-agricultural informal employment (service and manufacturing sector) in 2018-2020. Based on SDGs VNR 2021, the proportion of informal employment increased from 2019 to 2020 from 60.81% to 65.35%. Efforts to achieve decent work and economic growth targets are to promote development policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro, small and medium enterprises, including through access to financial services.

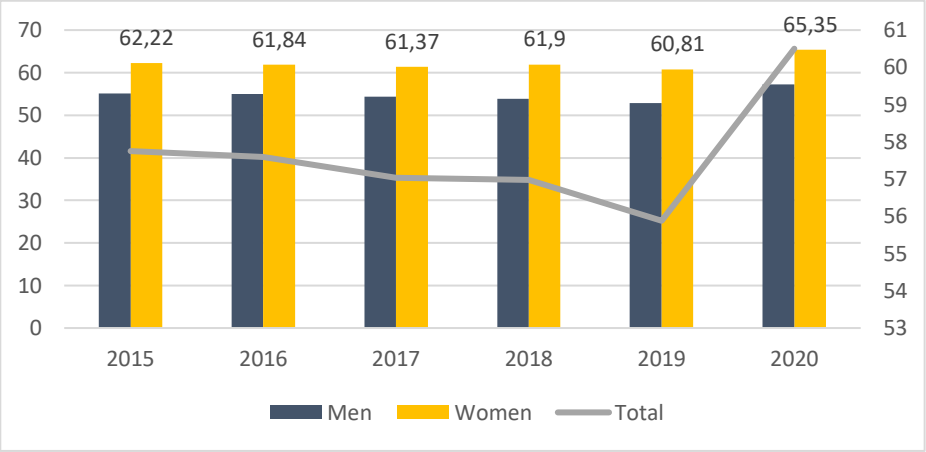


Figure 1. 32 Proportion of informal worker by sex (%), 2020

Source: (Bappenas, 2021)

The proportion of informal employment by sex, shows that in 2020 more women work in the informal sector that is equal to 65.35%, while men are 57.29% (Figure 1.32). Overall, the proportion of informal employment increased from 2019 to 2020 from 60.81% to 65.35% due to pandemic. Nevertheless, good practice has been found for example in Bengkulu with an application or platform called KUPESAN.

1.2.1.3 Support small and medium-sized enterprises

Small and Medium Enterprises (SMEs) account for a considerable proportion of employment and production especially in developing countries. The World Bank estimates that SMEs account for about 90% of businesses and more than 50% of employment worldwide. One of the key commitments of Indonesia in the New Urban Agenda is promotion of an enabling, fair and responsible environment (NUA §58), and addressing challenges faced by SMEs throughout the value chain. This indicator is for monitoring SMEs' share of GDP. SMEs generate a lot of employment opportunities for men, women and youth. The bigger their share of GDP the greater the employment opportunities.

The Covid-19 Pandemic has exposed the unequal access to bank credit when comparing small with large enterprises. Many small enterprises do not have a line of credit with a bank, which they can utilize during an unforeseen event like the Covid-19 Pandemic. SMEs are likely to be more vulnerable to 'social distancing' than big companies. Many

SMEs are in the sectors like tourism, restaurants, and bars. These are sectors that have seen demand fall dramatically. Consequently, many SMEs will not survive the Covid-19 containment measures.

It is crucial that countries know the structure of enterprises in their countries so that they can design appropriate policies especially in times of crisis. Statistics Indonesia shows that with a total of 64.194.057 units (equals to 99,99% of Indonesian enterprises), Micro, Small and Medium Enterprises (MSMEs) or *Usaha Mikro, Kecil, dan Menengah* (UMKM) has contributed to a considerable proportion of GDP. In 2018, MSMEs contributed IDR 8,573.9 billion whereas the GDP was IDR 14.838,3 billion. By proportion, MSMEs contributed to more than half of GDP (57.8%) in 2018. This proportion then increased to 61.41% of GDP in 2019. Such a large contribution, however, went by a huge slope down by 38.14% in 2020 to become 37.3%. Other than GDP, MSMEs contribution is also found in employment. There are 116,978,631 people being employed. Proportionally MSMEs absorbed up to 97% of the total employee Indonesia in total (MSMEs and Large Enterprises).

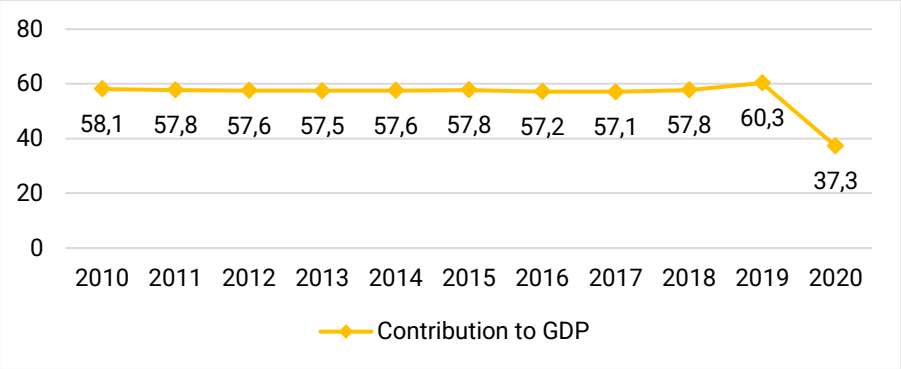


Figure 1. 33 MSMEs Contribution to GDP (%), 2010-2020

Source: MoCSME, 2021

MSMEs as a representation of the people's economy is the sector that is most often encountered and contributes to the development of Indonesian cities. However, based on data from the Ministry of Cooperatives and Small and Medium Enterprises (2017), Micro businesses only have an average business income of around IDR 76 million per year or IDR 253 thousand per day; Small Business IDR 1.63 billion per year or IDR 5.4 million per day; and Medium Enterprises IDR 29.7 billion per year or around IDR 99 million per day. Meanwhile, the average income for large businesses is around IDR 941 billion per year or IDR 3.15 billion per day (assuming 300 days per year). This means that the productivity of Large Enterprises is 12,394 times greater than that of Micro Enterprises, 583 times that of Small Enterprises, and 32 times that of Medium Enterprises.

In Indonesia, there are three types of banks: commercial bank (CBs), rural bank (*Bank Perkreditan Rakyat* / BPR), and regional government bank. There are currently 115 Commercial Banks with 31,966 branches. Rural banks subject to operate in one province and cannot take demand deposits, with a total of 1,609 banks with 6,225 branches. There are also regional government banks (*Bank Pembangunan Daerah*/BPD), and *Lembaga Dana dan Kredit Pedesaan* (LDKPs), which is the generic name for independent regional

government owned microfinance institutions (MFIs). Since 2014, OJK is responsible for regulating and supervising the financial market, banks and licensed financial institutions.

Finally, there are several distinct types of non-banking financial institutions which are registered as co-operatives including: credit and savings co-operatives (*Koperasi Simpan Pinjam/KSP),* credit and savings unit (*Unit Simpan Pinjam/USP), Koperasi Kredit/Kopdit* or Credit Unions (CUs) and Syariah Co-operatives (BMT). The data on exact number of credit and savings co-operatives is unavailable but one estimate is that there are a total of 80,000 credit and savings co-operatives in Indonesia while another suggests there are more than 3,624 KSPs and 36,000 USPs. Inkopdit, the credit union network of Indonesia, estimates there are 917 CUs in Indonesia, but only 274 of which have more than 1,000 memberships.

There is also one nationwide operating financial institution which collaborates with BPRs, MFIs and cooperatives. The state-owned PT Permodalan Nasional Madani (PNM) mainly focuses on financing MSMEs as well as cooperatives. PNM makes loans of IDR 1-200 million, which means it focuses at the smaller end of the market; it also provides indirect financing services through rural banks and other financial institutions.

However, MSMEs are still not maximally working on digitalization opportunities, so to face the era of the technology-based Industrial Revolution 4.0, it is necessary to develop digitalization which until the end of 2018 has only reached 5% of which go digital. To support MSMEs, especially during the Pandemic COVID-19, the government has created a program of 50 million digitizing MSMEs, and 1000 start-up entrepreneurs in 2020. The increase in MSMEs is also influenced by the era of digitalization in Indonesia so that MSMEs are easier to expand their market through e-commerce (MoPWH, 2019). One example can be found in Palu during post-disaster.

1.2.1.4 Promote an enabling, fair and responsible environment for business and innovation

The New Urban Agenda calls for development of vibrant, sustainable, and inclusive urban economies, resource-efficient and resilient infrastructure, promotion of sustainable and inclusive industrial development and sustainable consumption and production patterns and fostering an enabling environment for businesses and innovation, and livelihoods (NUA §45). A government should provide a conducive environment in the market it regulates as competition improves quality of goods and services, lowers cost for both producers and consumers, and creates facilities for those who want to enter any market. A prosperous city should develop a regulatory framework that permits an easy entry of firms into the market.

The number of days to register a new business in Indonesia on average was 13 days. To get a business license or *Surat Izin Usaha Perusahaan* (SIUP), there are processes differentiated between micro, small, medium, and large enterprises that may take 5 to 14 working days. SIUP is required to legally operate a business. Start-up procedures required to start a business, including interactions to obtain necessary permits and licenses and to complete all inscriptions, verifications, and notifications to start operations consist of eleven steps that can either be done fully online or offline. Kediri City implemented the

programmes of simplification of licensing types for the improvement of service quality and investment climate, further details will be explained in the last part of this report.

To promote an enabling, fair and responsible environment for business and innovation, The Indonesian government issues Omnibus Law or Job Creation Law which consists of 11 discussion clusters with several in them, namely: Simplification of business licensing; Investment requirements; Employment; Convenience and protection of MSMEs; Ease of doing business; Research and innovation support; Government administration; Imposition of sanctions; Land acquisition; Investments and government projects; and Economic zone.

The urgency of the Omnibus Law is to take advantage of the potential to get out of the middle income trap, with the demographic bonus we currently have; address the biggest challenges of providing employment; simplification, synchronization and trimming of regulations on many rules and regulations (hyper-regulation), which inhibit the achievement of the goal of job creation, encourage increased investment, so that it will be able to create new jobs, while still providing protection and convenience for MSMEs and increasing protection for workers or laborers; the number of MSMEs is 64.13 million of the total MSMEs with the number of workers in the informal sector of 70.5 million, so to be able to enter the formal sector it is necessary to make it easier starting from the establishment, licensing, and coaching of MSMEs.

The Indonesian government also implemented the OSS (Online Single Submission) or the Electronically Integrated Business Licensing Service System and the One Stop Integrated Service (PTSP) which are expected to be effective in reducing bureaucracy and facilitating business actors. The government has implemented the OSS as a system that integrates all business licensing services that are under the authority of the Minister/Head of Institutions, Governors, or Regents/Mayors which are carried out electronically. Through the reform of the licensing system, the government is pushing for standardization, making the licensing bureaucracy at the central and regional levels easier, faster, and also more integrated.

The concept of business licensing through OSS, namely using one national portal, one identity for business licenses, and one format for business permits (business permits and operational/commercial permits); business licenses are issued based on commitments that must be fulfilled by business actors; fulfilment of commitments is completed at the ministry/institution/government through OSS.

One of Indonesia's opportunities to enabling, fair and responsible environment for business and innovation is through the digital economy. This digital economy opportunity drives the government to deliver national policy support in order to create the enabling environment for business growth. The Economic Policy Package Number XIV establishes a roadmap for digital commerce, which provides a platform for ease of doing digital business in Indonesia, through e-commerce policy, digitalization of 50 million SMEs and creation of 1000 start-up entrepreneurs by 2020. The government has also published Presidential Regulation or Perpres 82/2016 regarding the National Strategy for Inclusive Finance (SNKI) that will provide room for digital economy activity in Indonesia. In terms of information infrastructure, the government is finalizing the Palapa Ring Project, which will provide ICT service for the whole region, and thus will be able to attract more digital business partner.

The trend of integration of commercial and residential areas connected to industrial function illustrates the essential role of the property sector. Superblocks in metropolitan areas are an example of how integrated property can provide an enabling environment for large-scale investments. Urban development with the main base of industry and logistics also emerged along with the concept of transit (MoPWH, 2017).

1.2.2 Sustainable Urban Prosperity

1.2.2.1 Support the diversification of the urban economy and promote cultural and creative industries

Indonesia committed to promotion of cultural and creative industries, sustainable tourism, performing arts and heritage conservation activities (NUA §60). This indicator measures the percentage of cultural and creative industries employment in total employment. Cultural and creative industries can absorb a significant proportion of workers in a country. It is important for central and local governments to produce policies to encourage this sector.

The creative economy in Indonesia comprises 16 subsectors: apps and game development; architecture; interior design; visual communication design; product design; fashion; movies, animation, and video; photography; crafts (*kriya*); culinary arts; music; publishing; advertising; performing arts; fine art; television and radio. Creative economy GDP growth by subsector during the period 2011-2017 shows each sub sector had quite dynamic growth. Negative growth had been experienced in architecture, interior design, film, craft, fashion, television, and art. While some sub sectors experienced relatively flat growth, vast growth in advertising happened from 6.96 in 2016 to 11.46 in 2017.

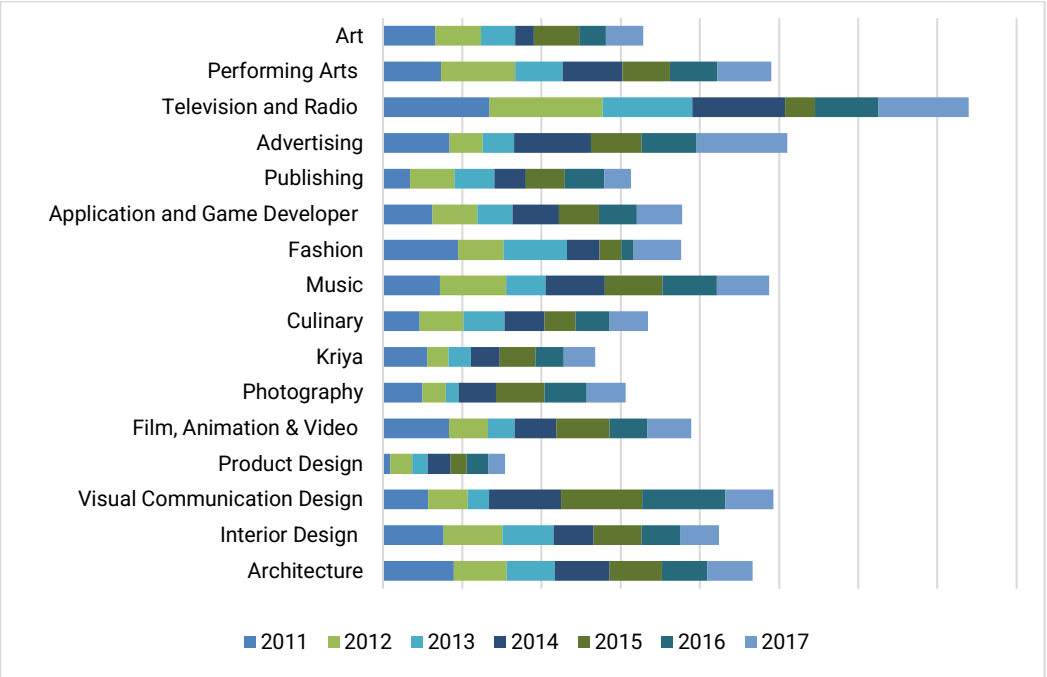


Figure 1. 34 Creative Economy Growth by Subsector, 2011-2017

Source: MoTCE (2020)

Indonesia's creative industry posted robust growth in 2019 contributing IDR 1,153.4 trillion to the country's GDP. The sector has been consistently recording growth equating to 164 trillion IDR in the last three years, from 989.15 trillion IDR in 2017 to 1,066.64 trillion IDR in 2018 which accounted for 7.44% of Indonesia's GDP. The creative industry sector's growth is in line with the rapid growth of Indonesia's e-commerce industry. The latter has been growing at a breakneck speed of 60-80% annually and is expected to become a major growth driver of the Indonesian economy. One of the factors contributing to the growth of the creative economy sector in Indonesia is the change in lifestyles, especially among the millennial generation as this segment is now showing a preference for leisure over goods. This is apparent from Statistics Indonesia (2017) which revealed that leisure spending, including that for recreation and lifestyle, has continued to grow from 5.5% in the first quarter of 2017 to 6.25% in the second quarter of the same year. Meanwhile, non-leisure spending covering basic needs such as food, clothing and other physical goods during the same period has declined from 5% in the first quarter of 2017 to 4.75% in the second quarter of the same year.

The creative industry sector was able to provide employment to 19.2 million people in 2019, an increase compared to 18.4 million people in 2018, 16.4 million in 2017, and 16.2 million in 2016. By employment location, data shows that as of 2016 most of the creative sector employment was found in Java with the following details: 3.8 million people in West Java, 3.1 million people in Central Java, 2.7 million people in East Java, 1 million people in DKI Jakarta, and approximately 958.000 people in Banten. These five provinces are the main contributors of creative products dominated by culinary, fashion, and art subsectors. One of the good examples of the leading creative industry is Bandung Creative City which will be explained in the last part of this report.

Based on data from MoTCE (2018) and Statistics Indonesia (2017), around 92.37% of creative industry players in Indonesia are self-funded and have not received any outside funding such as through bank loans. As 53.49% of these businesses are not established as limited liability companies and 88.95% of their products have not obtained intellectual property rights, such small-scale companies are not desirable financing candidates.

Product development and marketing are other obstacles hampering the growth of Indonesia's creative industry. As a result, 97.36% of its players still only market their products locally. Prior to Covid-19, MoTCE felt confident that GDP growth of the creative economy could be maintained at 10% per year. Efforts need to be done, however, on business ecosystem by strengthening collaboration as a strategy. Additionally, to further boost the growth of the sector, the government needs to overhaul its regulations. Moreover, to facilitate investment, MoTCE recently introduced a framework for Investment Readiness Levels (IRL) for fashion, handicrafts, apps and game development, in addition to the culinary subsectors. IRL will serve as a benchmark to assess investment readiness as well as to anticipate technology life cycles and market competition. In addition, investors can use IRL as a reference to invest their money in the creative industry. In recent years, several non-banking institutions such as angel investors, philanthropic investor and venture capital have been aggressively approaching local start-ups. Furthermore, the government, through MoTCE, continues to help with generating a creative environment through

revitalizing facilities and infrastructure including communication and information technology used for creative development, exhibitions, and business incubator centres.

1.2.2.2 Develop technical and entrepreneurial skills to thrive in a modern urban economy

Indonesia committed to increasing economic productivity, as appropriate, by providing the labour force with access to income-earning opportunities, knowledge, skills and educational facilities that contribute to an innovative and competitive urban economy (NUA §56). A thriving modern urban economy requires an adequate supply of technical and entrepreneurial skills. However, many countries have focused on producing university graduates. Consequently, not enough young people are getting vocational training. Benefits of vocational education and training (VET) depends on the demand for those skills in a country. In many developing countries, some of the workers trained at vocational colleges go into paid employment and some of the workers become productive self-employed entrepreneurs since many economies cannot produce enough formal sector jobs.

The Indonesian government through the Work Training Centre (BLK) of the Ministry of Labour (MoL) provides offline-based training and online services supported by 5,543 credible training institution partners and experienced instructors including Universities, Educational Institutions, Research Bureau, Local Governments, Private Sector, NGOs, SOE, etc. Based on data from the MoL in 2021 there are already 2,693,483 registered trainees with 5,032 available training programs. The types of training available in the Work Training Centre website include sectors: information and communication technology, programming, apparel garment, business and management, tourism, beauty, industry, automotive engineering, processing, welding engineering, building, electrical engineering, electrical engineering, entrepreneurship, digital, design, fashion, manufacturing engineering, creative industry, culinary, art, productivity and so on.

More specific than the BLK, techno park is one of the priorities of the elected president and vice president for the 2014-2019 period as stated in the Nawacita, people's productivity and competitiveness in the international market. In the 2015-2019 RPJMN, Cimahi City became one of the cities selected in the development of techno parks. Further details on Cimahi Technopark will be explained in the last part of this report.

The purpose of the training is to provide free training to improve the skills and capacity of the working age community especially the youth, to provide training certificates and competency tests from the National Professional Certification Agency (BNSP) for trainees, to facilitate training participants to be able to directly connect to career hub with recruiters to have more career/job opportunity, and to accelerate the reduction of unemployment and expand job opportunities.

The proportion of youth with information and communication technology skills in 2019, has reached 83.58% and has exceeded the specified baseline by 51.83%. The information and communication technology (ICT) sector has a growth of more than 9% in 2020, showing the increasing role of the ICT sector in the economy through the digital economy. Data on transaction value of e-commerce retail in Indonesia from the Central Bank of Indonesia within the period 2013-2020 showed that it has been increasing

exponentially since 2016 to become 10.9 and 18.69 billion USD in 2018 and 2020 respectively. It was dominated by the clothing sector (67.1 %). In 2015, there were 7.4 million buyers in which 79.8% were individual buyers.

Growth in the digital economy is supported by the electronic marketplaces as well as electronic transit providers. In 2009, when Uber was established in the USA, Tokopedia in Indonesia was also established. Tokopedia has now become a unicorn e-commerce. Following Uber and Tokopedia, Gojek and Bukalapak were established in 2010. In 2012, Indonesia was at the 5th place in Twitter. By 2018, Gojek already have 1 million drivers and offer 18 diverse services on its application.

One way of developing those skills is through formal education, specifically tertiary or higher education. The Gross Enrolment Ratio (GER) in tertiary education in Indonesia has risen to 30.85 percent in 2020 from 25.26 percent in 2015, marking a significant increase. The GER for the population living in urban areas, however, experienced a slight dip from the 40.39 percent in 2018 to 38.58 percent in 2020 (Figure 1.35). This could mean that the growth in urban population was not matched by subsequent access to tertiary education, which can inhibit the development of a skilled urban workforce.

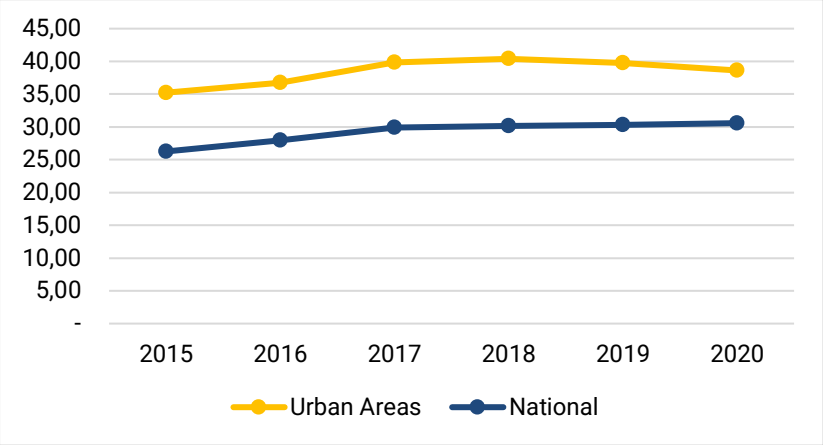


Figure 1. 35 Gross Enrolment Ratio (GER) in Tertiary Education, 2015-2020

Source: (Bappenas, 2021)

1.2.2.3 Strengthen urban-rural linkages to maximize productivity

The New Urban Agenda calls for participatory urban policies and mainstreaming sustainable urban and territorial development as part of integrated development strategies and plans. It also calls for coherent policy frameworks and fiscal decentralization processes, so that adequate capacities are developed at all levels (NUA §82, 86 and 130). Urbanization has indeed historically been a catalyst for economic growth and social progress, and even holds the possibility for the protection and more efficient use of natural resources, and climate change mitigation and adaptation. However, this positive impact is not automatic, particularly in developing countries - where rapid and/or unplanned urbanization can bring about negative economic, social, and environmental externalities with increasing congestion, sprawl, informality, social exclusion, and conflict – if the provision of services and infrastructure does not keep up with natural and internal population growth, equitable distribution, migration patterns to the city, etc. A national urban policy (NUP) calls attention to the impact of sectoral governmental policies on the

sustainable development of cities and encourages and enables the vertical and horizontal coordination of government departments and their policies to best support it. In Indonesia, there are 21 metropolitan areas in total.

Table 1. 2 Distribution of Metropolitan in Indonesia

No	Metropolitan Area	Main City	Population (Million)
1	Jabodetabekpunjur	DKI Jakarta	28,6
2	Bodebekkapur	Bogor	14,3
3	Malang Raya	Malang	10
4	Bandung Raya	Bandung	9,9
5	Gerbangkertasusila	Surabaya	9,1
6	Kedung Sepur	Semarang	6,1
7	Solo Raya	Surakarta	5,4
8	Mebidangro	Medan	4,4
9	Mataram Raya	Mataram	3,6
10	Patungraya Agung	Palembang	3,6
11	Maminasata	Makassar	2,4
12	Cirebon Raya	Cirebon	2,3
13	Kartamantul	Yogyakarta	2,3
14	Pekansikawan	Pekanbaru	2,3
15	Banjar Bakula	Banjarmasin	1,9
16	Serbagita	Denpasar	1,8
17	Bonsamtebajam	Balikpapan	1,7
18	Bregasmalang	Tegal	1,3
19	Palapa	Padang	1,3
20	Bandar Lampung Raya	Bandar Lampung	1,1
21	Bimindo	Manado	1

Source: MoPWH, 2019

Countries with high population levels certainly need policies to control population dynamics, and Indonesia is no exception. Various policies were both issued to suppress the rate of population growth and as a strategy for equitable distribution and control of population growth, especially in large cities. One of the policies related to structuring the area is the New Town Settlement Area Planning implemented by the MoPWH.

Based on Presidential Decree Number 2 of 2015 concerning the National Medium-Term Development Plan (National RPJM) 2015-2019, the policy direction for urban area development is focused on sustainable building and competitive cities towards a prosperous urban society based on physical character, economic potential, and local culture. Based on the National RPJM 2015-2019, there are 7 new Metropolitans outside Java as National Activity Centres (PKN). The establishment of a new independent and integrated public town around a big city or metropolitan urban area, especially outside Java – Bali is something urgent and must be implemented as part of the middle-low-income community and directed as a buffer for urbanization. This strategy is carried on towards the current 2020-2024 period in which location are spread in figure 1.36.

Currently, 11 new cities are in the planning stage, including the new town of Pontianak, Tanjung Selor, Padang, the new town of Palembang, Maja, Banjar Baru,

Makassar, Manado, Sorong, Jayapura, and the new town of Morotai. In this planning policy, new urban areas as part of urban settlement areas must be well planned, implemented, and managed by incorporating elements of green cities and smart cities, which in turn can support the realization of liveable and sustainable residential areas.

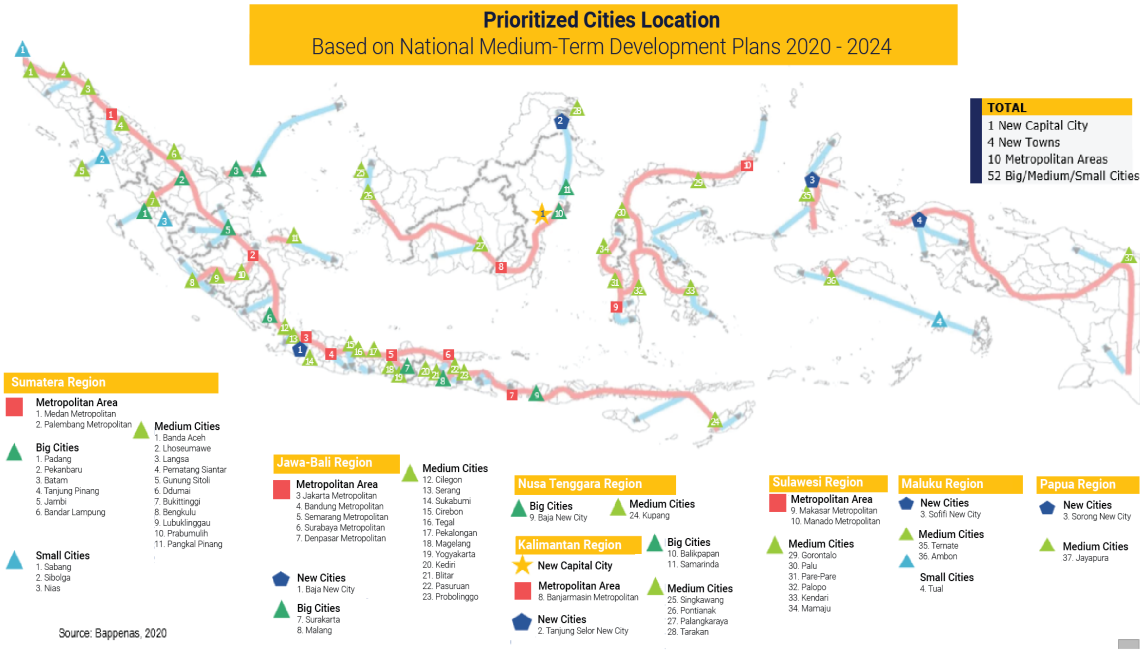


Figure 1. 36: Distribution of Cities in Indonesia

Source: MoPWH

The new capital city relocation is also included in the effort to maximize productivity. Planning for the new National Capital City has considered the need for equitable and balanced development (growth of activity centres and new growth) outside Java, while reducing the internal burden of the City of Jakarta (over urbanization, environmental carrying capacity, congestion, etc.); accommodated large-scale investments, planned an ideal urban area that is carrying the Future City Direction, as a magnet that carries out three main missions, namely national identity, sustainability, and a modern smart city with international standards.

According to the direction of the President of the Republic of Indonesia Joko Widodo regarding the relocation of the Indonesian National Capital City which was conveyed at the Ministerial Limited Meeting on 29 April 2019, assigned 3 (three) Ministers, namely the Minister/Head of Bappenas to prepare a study on the relocation of the State Capital City, the Minister of Agrarian Affairs and Governance Space to review the spatial planning and land conditions of the new State Capital City, as well as the Minister of Public Works and Housing to prepare the design of the new State Capital area. The plan to relocate the State Capital was reaffirmed in a state speech delivered at the House of Representatives of the Republic Indonesia (DPR RI) and Regional Representative Council (DPD) Sessions on August 16, 2019, where the President of the Republic of Indonesia requested permission and support to move the National Capital City (IKN) to Kalimantan Island. The new National Capital City is expected to become a symbol of the nation's identity and a representation of the nation's progress for the realization of economic equity and justice as well as the vision of an Advanced Indonesia.

1.3 Environmentally Sustainable and Resilient Urban Development

1.3.1 Resilience, Mitigation, and Adaption of Cities and Human Settlements

1.3.1.1 Minimize urban sprawl and loss of biodiversity

Indonesia committed to preserving and promoting the ecological and social function of land, to promoting sustainable land use, combining urban extensions with adequate densities and compactness to prevent and contain urban sprawl (NUA §69). Cities require an orderly urban expansion that makes the land use more efficient. They need to plan for future internal population growth and city growth resulting from migrations. However, frequently the physical growth of urban areas is disproportionate in relation to population growth, and this results in land use that is less efficient in many forms.

The NUA indicator 15, which is adapted from SDG indicator 11.3.1, looks at the ratio of land consumption rate to the population growth rate. Population growth rate is the change of population in a defined area (country, city, etc.) during a period of time (one year for example), expressed as a percentage of the population at the start of that period. Land consumption within this indicator is defined as the increase of urbanized land use within an area, which is often the result of conversion of land from non-urban to urban functions. Land consumption rate is the rate at which urbanized land use in an area changes during a period of time, expressed as a percentage of the urbanized land use at the start of that period.

Land consumption rate is calculated by using urban area spatial data generated by the trends.earth online tool for the calculation of SDG indicator 11.3.1 provided by Conservation International, in absence of similar data from local sources. The analysis of this indicator is supposed to be done for the whole country's urban areas, but the tool used has limitations on the areas on which we analyze. For this reason, the trends.earth tool is used to generate urban area data for Indonesia's 93 administrative cities and one capital region (Jakarta). The tool provides urban area data from 2000, 2005, 2010, and 2015 that was analyzed automatically from satellite images. The analysis generates the size of urban areas within each administrative city for each year, which then are used to calculate the land consumption rate between each 5-year period.

Population growth rate is calculated by using population numbers of each administrative city from the results of Indonesia's Population Census (*Sensus Penduduk* / SP) in the year 2000 and 2010 and the Inter-Census Population Surveys (*Survei Penduduk Antar Sensus* / SUPAS) in the year 2005 and 2015, which then are used to calculate the population growth rate between each 5-year period.

The land consumption rate and population growth rate for each city in each 5-year period are calculated in annual numbers, and then the land consumption rate (LCR) is divided by the population growth rate (PGR) to generate the ratio of land consumption rate to population growth rate (LCR/PGR). The LCR/PGR ratio is then generated for each administrative city for each 5-year period which are 2000/2005, 2005/2010, and 2010/2015.

The LCR/PGR ratio can be interpreted as a measure of 'compactness' of a certain area's development. An LCR/PGR number greater than one indicates that the land consumption is faster than the growth of population in the same period, signifying a relatively less compact development. An LCR/PGR number less than one indicates that the land consumption is slower than the growth of population in the same period, signifying relatively more compact development. On the other hand, context is needed to interpret the results, since each city has different circumstances regarding their developments.

Some cities were already almost fully built-up within their administrative boundaries during some point within the analysis period. The administrative areas of the capital city of Jakarta, Tangerang, Yogyakarta, and Surakarta's were already more than 95 percent urban by 2000, while the cities of Bandung, Bekasi, South Tangerang, and Depok passed the same milestone between 2005 and 2015. These cities are some of the major cities on the island of Java which is the most urbanized compared to Indonesia's other major islands, and the cities of Bekasi, Tangerang, South Tangerang, and Depok are part of the Jakarta Metropolitan Region as they are located adjacent to the capital city. In this case, the land consumption rate would be close to zero since there wasn't any more room to develop. It is likely that development then continued beyond the administrative city boundaries which were not accounted for in the calculation process.

The current analysis will only examine cities on their own. Attempts to generalize the characteristics of a region or even country would risk an inaccurate interpretation since urban areas outside administrative cities were not included in the calculations because of the limitations of the data and tools. Cities with a low LCR/PGR ratio (<1) can be interpreted as having relatively compact development since it implies low land consumption rate and high population growth rate. This is the case with cities like Semarang, Cilegon, Makassar, Denpasar, Kupang, and Banda Aceh among others. These are some of the more major cities of Indonesia, which were already relatively urbanized. These cities had low LCR/PGR ratio across the 2000-2015 period. Some smaller cities share this characteristic, like Cimahi, Batu, and Bukittinggi. Between each 5-year periods, more and more cites show this characteristic. This could be an indication that the developments of these cities have been relatively compact, although more detailed context is needed to confirm it.

On the other hand, some cities exhibit low LCR/PGR ratio across 2000-2015 even with relatively high land consumption rate values (>1% annually). These are cities like Mataram, Batam, Bontang, Ambon, and Tarakan. This would mean that these cities' population growth rates are high enough to keep the LCR/PGR ratio below 1 despite the high land consumption rate. This could be an indication that even though these cities' developments were relatively horizontal, they were still on pace with the growth of the population. Interestingly, most of the cities with this characteristic are located outside the island of Java, the country's most urbanized island.

Cities with a high LCR/PGR ratio (>1) can be interpreted as having relatively less compact or more horizontal development since it implies high land consumption and low population growth rate. Between each 5-year period, less and less of cities are showing this characteristic, although there are still cities like Manado and Banjar that keep showing it. A small category of cities with a high LCR/PGR ratio were cities with low land consumption

rates and low population growth rates, just with slightly higher land consumption rates. The city of Tegal is the most prominent of this category.

Between the three 5-year periods used in the analysis, more and more cities show indications of having more compact developments and less horizontal developments. However, this only applies to areas within administrative cities, as there are urban areas beyond them which are harder to pin down administratively to analyze consistently. There is always a possibility that developments within the cities look compact in number because it has shifted beyond the administrative boundaries. This is almost certainly the case with the highly urbanized major cities which areas are almost 100 percent urbanized in character. More extensive, and more importantly uniform, land use and detailed population data is needed to be able to assess the relation between land consumption and population growth in Indonesia's urban areas as a whole.

Indonesia is the largest archipelagic country in the world. It comprises 16,056 islands with a total area of more than 192 million hectares. With 188 million hectares of terrestrial land, it has rich biodiversity and natural areas across the country. Over 63,04% of this area is designated by the Government of Indonesia as the national forest estate. Remaining lands are designated for other purposes (USAID, 2019). Forest areas based on their main functions consist of conservation forest areas (conservation areas), protected forest areas and production forest areas. The total area of forest and water conservation reaches 125.96 million hectares (MoEF, 2018). Meanwhile, conservation areas alone, based on their functions, consist of nature reserves, wildlife reserves, national parks, natural tourism parks, forest parks, and hunting parks. These areas need to be protected as life support systems.

The USAID reported that in 2013, the Ministry of Environment and Forestry (MoEF), Ministry of Maritime Affairs and Fisheries (MoMAF) along with several non-governmental organizations conducted a gap analysis of the ecological representation of the region conservation in Indonesia. It is estimated that 80% of biodiversity (ecosystems, species, genetics) of significant value are outside conservation areas.

The government continues to protect those areas through establishing and implementing various regulations to protect the habitat, one of them is through the Essential Ecosystem Areas concept in the Act No. 28/2011. Essential Ecosystem Areas (KEE) are defined as areas of important ecosystem value located outside the Nature Reserve Area (KSA), Nature Conservation Area (KPA), and Hunting Park (TB) which ecologically support the survival of life through biodiversity conservation efforts for the welfare of the community. This means that the areas such as; 1) karst ecosystem, wetlands (lakes, rivers, swamps, brackish and tidal areas No. more than 6 meter) mangroves and peat; 2) the landscapes in which there are endemic habitat and wildlife trajectories; and 3) natural resource reserves in it including the biodiversity (*kehati*) parks ; are also protected.

Essential Ecosystem Areas can be directed to the Biodiversity Park which are under the authority of the Regional Government. There have been 72 units of Biodiversity Park that have been built throughout Indonesia. Fifteen of them have been established to

manage institutions and designated as an essential ecosystem area. As of 2019, the government manages 554 units of land and sea conservation areas, covering an area of 27.13 million hectares; including 79 conservation institutions, as well as 1,433 captive units for wild plants and animals. The number of conservation area units in 2019 is 212 nature reserves, 31 KSA/KPA, 34 grand forest parks, 11 hunting parks, 54 national parks, 133 nature tourism parks, 79 wildlife reserves. In addition, until 2019 the establishment of KEE institutions as many as 61 units has been achieved. The area consists of 8 KEE of High Conservation Value Area, 8 KEE of Wildlife Corridor, 12 KEE of Mangrove, 29 KEE of *Kehati* Park, 4 KEE of Karst. Meanwhile, in 2019 there was no additional KEE in the conservation park. Below is the recapitulation of conservation area by function in 2019.

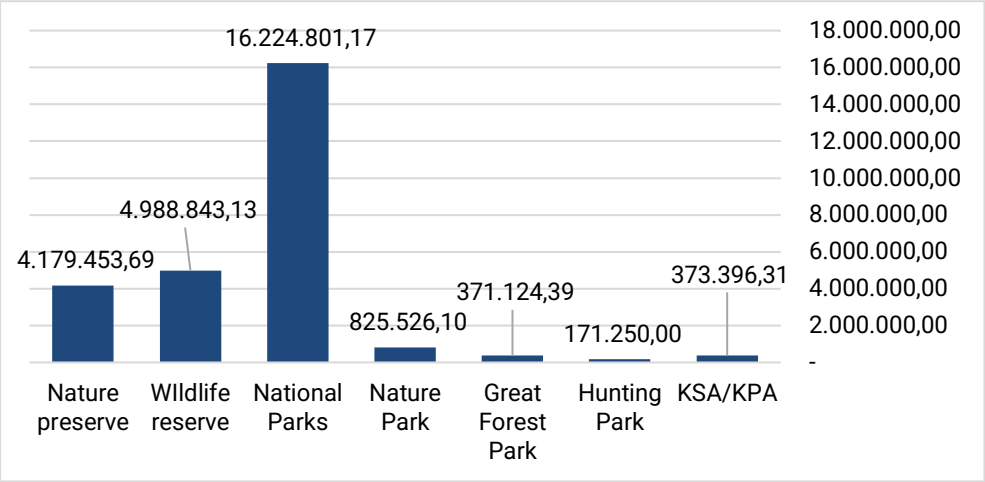


Figure 1. 37: Area of Conservation by Function (Ha), 2019

Source: MOEF 2020

Though there was a decrease in the area of conservation land from 2015-2019 of approximately 3.7 million hectares, Indonesia, through the MoEF, continues to give major effort in order to achieve the target of protecting the habitat. In 2020, the achievement of terrestrial protection is planned to reach 17% of land and inland wet areas (32.48 million Ha) and 10% of coastal and marine areas. The current achievement of terrestrial protected areas is 22.48 million hectares. There is still a shortage of 10 million hectares, it is hoped that there will be support for the role of optimizing the management of KEE, wildlife corridors, and High Conservation Value Areas (KBKT).

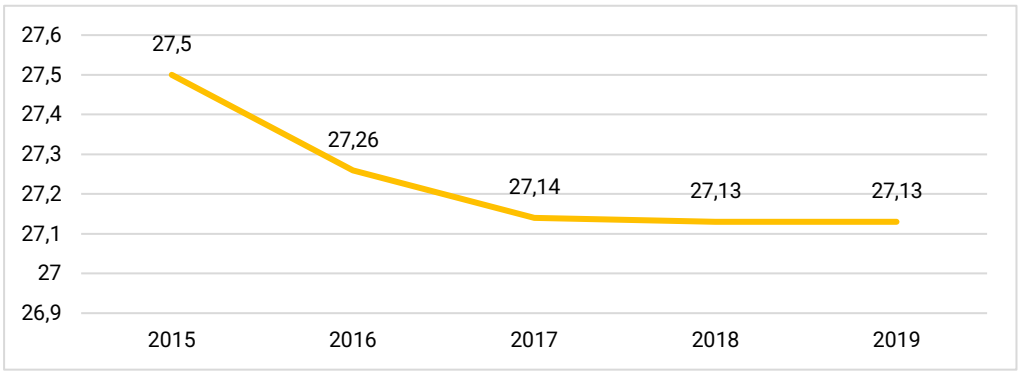


Figure 1. 38: Total Area of Conservation (Million Hectares), 2015-2019

Source: MoEF, 2020

Additionally, support to the protection of habitat has also been provided by the Ministry of Public Works and Housing in cooperation with Indonesian Institute of Sciences (LIPI) to develop botanical gardens as ex-site conservation for biodiversity by providing its basic infrastructure. Within 2015-2018 period, there are 17 botanical gardens located in Sumatera, Java, Sulawesi and Kalimantan.

1.3.1.2 Implement Climate change mitigation and adaptation actions

Indonesia envisages cities and human settlements that implement disaster risk reduction and management, minimize their vulnerability, develop resilience, preparedness and responsiveness to natural and man-made hazards and nurture mitigation of and adaptation to climate change (NUA §13). The Sendai Framework for Disaster Risk Reduction 2015-2030 is a worldwide agreement to prevent disaster risks and reduce their negative impact. Reducing cities' vulnerability to hazards reduces the risk of economic progress being wiped out and poverty increasing. For example, multi-hazard maps can be used to zone areas in such a way that no residential and commercial buildings are built in areas that can flood. Therefore, multi-hazard maps are key to improving a city's resilience.

Climate change mitigation and adaptation actions also can be carried out by appropriate infrastructure development. In the 2020-2024 strategic plan of the Ministry of Public Works and Housing (MoPWH) this consideration is reflected by the strategy of: "to Increase the utilization of local materials and tools in order to create added value in every infrastructure development project." Implementation from the strategy is manifested by various innovations in material technology implemented in infrastructure and housing projects, such as rubber and plastic base asphalt, rubber floodgate, and laminated bamboo panel. This strategy aims to reduce the carbon emission from infrastructure development activities in Indonesia.

Data on the percentage of local governments that have adopted and implemented local disaster risk reduction strategies in line with national strategies, as have been included in Sendai Framework target E-2, showed 1.75% based on data in 2019 (https://sendaimonitor.undrr.org). Out of 34 provinces throughout Indonesia, there are 24 provinces (70%) that already have Strategic Disaster Risk Reduction (SDRR) documents which were arranged for the period 2012-2016 and one province has a SDRR document for the period 2018-2023. Additionally, out of the 514 regencies/cities in Indonesia, only 173 regencies/cities (34%) have SDRR documents of districts/cities that have DRR strategy documents. For illustration, Sigi Regency in Central Sulawesi, initiated in Building Community Disaster Preparedness and Resilient through School-based Disaster Risk Reduction which used various approaches, and Semarang City collaborated with various actors to implement urban climate-resilient city programmes. Further details about the Community Disaster Preparedness Programmes in Sigi Regency and Urban Climate Resilience in Semarang City will be explained in the last part of this report.

The New Urban Agenda calls for lower levels of GHG emissions to achieve environmental sustainability and improve air quality (NUA §65). Indonesia has committed in the 2016 Paris Agreement to maintain the earth's temperature threshold below two degrees Celsius and seeks to reduce it to 1.5 degrees Celsius. This commitment has also been reaffirmed at the 2021 Climate Change Summit to take concrete actions in controlling

climate change, to achieve a 29-41% reduction in carbon emissions by 2030 and eliminate carbon emissions by 2050. Indonesia has adopted the National Action Plan on Climate Change Adaptation (RAN-API) which provides a national framework for adaptation initiatives that have been mainstreamed into the National Development Plan. The medium-term goal of Indonesia's climate change adaptation strategy is to reduce risks on all development sectors (agriculture, water, energy security, forestry, maritime and fisheries, health, public service, infrastructure, and urban system) by 2030 through local capacity strengthening, improved knowledge management, convergent policy on climate change adaptation and disaster risks reduction, and application of adaptive technology.

A prerequisite for formulation of policies on mitigating climate change is development of a GHG inventory that shows the contribution of different activities to GHG emissions. Indonesia's carbon emissions continue to increase every year. Without deforestation and peat fires from 2000 to 2019, carbon emissions have increased by more than 400,000 Gg CO_2e to reach more than 900,000 Gg CO_2e. In 2019, 924,853 Gg CO_2e of Greenhouse Gas (GHG) emissions in Indonesia came from forestry (deforestation) and peat forest fires and 638,808 Gg CO_2e from the energy sector, namely burning fossil fuels for energy. In this vein, it is crucial to monitor GHG emissions which are a major cause of global warming. This indicator focuses on human activities within cities that directly or indirectly lead to GHG emissions.

The Indonesian government made several pledges to commit to reducing GHG emissions: At the UNFCCC-COP21 in December 2015 to reduce GHG emissions by 29% with its own capabilities or 41% with international assistance in 2030 according to the NDC target; Leaders' Summit on Climate in April 2021 by opening up investment in energy transitions through the development of biofuels, lithium battery industry and electric vehicles; the President's directive in the State Speech August 16, 2021, which calls for Indonesia's transformation towards renewable energy, as well as economic acceleration based on green technology which is an important change in the Indonesian economy; and COP 26 in November 2021 that Indonesia will contribute more quickly to the World's Net-Zero Emissions.

Ambient air pollution results from emissions from industrial activity, households, cars and trucks which are complex mixtures of air pollutants, many of which are harmful to health. Of all of these pollutants, fine particulate matter has the greatest effect on human health. Indonesia committed to improving household and ambient air quality in the New Urban Agenda (NUA §67). In Indonesia, there are three parameters used to measure the air quality, those are Air Pollutant Standard Index, Indonesia Air Quality Index, and Particulate Matter.

Currently, Air Pollutant Standard Index (ISPU) is officially used in Indonesia to measure the air quality; this is in aligned with the Decree of the State Minister of the Environment No. 12 of 2020 concerning the Air Pollutant Standard Index. ISPU is a number without units, used to describe the condition of ambient air quality in a certain location and is based on the impact on human health, aesthetic value and other living things. Especially for areas prone to forest and land fires, this information can be used as an early warning system for the surrounding community. The purpose of the ISPU is to provide convenience of uniformity of ambient air quality information to the public at a certain location and time

as well as a material consideration in carrying out air pollution control efforts for both the national government and local governments. ISPU monitors air quality in the form of concentration parameters such as PM2.5, PM 10, NO_2, SO_2, CO, HC, O_3 as well as meteorological parameters such as wind direction and speed, solar radiation, temperature, air pressure, humidity and rainfall. ISPU data regarding the number of good air quality days for fully operational stations in 2019 can be seen in the graph below.

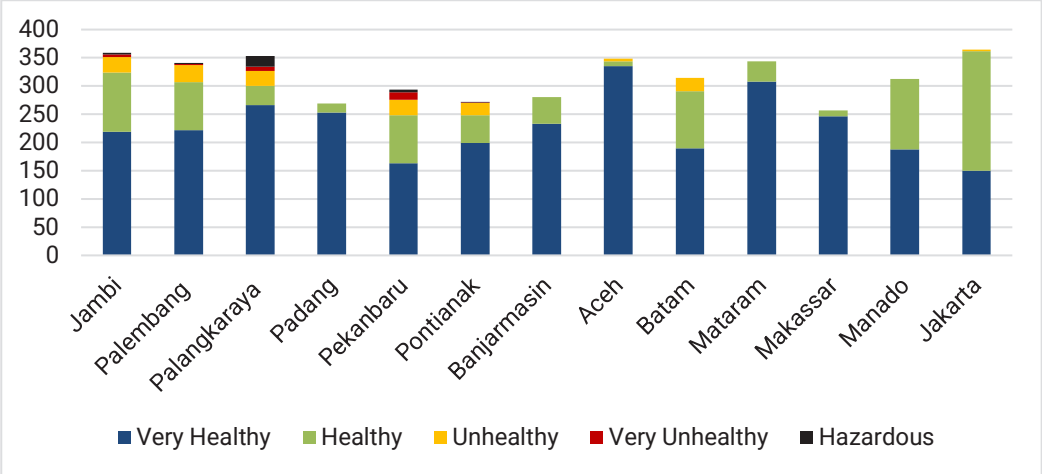


Figure 1. 39: Number of Days in Select Cities Based on Air Pollutant Standard Index (2019)

Source: MoEF (2020)

Based on figure 1.39, 12 out of 13 cities had more days with "Good" air quality conditions than other categories. However, several cities have air quality in the categories of "Very Unhealthy" and "Hazardous", namely Jambi, Palembang, Palangkaraya, Pekanbaru and Pontianak caused by forest and land fires. The area has extensive peatlands and is easily burned during the dry season. Several cities adjacent to forest and land fire areas were also affected, such as Aceh, Batam and Padang. Meanwhile, DKI Jakarta has more moderate air conditions (51-100) compared to other categories throughout the year, reaching 212 days out of 365 days in 2019. For current real time monitoring, air pollutant standard index could be seen in https://ispu.menlhk.go.id/map.html.

Figure 1. 40: Air Pollutant Standard Index website preview (December 3rd, 2021)

Source: MoEF, 2020. (https://ispu.menlhk.go.id/map.html)

Another air quality parameters used in Indonesia is the Air Quality Index which is so far used NO_2 and SO_2 to measure the pollutant in the air. The scoring of air quality index parameters used in Indonesia fell into five criteria, those are: very good ($90 \leq x \leq 100$), good ($70 \leq x \leq 90$), moderate ($50 \leq x \leq 70$), bad ($25 \leq x \leq 50$) and very bad ($0 \leq x \leq 25$). The air quality index in Indonesia within the period of 2016-2019 had the highest quality in 2017 which reached 87,03 points and the lowest in 2016 which reached 81,50 points. Air conditions in Indonesia with these points can be said to be good ($70 \leq x \leq 90$).

Figure 1. 41: Indonesia Air Quality Index Map, 2020

Source: MoEF, 2020

The Indonesia's Air Quality Index Map shows that the average scores in Papua Island have the highest scores with 94,83 and 94,57 points in the two provinces, followed by Sulawesi with 90 points. However, if looking at the quality index in each province, it could be seen that the highest quality index changes each year throughout 2016 to 2020. The provinces with highest air quality are West Papua in 2016 with 93,4 points, North Maluku in 2017 with 96 points, Centre Sulawesi in 2018 with 93,56 points, North Kalimantan in 2019 with 93,79 points and West Papua again in 2020 with 94,83 points (See Annexes, Table I.46). Meanwhile, DKI Jakarta has the lowest air quality index points throughout 2016 to 2020 which falls below 70 points though these numbers are still considered to be moderate.

Particulate matter, also known as particle pollution or PM, is used to describes extremely small solid particles and liquid droplets suspended in air. In Indonesia, two sizes of particles are used to measure the air quality, which are PM10 and PM2.5. PM10 or particles with a diameter of 10 micrometers or less are particles that are small enough to pass through the throat and nose and enter the lungs. In Indonesia, threshold value is the air concentration limit that is allowed to be in the ambient air. The Threshold for PM10 in Indonesia is 150 µg/m ^{3}. In details 0 – 50 µg/m ^{3} of PM10 particles in the ambient air is considered good, 51 – 150 µg/m ^{3} is considered moderate, while 151 – 350 µg/m ^{3} is unhealthy, 351 – 420 µg/m^3 is very unhealthy and more than 420 µg/m ^{3} is hazardous.

Meanwhile, PM2.5 or particles with a diameter of 2.5 micrometers or less is a very small particle which can get deep into the lungs and into the bloodstreams. Indonesia just started monitoring the PM2.5 particles that is carried out by Meteorology Climatology and

Geophysics Agency (BMKG) since 2015. The threshold value that is allowed to be in the ambient air for PM2.5 in Indonesia is 65 µg/m^3. In details, 0 – 15 µg/m^3 of PM2.5 particles in the ambient air is good, 16 – 65 µg/m^3 is considered moderate, while 66 – 150 µg/m^3 is unhealthy, 151 – 250 µg/m^3 is very unhealthy an3d more than > 250 µg/m^3 is hazardous.

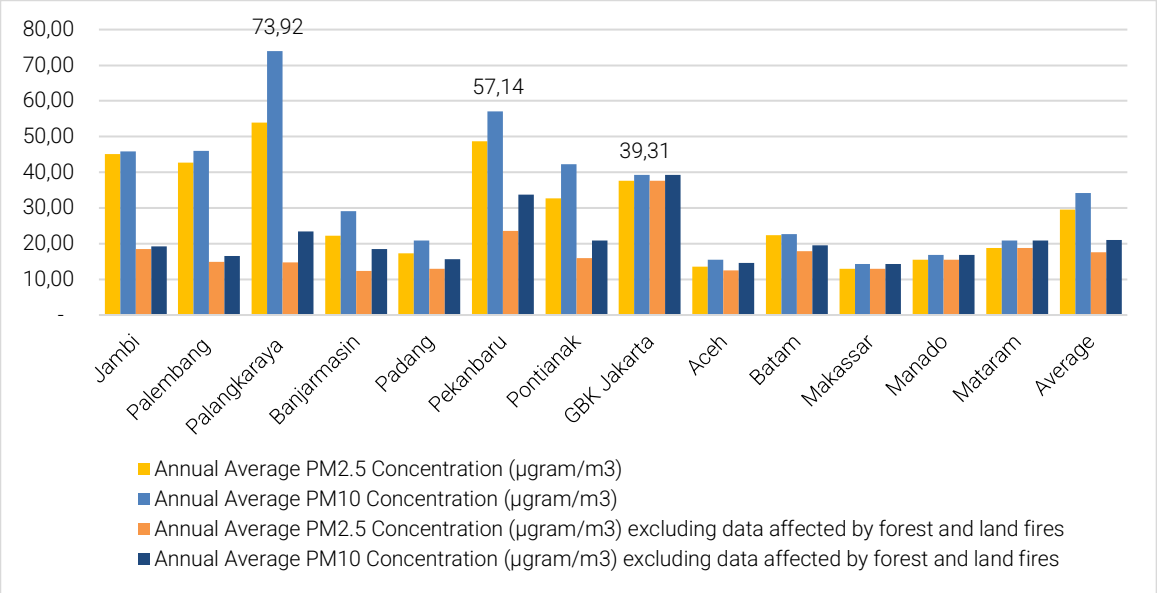


Figure 1. 42: Particulate Matter Concentration in Selected Cities of Indonesia, 2019

Source: MoEF, 2020

According to figure 1.42, it can be seen that the average annual concentrations of PM2.5 and PM10 parameters throughout 2019. The highest concentrations of PM2.5 and PM10 were in the cities of Palangka Raya, Pekanbaru, Jambi, Palembang, Pontianak and Banjarmasin due to forest and land fires in these areas. Other areas affected by forest and land fires are the cities of Batam, Padang and Aceh. Meanwhile, Jakarta, Makassar, Manado and Mataram were not affected by forest and land fires in 2019. Data of the annual average concentration for PM 2.5 and PM 10 excluding the forest and land fire is the daily average data for January, February, March, April, May, June, July, August and December which are daily average data when there are no forest and land fires.

In 2019, the average of population weighted annual average ambient PM10 excluding the forest fire reached 20,99 µg/m^3. Based on Indonesia's PM10 air quality standard, this number is categorised as good. Meanwhile, the average of population weighted annual average ambient PM 2.5 in Indonesia by 2019 stood at 19,4 µg/m^3 (Statista, 2021).

However, the highest number both PM10 and PM2,5 excluding data of forest and land fires happened in DKI Jakarta where the population weighted annual average ambient reached 39,31 µg/m^3 and 37,65 µg/m^3. These numbers are still considered to be good (PM10) and moderate (PM2.5) based on Indonesia's air quality standard. Though, it almost four times higher than the WHO Air Quality Guidelines for annual average concentration for PM2.5 of 10 µg/m^3.

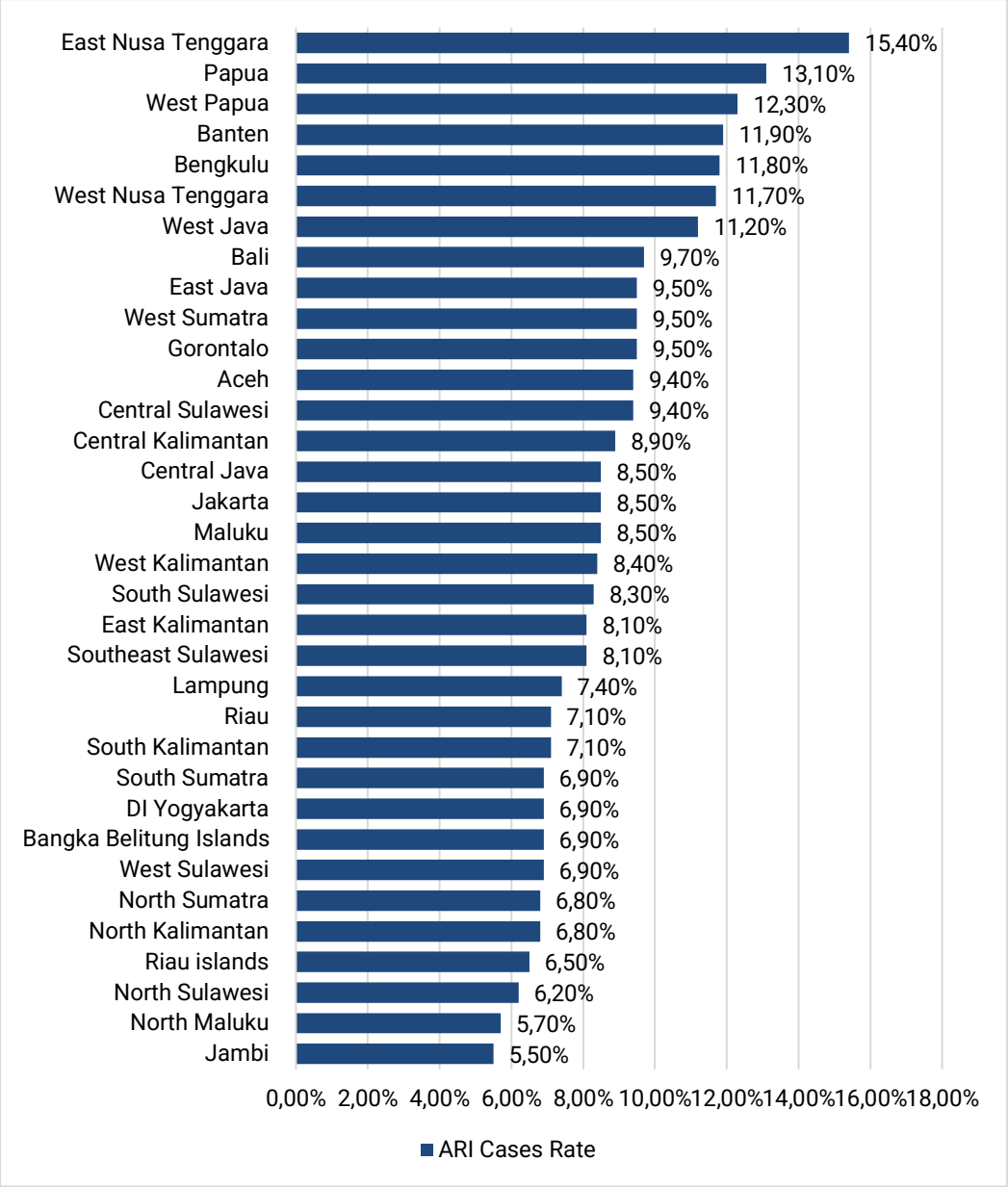


Figure 1. 43: ARI Cases Rate in Indonesia (All Ages), 2018

Source: Ministry of Health, 2019

Data regarding of the number of deaths due to air pollution is yet to be available. Air pollution has a close relationship with the incidence of respiratory diseases, among other factors such as children nutrition. Diseases that can arise due to air pollution are ARI (Acute Respiratory Infections). Pneumonia is the most dangerous result of ARI which is defined as an acute respiratory infection that attacks the lower respiratory tract (alveoli) caused by infectious agents that are transmitted from human to human (Masriadi, 2017). Although the cause of ARI is a virus, exposure to intense smog, mainly SO2 gas, can weaken the ability of the lungs and respiratory tract to fight infection. SO2 affects the integrity of the mucosal layer, increases mucus secretion, and interferes with ciliary movement. Thus, increasing a person's risk of getting ARI, especially children and the elderly. The Ministry of Health has been consistently providing data regarding of Pneumonia cases in Indonesia.

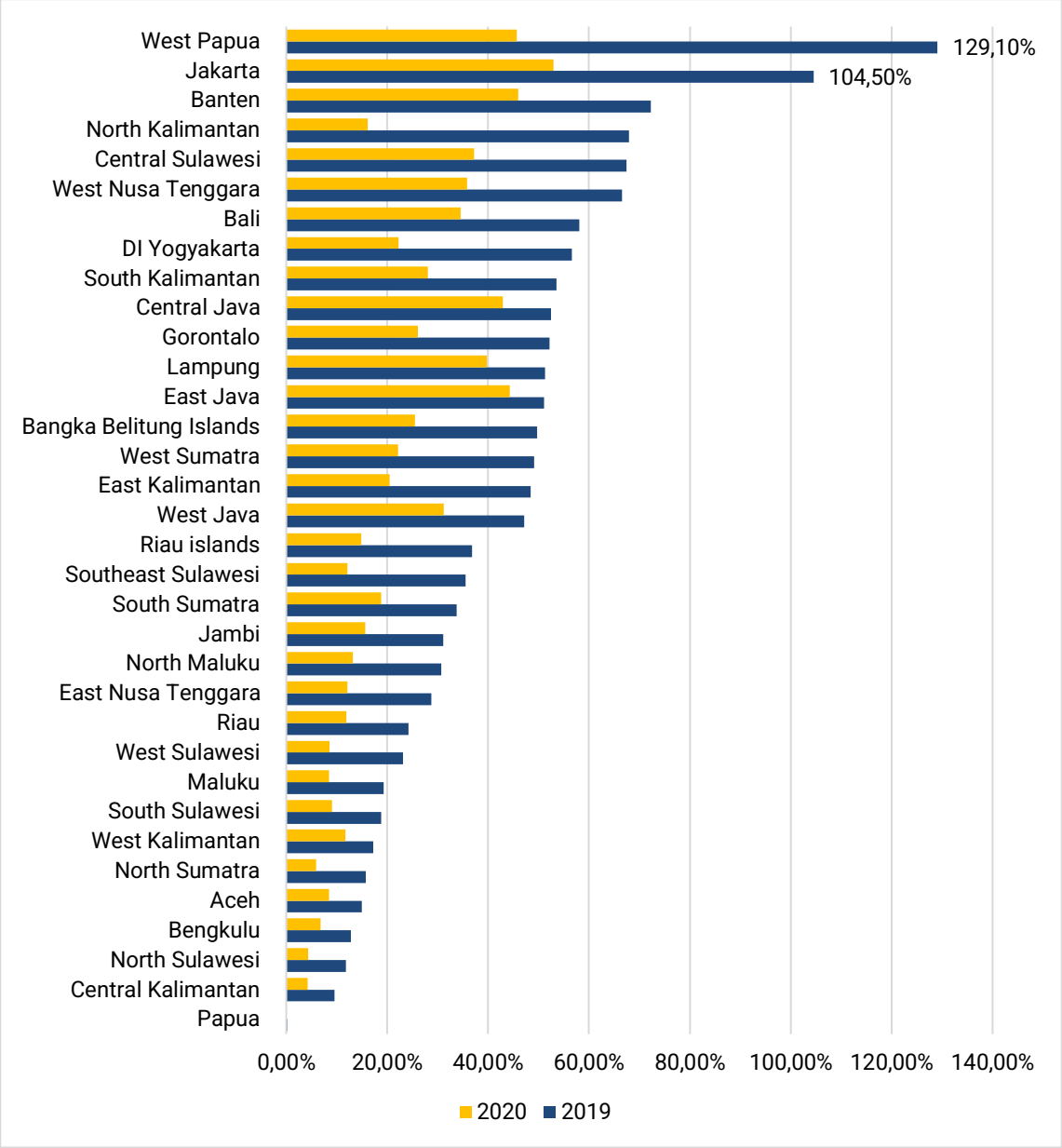


Figure 1. 44: Toddlers with Pneumonia Rate in Indonesia (1-4 Years Old), 2019-2020

Source: Ministry of Health, 2019-2020

Surprisingly the highest rate of either overall population rate infected with ARI (Figure 1.43) and the rate of toddlers infected with pneumonia (Figure 1.43) is found in no provinces effected by the forest and land fires. The highest rate of ARI in 2018 is East Nusa Tenggara, with the rate reached 15,40% from overall population or 8.201 numbers of cases. Followed closely by Papua (13,10%/5.638 cases), West Papua (12,30/1.395 cases).

In the other hand, the rate of toddlers suffering from Pneumonia in 2019-2020 is unbelievably high, the highest rate of toddlers suffering from Pneumonia is West Papua (129%) and DKI Jakarta (104%). DKI Jakarta still remains one of the four provinces with the highest number of toddlers with pneumonia with 46.354 children suffering pneumonia in 2019. The low air quality in Java Island is likely due to numerous nearby coal-fired power

plants, transport emissions, manufacturing, household emissions, construction, road dust, and open waste burning.

Air pollution, both indoor and outdoor, can endanger human health and transmit disease transmission (Sukana, Lestary, & Hananto, 2013). Research conducted by Hermawan, Hananto, & Lasut in 2016 found that the Air Pollution Standard Index (ISPU) has a very strong relationship (0.779) with cases of ARI. The presence of cigarette smoke, household combustion smoke, exhaust gases of transportation and industrial facilities, forest fires are part of the causes of ARI. People who live in industrial areas are the most at risk for PM2.5 exposure in the air. Provinces in Java Island (DKI Jakarta, West Java, Banten, East Java and Central Java) are the provinces with the most densely populated and built area throughout Indonesia as most economy and industry activities centred in these provinces, especially Jakarta Metropolitan Area. Other than these, malnutrition is also one of the factors that caused ARI in toddlers.

In financing for climate change action, Indonesia supported access to different multilateral funds, including the Green Climate Fund, the Global Environment Facility, the Adaptation Fund, and the Climate Investment Funds to secure financial resources for climate change adaptation and mitigation plans, policies, programmes, and actions for subnational and local governments, within agreed arrangements. Data from the Public Funding for Climate Change Control 2016-2018 from the Ministry of Finance (MoF, 2019) and only shows the proportion of the budget from the State Budget (APBN).

Table 1. 3 Budget Allocation for Climate Change in State Budget (APBN), 2016-2018

Year	Budget for climate change mitigation (IDR Trillion)	Budget for climate change adaptation (IDR Trillion)	Budget Portion of climate change mitigation in the State Budget
2016*	72,4	NA	3,6%
2017*	95,6	NA	4,7%
2018	83,4	33,25	5.30%
2019	46,46	33,39	3.24%
2020	41,65	33,30	2.73%

Source: (MoF, 2019; 2021)

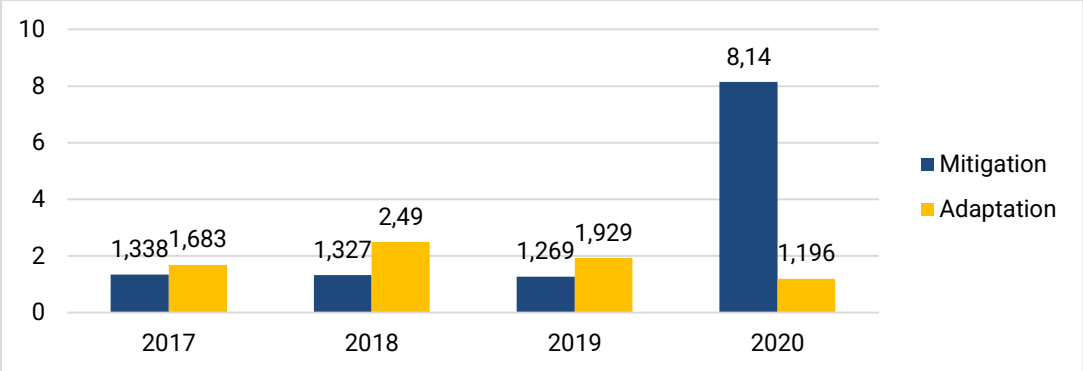


Figure 1. 45: Local Budget on Climate Change Adaptation and Mitigation (in Billion IDR), 2017-2020

Source: (MoF, 2021)

The data available to local governments is only the amount of climate change budgets in eleven local governments, so it is necessary to calculate the proportion to the total Local Budget (APBD) of each city/regency in Indonesia. The results of climate change budget funding in the city/regency level (11 local governments) in 2017-2020 on average climate change budgets reached IDR 3.01 billion per year. The average mitigation budget is IDR 1.19 billion per year, while the average adaptation budget is IDR 1.82 billion per year. Most of the regional climate change budgets are allocated for climate change adaptation. Around 61% of the climate change budget is directed to adaptation and 39% to mitigation.

Recognizing that relying on the national budget alone will not be sufficient, the government has urgently been looking at untapped resources and new means of financing. One innovative outcome has been the creation of 'Green Sukuk', or Sharia-compliant bonds to finance climate change mitigation and adaptation. Since leading as the world's first sovereign Green Sukuk issuer in 2018, the oversubscription of which signalled huge interest from the global market, the MoF has raised more than US$2.75 billion from three annual issuances.

The proceeds have financed and re-financed projects in renewable energy, energy efficiency, sustainable transportation, waste to energy and waste management, as well as climate resilience for vulnerable areas. Further to investing in projects reducing greenhouse gas emissions—projected to be up to 8.9 million tonnes of CO2e (carbon dioxide equivalent)—proceeds have supported the construction of more than 690 kilometres of railway tracks; an increase of 7.3 million kWh of electricity; and improved solid waste management for more than five million households.

At the local level on how climate change may impact in daily needs fulfilment, drought and fluctuating levels of rainfall will affect agriculture specifically, several municipalities have been conducting urban farming programs. These climate changes could lead to potential food deficits of 90 tons annually by 2050, therefor encouragement has been done by the Ministry of Agroforestry. The details of how Palangka Raya and Semarang cities have implemented such programs are provided in the last part of this report.

1.3.1.3 Develop systems to reduce the impact of natural and human-made disasters

Indonesia is committed to strengthening cities and human settlements' resilience with ecosystem-based approaches and mainstreaming holistic disaster risk reduction and management at all levels to reduce vulnerabilities and risk in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 (NUA §77).

Data on the Percentage of Households Participating in Natural Disaster Simulation and Rescue Training (%) in 2014-2017 shows that in 2014 as many as 98.80% of households have not participated in simulation and rescue training for natural disasters and know the signs of natural disasters. Only 1.20% of households have attended training in simulation and rescue of natural disasters and know the signs of natural disasters in 2014, and this increased to 2.39% in 2017. Below is the Percentage of Households Participating in Disaster Simulation and Rescue Training Nature and knowing the signs of natural disasters (%) in 2014-2017.

Many urban centres and their inhabitants are vulnerable to natural and human-made hazards, such as earthquakes, flooding, storms, water and air pollution, diseases (including Corona virus pandemics) and sea level rise. In this context, Indonesia envisioned cities that adopted and implemented disaster risk reduction and management, reduced vulnerability, built resilience and responsiveness to natural and human-made hazards, and fostered mitigation of and adaptation to climate change (NUA §13, 64, 65). One way to reduce the impact of natural and man-made disasters is to increase the availability and access to multi-hazard early warning systems and disaster risk information and assessment to people.

The leading disaster management institution in Indonesia is the National Disaster Management Authority (BNPB) which has local agencies at the provincial and municipalities' level. Nonetheless, the monitoring of hazard, information on disaster risk and warning are provided by several institutions based on types of hazards and the institutions scope of work. Most hazard information is made available online through websites and mobile applications. There are four resilient cities, 19 weather and climate early warning systems and disasters in Indonesia (Bappenas, 2019).

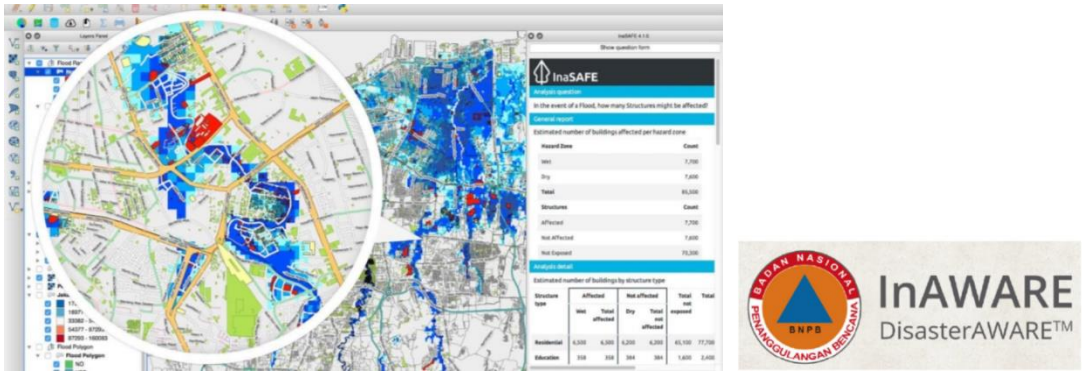


Figure 1. 46 InAWARE and InaSafe Example of Digitalization in Disaster Information

Source: MoPWH, 2019

As the leading institution, on the commemoration of Disaster Preparedness Day in 2018, the NDMA launched the Multi Hazard Early Warning System (MHEWS), Indonesia All Warning, Analysis and Risk Evaluation (InaWARE) and Indonesia Scenario Assessment for Emergencies (InaSafe) for providing response and infrastructure provision scenario in the event of disaster at the emergency phase. These three applications facilitate NMDA's control and analysis of disaster to respond in time and accordingly.

Rather than multi-hazard, the monitoring of hazard is conducted specifically by at least four institutions. Meteorology, Climatology, and Geophysics Agency (MCGA) handles monitoring information on earthquake, tsunami, meteorology, and climate hazards. Tsunami Early Warning System (InaTEWS) comprises 170 broadband stations, 238 accelerometers and 137 tidal gauges. It is also complemented by 134 seismographs spread across the country (Intergovernmental Oceanographic Commission, 2018). InaTEWS can provide information about seismic activity within 5 minutes, including

location, origin time, magnitude, and depth, and provides tsunami warnings within the same period. Warnings are spread through SMS, email, Warning Receiver Systems, and social media, alongside radio and fax (Perwaiz, Parviainen, Somboon et al., 2020).

For weather information, Impact Based Forecasting (IBF) are available online at signature.bmkg.go.id which provides weather forecast in the value of 1-10 based on matrix of likelihood and impact. The website displays spatial weather data, list of affected areas, impacts, and responses. It can be said that forecast data has led to early warning. It can be said that such weather forecast data has led to early warning.

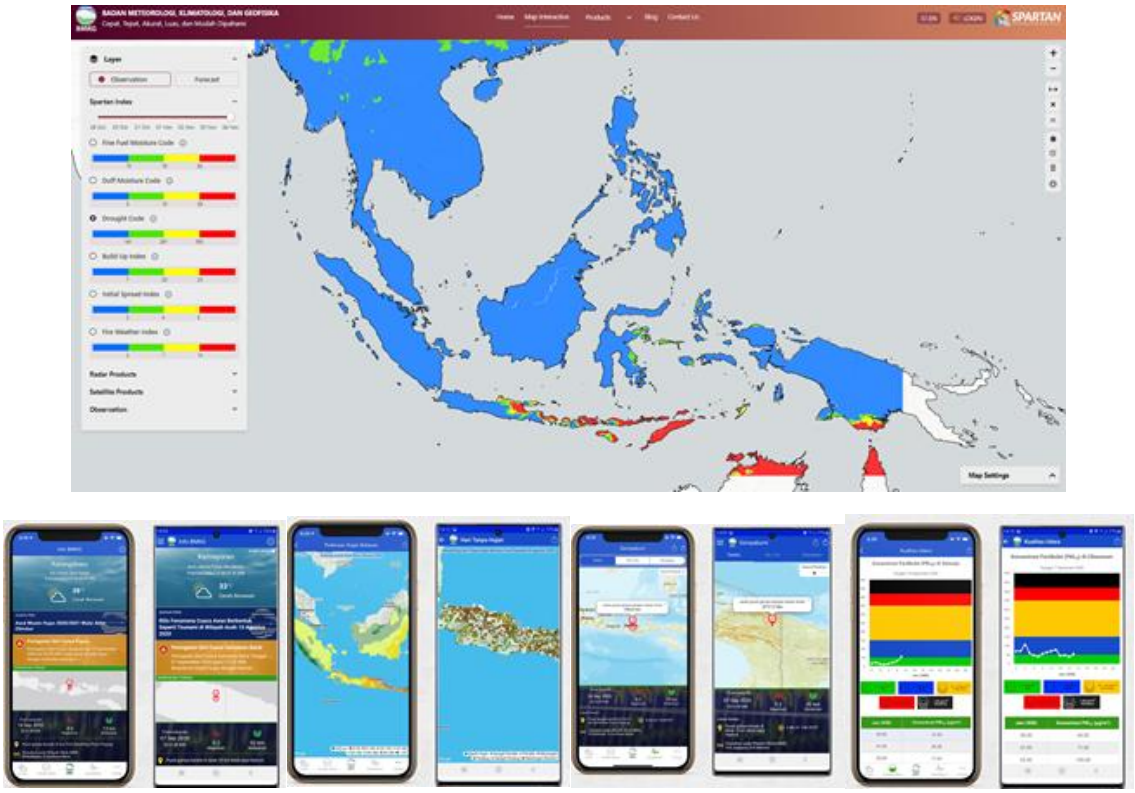


Figure 1. 47: Forest fire hazard and MCGA mobile application

Source: https://spartan.bmkg.go.id/; https://apps.bmkg.go.id/

For meteorology and climate hazard information, for flood and drought, there are Meteorology Early Warning System (MEWS) and Climate Early Warning System (CEWS). MEWS provides weather information on daily and weekly, while CEWS provides weather information in a longer period (10 days, 1 month, 3 months, and 1 season). MCGA provides online information for forest fire hazard at https://spartan.bmkg.go.id/ w that provides spatial data with a 10 km resolution, from previously 27 km. The data provided includes forest fire smoke spread and trajectory, geo hotspot, and data on days without rains, rain cloud growth potential, and weather radar. This information is needed to mitigate forest fire. Both data of IBF dan spartan have covered every province in Indonesia, up to the district level.

Additionally, the MCGA also offers mobile application which can be downloaded from https://apps.bmkg.go.id/. Such app provides information on: Air quality in several

cities of Sumatera and Kalimantan (PM10 in every hour) which are prone to forest fire; Airport and maritime weather; Weather, climate, and earthquake; Seven-days weather forecast in every three-hours daily covering every district in Indonesia.

For tsunami mitigation efforts, the Regional Disaster Management Agency (BPBD) in high-risk areas conducts socialization to people in coastal areas for hazard prevention and increased preparedness. There is a Tsunami Siren that also plays a key role in reducing disaster risk. Tsunami Sirens spread throughout the sea and coast in Indonesia. For example, there are at least 9 active Tsunami Sirens in Bali scattered throughout the island.

Figure 1. 48 Locations of Tsunami Sirens in Bali, 2019

Source: MoPWH, 2019

The Ministry of Environment and Forestry (MoEF) has developed an information system for monitoring and disaster forecasting, including: Disaster vulnerability index data information system, an information system showing the disaster vulnerability index, Adaptive Capacity Index, Exposure and Sensitivity Index for all regions in Indonesia up to the village level, can be accessed through http://sidik.menlhk.go.id; Forest and Land Fire Early Warning, a Hotspot and Climate-based information system through the ASEAN Regional Hotspot and Climate-Based Forest Fire Early Warning Application (API KHATULISTIWA); Sancakarla (Weather Application System for Forest and Land Fires) and the Forest and Land Fires Monitoring Information System Website (Sipongi.menlhk.go.id), which serve as early warning information systems that provide information on monitoring the potential for forest and land fires in the long term (prediction time scale of up to 7 months). The data is generated through utilization of long-term high-resolution climate forecast data and historical hotspot data, and Information on Early Warning and Early Detection of forest and land fires (Hotspot Data). The system monitors the number of hotspots in each province for the last 10 days with a confidence level of 51-100%. Hotspot detection using MODIS sensors with TERRA and AQUA satellites, as well as Himawari-8

Geo Hotspot, sourced from National Institute of Aeronautics and Space (LAPAN). Periodically updated every month, such data at sipongi allows for calculation of forest fire total area and the resulted carbon emission.

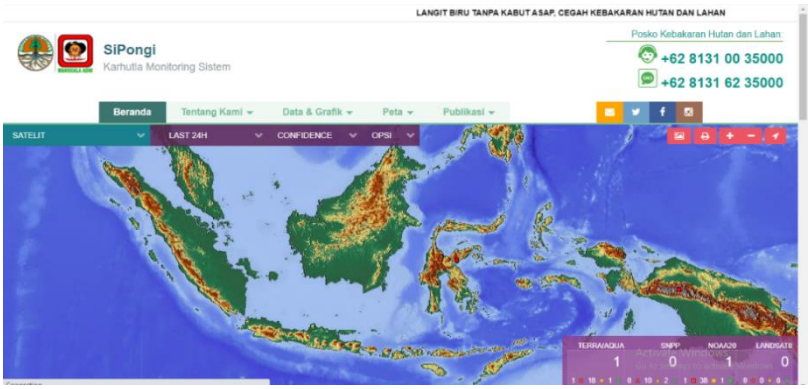


Figure 1. 49 Forest and Land Fires Monitoring Information System Website

Source: Sipongi.menlhk.go.id

The MoEF also developed an information system to monitor water pollution, and the status of water quality in rivers and lakes throughout Indonesia, can be accessed through website https://ppkl.menlhk.go.id/onlimo-2018. This information system aims to provide information related to the level of water pollution in rivers and lakes based on the water pollution index.

MoEMR handles information on volcanic eruption, landslide, land subsidence and liquefaction. Applications to provide information on Volcanic Activity can be accessed at https://magma.vsi.esdm.go.id/ while information on land slide hazard can be accessed at https://vsi.esdm.go.id/. On climate effect on agriculture, such as wind, temperature, precipitation, and hotspot, there is also website applications developed by the Ministry of Agriculture which can be accessed at http://sipetani.pertanian.go.id:8081/siperditan/.

These various maps and information related to hazards are useful for public as well as other institutions on providing early warning to local governments. For forest fire, data from Spartan which provide weather related information on drought and potential of forest fire are utilised by MoEF to provide early warning. For land slide, data on weather are combined by the MoEMR with the data on land slide vulnerability/hazard to inform the local disaster management agency (LDMA / BPBD) which will then be aware and make proper precautions. A straightforward early warning is also in place, specifically for earthquake and tsunami by which MCGA inform people on the affected area through personal mobile messages.

Responding to Covid-19, the government of the Republic of Indonesia has made major efforts by providing healthcare, financial assistance, as well as economic recovery programs. Soon after the first case of Covid-19 in Indonesia was found, the Control Task Force was established. At the end of March 2020, the Government Regulation Number 21 of 2020 was enacted that allows local governments to carry out the emergency programmes in health services under the approval of the Minister of Health.

Local governments carried out both Large-Scale Social Restrictions / LSR (*Pembatasan Sosial Berskala Besar* / PSfBB) and Micro-Scale Social Restrictions / MSR (*Pembatasan Sosial Berskala Kecil* / PSBK) to break the chain of transmission of the virus in Indonesia. In total, there were 2 provinces and 16 cities that carried out the restrictions in April 2020. Furthermore, other than the regulations that aim for the large-scale activity restrictions, individuals and communities' actions were also taken during the pandemic. Each individual is encouraged to adjust the health protocol in their everyday life called 5M; *Mencuci tangan* (wash hands), *Memakai masker* (use mask), *Menjaga jarak* (keep the minimum distance), *Menjauhi kerumunan* (avoid crowds), and *Mengurangi mobilitas* (reduce the mobility). The protocol aims for individuals to protect from the virus. Meanwhile, the 3T (testing, tracing and treatment) system continues to be implemented with the help of the communities; to break down the transmission chain of the virus.

Alongside with the health protocols, the vaccinations program started in early January 2021 aiming for vulnerable people as the prioritized groups. The phasing and determination of priority groups for vaccine recipients is carried out by taking into account the World Health Organization (WHO) Strategic Advisory Group of Experts on Immunization (SAGE) Roadmap as well as a study from the National Immunization Expert Advisory Committee (Indonesian Technical Advisory Group on Immunization). The first stage of the vaccination program was done exclusively for frontline medical workers in January-April 2021, followed up with the second stage for public workers and elderly people. Meanwhile, the vaccinations for the public started in early July 2021 which was then followed by children aged 12 years old and above in mid-July 2021. In total, 58 million and 32 million people have received the first dose and second dose respectively in late August 2021 and the vaccination rate has reached 1 million people per day. Majority of vaccinations are managed centrally through government healthcare system, which in the end have also incorporated digitalization on registry and certification process. Nevertheless, vaccination injections have also been managed by other parties, such as private companies.

Indonesia has also tried to increase the bed capacity of hospitals by retrofitting flats into emergency hospitals. The Nagrak low-cost apartment complex (*Rusunawa*) in North Jakarta and Pasar Rumput Rusunawa in South Jakarta are two of the latest flats converted into COVID-19 isolation facilities reserved for asymptomatic and patients with light COVID-19 symptoms. The former athletes village emergency hospital in Kemayoran, Central Jakarta, which had a capacity of at least 7,000 patients, designated to treat moderate and severe cases.

In July 2021, further mobility restrictions were taken in order to suppress the increasing rate of infection and prevent the spreading of the new Delta variant of Covid-19 outbreak through tighter activity and curfew program known as Emergency Public Activity Restrictions (*Pemberlakuan Pembatasan Kegiatan Masyarakat* / PPKM *darurat*. Finally, Covid-19 optimization was managed by handling command posts on micro-level and the implementation of PPKM level 3 to 1 which was set in Instruction of Minister of Home Affairs No. 15 and 26 the year 2021. As a result, the trend of Covid-19 active cases had dropped from 574,135 cases at the highest point on 24 July to 273,750 cases on 24 August 2021.

Several cities in Indonesia have also adopted the Resilience Roadmap from UNDRR through MCR2030 Program, which consists of 3 stages of A, B, and C. Resilience Roadmap guides cities on how to improve resilience and sustainability pathways to deliver SDGs Goal 11. With the flexible and iterative Resilience Roadmap, cities can enter MCR2030 at any stage gaining access to a range of tools and technical advisory inputs delivered by different partners. Cities make commitments to demonstrate progress along the resilience roadmap.

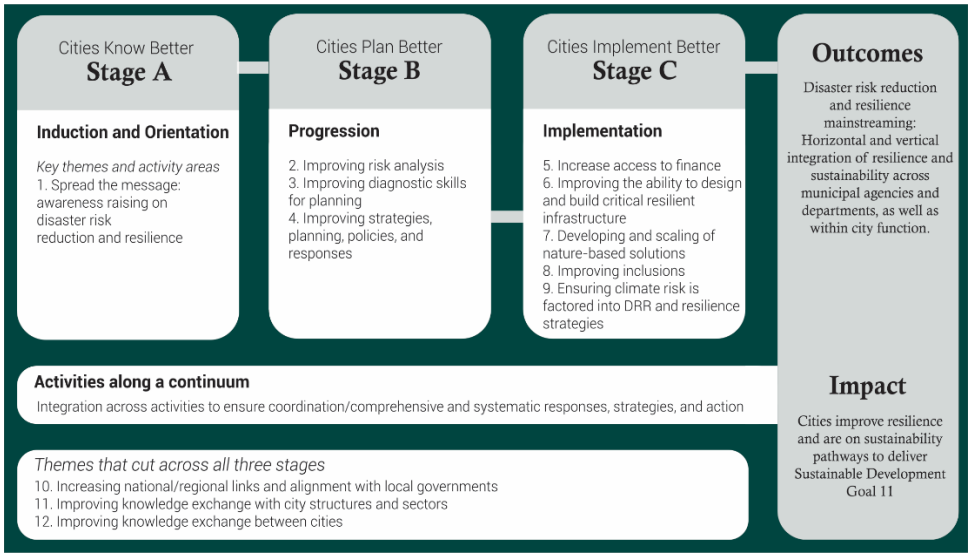


Figure 1. 50: Resilience Roadmap MRC2030

Source: MRC2030 UNDRR, https://mcr2030.undrr.org/resilience-roadmap#stage-c

Stage A focuses on enhancing cities' understanding on risk reduction and resilience. Stage A (Cities Know Better) cities are committed to move along the resilience pathway to develop and implement DRR and resilience strategy by firstly raising awareness around DRR and resilience and bringing relevant city actors and the public on board with the city's plans for DRR and resilience. Stage B (Cities Plan Better) cities will initially focus on improving assessment and diagnostic skills, increasing alignment between local strategies with national and regional strategies, and improving early-stage strategies and policies. Stage B cities may have had some early successes and momentum towards achieving DRR, sustainability and resilience improvements, and have some form of strategy to address disasters but may not yet incorporate risk reduction or preventive measures. The cities must demonstrate the commitment to move towards development or refinement of a DRR and resilience strategy and ensure development plans are risk-informed. The last stage (Cities Implement Better) Stage C of the resilience roadmap focuses on supporting cities in the implementing of risk reduction and resilience actions. Cities in this stage have a relatively robust DRR, resilience and sustainability plan in place and may be in the early stages of implementation or already working towards mainstreaming the DRR/resilience strategy and activities across its governments' structure. These cities will be initially focused on improving their cross-sector governance structure, increasing their ability to access finance and to design and deliver resilient infrastructure, developing nature-based solutions and improving inclusion.They must demonstrate commitment to implement and

mainstream DRR and resilience across all sectors and to share experiences with others. Cities certified with ISO37123 - Sustainable cities and communities will automatically join this stage. Only 3 cities in Indonesia participated in the Resilience Roadmap MCR2030, namely Pacitan – East Java (Stage B), Barru - South Sulawesi & Padang – West Sumatra (Stage C).

1.3.1.4 Build urban resilience through quality infrastructure and spatial planning

Indonesia is committed to strengthening the resilience of cities and human settlements with ecosystem-based approaches and by mainstreaming holistic and data-informed disaster risk reduction and management at all levels to reduce vulnerabilities and risk in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 (NUA §77).

The Sendai Framework for Disaster Risk Reduction 2015-2030 is a worldwide agreement to prevent disaster risks and reduce their negative impact. Its objective is to improve social and economic resilience and reduce the adverse effects of climate change and man-made hazards. Over the past two decades, the frequency and intensity of natural hazards (like hurricanes/cyclones) has increased substantially. These disasters cause many deaths, loss of livelihoods, destroy infrastructure and the environment. Disasters wipe out economic progress and perpetuate poverty. Hence, reducing cities' vulnerability to hazards reduces the risk of economic progress being wiped out and poverty increasing. For example, multi-hazard maps can be used to zone areas in such a way that no residential and commercial buildings are built in areas that can flood. Therefore, multi-hazard maps are key to improving a city's resilience.

Figure 1. 51 Multi-hazards Map of Indonesia

Source: https://inarisk.bnpb.go.id/

A preliminary overview of data on percentage of cities with multi-hazard mapping can be seen on the inaRisk website (https://inarisk.bnpb.go.id/), but each province, district and regencies may have different layers of hazards subject to its specific geographic location. The website provides information based on hazard type: flood, flash flood, extreme weather, abrasion, earthquake, forest fire, drought, volcanic eruption, landslide, tsunami, and multi-hazard. On this website, users can choose based on resilience factors (hazard, vulnerability, capacity and risk), types, and other detailed characters such as topography, riverbanks, etc. While most of the multi-hazard mapping is available, not all of them are further measured by capacity and risk assessment. InaRisk is also available at

mobile application for personal use where everyone can identify the risk and hazard of their location allowing for increased awareness to disaster. InaRISK is supported by at least 20 institutions whom validated their data to be ready for public use.

The Inarisk website also provides report on Indonesian disaster risk index (*Indeks Risiko Bencana* Indonesia / IRBI). Form the report, it is known that 514 regencies and cities, as well as 34 provinces have disaster index ranging from medium to high. This is index is measured by multi-hazard, however specific hazard type and index is also provided. Other than multi-hazard maps, a map on infrastructures prone to land movement is also available and developed by MoPWH.

Figure 1. 52 Infrastructure Prone to Land Movement

Source: https://sitaba.pu.go.id/

Regularly updated data on number of disaster events are also provided online at https://gis.bnpb.go.id/ and https://dibi.bnpb.go.id/ . Website visitor able to get information on types of disaster events and the casualties based on province, city, and regency. Such information is made available with the feed of the LDMA / BPBD reaching up to 485 municipalities while the rest 19 municipalities are yet to have one. Other than coverage map of disaster events, infographics, and important dates of great magnitude in the excel format excel are also available since 2008.

Meanwhile a bottom-up reporting is available at https://petabencana.id/ as a real-time disaster information sharing platforms run by Disaster Map Foundation (*Yayasan Peta Bencana*). The online platforms harness the use of social media to crowdsource disaster information from residents on-the-ground, who often have the most up-to-date information. Moving far beyond passive data mining, the platforms deploy “humanitarian chatbots” to automatically respond to social media posts about disasters and ask users to confirm their situation by submitting a disaster report. These reports are used to map disasters in real-time on a freely accessible website, so that anyone can understand rapidly changing conditions during emergency events. Operational since 2013 in Indonesia, the platforms provide transparent communication between residents and government agencies, and

useful to make time-critical decisions about safety and navigation during disasters (https://info.petabencana.id/).

Responding to the multi-hazard, efforts have been made by the Government of Indonesia at national and sub-national level through structural as well as non-structural disaster mitigation. MoPWH, for example, has built sea wall to mitigate sea level rise at North Coast of Java, and water tunnel at Nanjung in West Java to mitigate flood, For climate change, actions to reduce GHG emission was made by reducing plastic waste, utilizing plastic waste for asphalt, and energy efficiency for green building, while also adapting to climate change with urban farming. Disaster preparedness is made for natural disaster and health-related disaster. Several good practices on building urban resilience are provided in the last part of this report.

1.3.2 Sustainable Management and Use of Natural Resources

1.3.2.1 Strengthen the sustainable management of natural resources in urban areas

Indonesia is committed to facilitating the sustainable management of natural resources in cities and human settlements while protecting and improving the urban ecosystem and environmental services, reducing greenhouse gas emissions and air pollution, promoting disaster risk reduction and management and enabling economic development (NUA §65). Within the same sub-category, indicators on domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP are used to monitor progress under the theme "Sustainable Management and Use of Natural Resources" and category "Strengthen the sustainable management of natural resources in urban areas". The basis for selecting this indicator are the commitments (including NUA §65) that call for the sustainable management of natural resources in cities and human settlements in a manner that protects and improves the urban ecosystem and environmental services, through environmentally sound urban and territorial planning.

Domestic material consumption (DMC) reports the number of materials that are used in a national economy. DMC is a territorial (production side) indicator. DMC also presents the amount of material that needs to be handled within an economy, which is either added to material stocks of buildings and transport infrastructure or used to fuel the economy as material throughput. DMC describes the physical dimension of economic processes and interactions. It can also be interpreted as long-term waste equivalent. Per-capita DMC describes the average level of material use in an economy – an environmental pressure indicator – and is also referred to as metabolic profile.

According to UN-ESCAP in 2016, Indonesia had a 29.12% lower DMC intensity compared to 2000. The DMC Intensity of Indonesia is 1.81 (kg per 1 US dollar (2010 GDP)) in 2016. This number is lower than the Average DMC Intensity of South-East Asia which is 2.11 and Average DMC Intensity of Asia-Pacific region which is 2.04. This indicates decrease of material resources used per unit of economic output, implying improvement of resource efficiency over this period. In 2016, Indonesia is more resource efficient in terms of usage of material resources compared to the Asia-Pacific regional average.

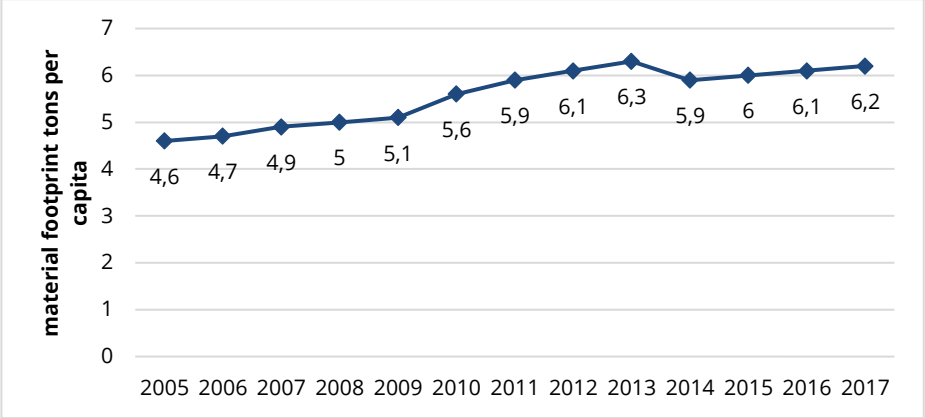


Figure 1. 53 Material Footprint Per Capita, 2005-2017

Source: Statistics Indonesia, 2018

Material footprint of consumption reports the number of primary materials required to serve the final demand of a country and can be interpreted as an indicator for the material standard of living/level of capitalization of an economy. Per-capita MF describes the average material use for final demand. According to the data below, the amount of material footprint per capita in Indonesia increases every year. In 2005 to 2017 the amount of material footprint per capita increased 1.6 tons per capita, the average growth of material footprint per capita is 0.1 tons per year.

The SDGs Agenda Item 33 defines natural resources as "oceans and seas, freshwater resources, as well as forests, mountains and drylands and to protect biodiversity, ecosystems and wildlife". Efforts for conservation movement in the community for the natural resource is the existence of conservation cadres as pioneers and drivers of conservation efforts for living natural resources and ecosystems (Bappenas, 2021).

Challenges on natural resources and environmental damage are caused by violations of law in the field of natural resources and the environment, such as illegal logging, forest and land fires, mining without permits, and illegal forest control (Bappenas, 2021). In addition, there is a reduction in the ideal habitat area for endangered species on four large islands (Sumatera, Java, Kalimantan and Sulawesi). This condition is driven by an increase in monoculture plantation areas which further depress forest cover and can lead to increased loss of biodiversity if not treated immediately. Another obstacle faced in restoring ecosystems is the settlement of land tenure status (clear and clean) so that land conflicts can be avoided. Policy response for natural resource and environmental challenge is the recovery of pollution and damage to natural resources and the environment, which is carried out by: (1) restoration of peatlands; (2) forest and land rehabilitation; (3) restoring ex-mining and land contaminated with B3 waste; (4) restore damage to the coastal and marine environment; (5) restoring the habitat of endangered species; and (6) increasing the population of endangered wild plant and animal species.

Green areas are defined as public and private areas that have flora such as plants, trees, and grass (e.g., forests, parks, gardens). These areas capture some of the CO2

emissions and release oxygen as green spaces contribute to the environmental sustainability of a city. This indicator provides information about the amount of geographical space that the city dedicates to green space. A prosperous city seeks to increase the per capita green areas to have better air quality and improve the quality of life of its population. Green areas make a city more beautiful and pleasant to live in.

Based on Law Number 26 of 2007 concerning Spatial Planning, the proportion of green open space in the city area is at least 30% of the area of the city, which consists of 20% of public green open space and 10% private green open space. By the enactment of Omnibus Law Number 11 of 2020, there will be adjustments related to green open space, where the spatial planning must include the integration of the settlement system, infrastructure, open space system, both green open space and non-green open space. Based on the National Medium-Term Development Plan 2020-2024 the area of managed conservation forest in Indonesia is 27.43 million hectares.

Indonesia, through the Ministry of Environment and Forestry, collected data of total green area within the city per inhabitant for 61 cities. In 2020, the total number of green areas was 900.89 square kilometers which are 3% of the total area in those cities (29,275 square kilometers) that provided for 39,863,467 cities' population, and the per capita green areas were 22.6 square meters. The green urban areas calculated in this number is including urban parks, urban forests, green street lines, river border, coastal and rail setbacks, graveyards, green lines for high voltage electricity networks and spring water sources area

According to the World Health Organisation (WHO), the minimum number of accessible, safe and functional urban green areas that required for each person for each city is 9 square meters. In general, more than one-third of cities in Indonesia provided over 9 square meters per capita of green areas. Based on the city's distribution in Indonesia, many cities are located outside of Java Island, which mostly consists of small and intermediate cities, fulfilled the requirements with a range between 20-30 and 100-400 square metres for each person within the city. Moreover, not only small and intermediate cities but also Palembang city, a city with a population of over one million people categorized as a Metropolitan city, also has 26.11 square meters of green areas per person. However, some big and metropolitan cities such as: Pontianak, Banjarmasin, Samarinda, Makassar, Padang, Jambi, Pekanbaru Medan, and Batam, need to commit on provide more urban green areas.

Java Island, an Island with a huge population that created most big and metropolitan cities in Indonesia, are required extra green urban areas for their population. For instance, some cities in Java Island, such as Jakarta, Surabaya, Depok, Tangerang, South Tangerang, Bogor, Malang, Serang, and Cimahi, only allocated less than 2 square meters of urban green areas per capita for each city. Despite that, Semarang city as a metropolitan in Java Island is adequate to provide the urban areas per capita around 66,13 square meters. In addition, some medium cities (Magelang, Blitar, Madiun, and Banjar) can provide urban areas more than 9 square meters per capita.

1.3.2.2 Promote resource conservation and waste reduction, reuse, and recycling

This indicator will be used to monitor progress under the theme "Sustainable Management and Use of Natural Resources" under category 1.3.2.2 "Promote resource conservation and waste reduction, reuse and recycling". In the New Urban Agenda (NUA §74), Indonesia committed to promoting environmentally sound waste management by reducing, reusing, and recycling waste, minimizing landfills, reducing marine pollution, and converting waste to energy when that choice delivers the best environmental outcome.

The achievement of Recycling rate, tons of material recycled (SDGs 12.5.1) based on Report Goal SDGs 2019 shows that the amount Recycling rate/material recycled in 2019 was 8.02 million tons, which is still far from the target of 61.5 million tons. Nonetheless, in accordance with Presidential Regulation of the Republic of Indonesia, Number 97 of 2017 concerning National Policies and Strategies for the Management of Household Waste and Types of Household Waste, the target for reducing waste in 2025 is 30% of the total waste generation. To achieve this target, it is necessary to optimize the facilities that have been built as an effort to reduce the waste that goes to the Landfill (TPA). Utilization of Reduce, Reuse, Recycle Waste Processing Sites (TPS3R) and the development of Waste Bank activities are alternatives to reduce waste generation. Of course, the active role of the community, managers, and related stakeholders is needed to optimize activities at TPS3R and Waste Bank.

PLTSa (solid waste power plant) is also built based on Presidential Regulation Number 18 of 2016 concerning Acceleration of Construction of Waste-Based Power Plants. An example of local government support of 3R waste is Kang Pisman (Reduce, Separate, Reuse) website developed by the Bandung municipality. The city of Bandung started this initiative in 2018. The Bandung municipality launched a movement, collaboration between the government, citizens, the private sector and others in building a new civilization of more advanced waste management. In 2021 Kang Pisman has 1.810 waste bank members, 835 cadres, and 70 hubs.

ICT has also helped in the process. Octopus, for example, is an application to deposit used packaging to recycle. It has 3 different mobile apps for consumers, waste collectors, and waste production business actors (checkpoints). Established in 2020, Octopus has more than 75.000 users, more than 9000 waste collector partners, and 2065 waste banks. Operating in several cities, including Makassar, Denpasar, and Bandung, Octopus has collected 9.1 million pieces of plastic and glass recyclable waste.

Efforts for waste reduction are also integrated with the economic sector in the circular economy concept. Economic trends that occurred in the cities of the future must also consider the environmental services (circular economy). Circular economy is an economic model that has the principle of efficiency in materials and energy, becoming an integrated loop with reuse, reduce, recycle, remanufacture, refurbish, and repair schemes (MoPWH, 2019). Bogor City implemented the regulation to restrict people from using plastic bags to reduce the solid waste disposal, further details will be explained in the last part of this report.

To support The National Waste Management Program, the Ministry of Environment and Forestry aids the community or local government waste processing facilities, which is the Recycling Centre, that can process waste into raw materials, in Surakarta and Bengkulu districts. The potential for waste handled from this assistance is 7,200 tons per year. In the recycling centre activities, there was a budget efficiency of 20.03 from IDR 3,900,000,000 due to the refocusing of the Covid-19 pandemic.

To support the national waste management program, the central government assists to the community or local government waste processing facilities, namely the Recycling Centre, which can process waste into raw materials, in Surakarta and Bengkulu districts. The potential for waste handled from this assistance is 7,200 tons per year. Recycling Centres were also built in Moralism District and Banda Aceh City for coastal waste management, with a potential waste management of 5,292 tons per year.

In addition, in implementing the National Policy and Strategy (Jakstranas) for Household Waste Management, in 2020 MoEF aided local governments in the form of waste processing equipment such as organic waste counting machines and plastic waste counting machines. The potential for handling waste is estimated at 810 tons per year. (MoEF, 2020)

1.3.2.3 Implement environmentally sound management of water resources and coastal areas

Many cities across the globe are in coastal areas, delta regions and islands. These cities are particularly vulnerable to hurricanes/cyclones, flooding, subsidence, and sea level rise (NUA §64). It is important for such countries to have an enforced coastal land management plan. Such plans can mitigate the impacts of these hazards. The rationale for this indicator places emphasis on safeguarding protected areas which are key to slowing the decline in biodiversity and ensuring long term and sustainable use of marine natural resources. The establishment of protected areas is crucial for achieving this objective.

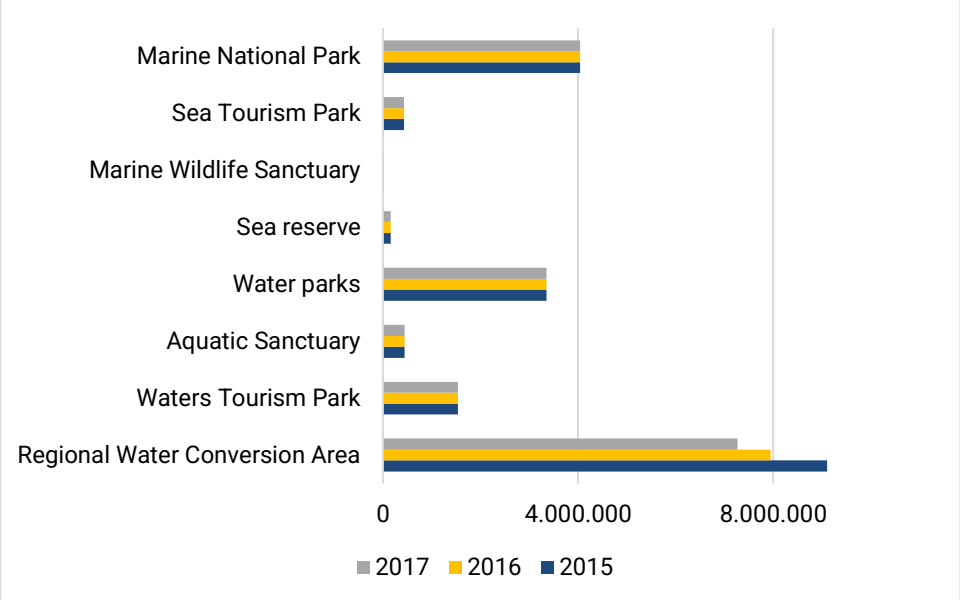


Figure 1. 54 Number of Water Conservation Area (Hectares), 2015-2017

Source: Statistics Indonesia, 2018

The area of Water Conservation Areas that are managed sustainably (KKP) has decreased by 2.46 million hectares from 7.8 million hectares (in 2014) to 5.34 million hectares (in 2016). The Statistics Indonesia Susenas 2018 showed number of Water Conservation Areas (Hectares), which comprised of Marine National Parks, Marine Tourism Parks, Wildlife Sanctuaries, Marine Nature Reserves, Aquatic National Parks, Aquatic Nature Reserves, Aquatic Tourism Parks has constant amount of area from 2015 to 2017. However, there was a decrease by 1,841,947 hectares in the Regional Water Conservation Area to 7,265,777 hectares in 2017. One profound example how water resources has been revitalized is found in Citarum.

1.3.2.4 Adopt a smart-city approach that leverages digitization, clean energy and technologies

Indonesia recognized that urban form, infrastructure and building design are major sources of cost and resource efficiencies. In addition, economies of scale and agglomeration fosters energy efficiency and sustainable growth in the urban economy (NUA §44). Thus, Indonesia is actively encouraging the implementation of Smart City. One of the guidelines used is the Indonesian National Standard 37122 on the Maturity of Sustainable Smart Cities which adopts the international standard, namely ISO 37122:2019 to ensure the development of Smart City in Indonesia has good standards. In the smart city concept, the implementation of smart city is classified into 6 categories, including smart government, smart branding, smart economy, smart living, smart society, and smart empowerment. Smart city is a system that can sense the environment, process it, and take efficient and effective steps to solve problems that occur.

Indonesia National Standard 37122 about the smart city focuses on urban risk management. Some of the indicators included in SNI 37122 are indicators of economy, education, energy, environment & climate change, finance, government, health, housing, population and social conditions, recreation, security, solid waste, sports and culture, telecommunications, transportation, agriculture and food, urban planning, waste, and water. In the implementation of the national standard of smart city, prioritization is done to formulate the infrastructure and facilities needed as high priority, priority and customize.

Indonesia committed to ensure universal access to affordable, reliable and modern energy services by promoting energy efficiency and sustainable renewable energy and supporting subnational and local efforts to apply them in public buildings, infrastructure and facilities, to encourage the adoption of building performance codes and standards, renewable portfolio targets, energy-efficiency labelling, retrofitting of existing buildings, among other modalities as appropriate, to achieve energy-efficiency targets (NUA §121). In relation to green building policy, Indonesia has the obligation of sustainable building as ruled in the Law Number 28/2002 about Building on article 3 “The building arrangement aims to create a functional building and suitable with the building layout that is congenial and harmony with its environment “. This Law has been further defined in Public Works and Housing Ministerial Regulation Number 21/2021 about Performance Assessment of Green Building. Green building technical standard fulfilment is divided into 2

categories, each category has its building class and area requirements. The assessment may result in three rating levels: primary, intermediate and advance.

In compliance with this rule, the MoPWH has built traditional markets, with the help of BIM technology, which have also been awarded with green building ratings. Legi Ponorogo and Tempe Sengkang markets have received the highest at advance level. Another achievement of the Ministry is gained with its office building at Pattimura due to its ability to save energy and water. Awards have been given by the Ministry of Energy and Mineral Resources as well as the ASEAN. Another office In Bandung, Grha Wiksa Praniti, in 2020 has received ASEAN energy awards in the category of Energy Efficient Building for Tropical Building. Another infrastructure of green building built by MoPWH are Pariaman City Public Market, Pon Trenggalek Public Market, Kaliwungu Kendal Public Market, Sukamawati Public Market Block C with intermediate level of green building implementation, Sukawati Public Market Block A and B in Bali, Renteng Public Market in West Nusa Tenggara, Klewer Timur Public Market, IAIN in Palangkaraya, Legi Public Market in Surakarta with primary level of green building implementation.

Appreciation was also given to buildings that have implemented the green building concept in accordance with the regulations of Law Number 28 of 2002 concerning Buildings and Minister of Public Works and Public Housing Regulation Number 21 of 2021 concerning Green Building Performance Assessment at the PSBE (Subroto Award for Energy Efficiency Sector) and the ASEAN Energy Awards. PSBE Award 2021 Winners namely Energy Efficient Building Category (Category A) with New Building Sub-Categories, including 1st Place in Green Office Park (GOP) 1, 2nd Place Telkom Landmark Tower 2, 3rd Place Astra Tower Building; Retrofit Building Sub-Categories, namely 1st place at Graha CIMB Niaga; Green Building Sub-Category First Place in Scientia Business Park, Third Place in The Body Shop Indonesia Office.

Figure 1. 55: Achievement of Ministry of Public Works and Housing Main Office Building
Source: MoPWH, 2021)

The building that have won the 2021 ASEAN Energy Awards are Green Office Park-9 (GOP-9), Winner, Category: Large Green Building; Solar Thermal Cooling System, Winner, Category: Special Submission for Energy Efficiency in Building; Slamet Bratanata Building - Ministry of Energy and Mineral Resources, 1st Runner Up, Category: Energy Management in Large Building; PT Denso Bekasi Plant, 1st Runner Up, Category: Large Industry - Energy Management; Chairul Saleh Building - Ministry of Energy and Mineral Resources, 2nd Runner Up, Category: Small & Medium Building - Energy Management.

In the New Urban Agenda, Indonesia advocated adoption of a smart-city approach that leverages digitization, clean energy and technologies as one of the solutions to traffic congestion. This indicator will monitor the number of eligible street junctions that have traffic lights connected to the traffic management system in the cities. Large cities install traffic lights that are connected to traffic management systems as a solution for reducing traffic congestion. In Jakarta by 2019, for example, there are 96 traffic lights integrated to ITS ATCS (Intelligent Transport System Area Traffic Control System). Data of road junctions with traffic lights connected to traffic management system is yet to be available. Yet, there is an increase in the number of cities which implemented the Area Traffic Control System (ATCS) programs. Below is the number of cities which implemented the ATCS development program.

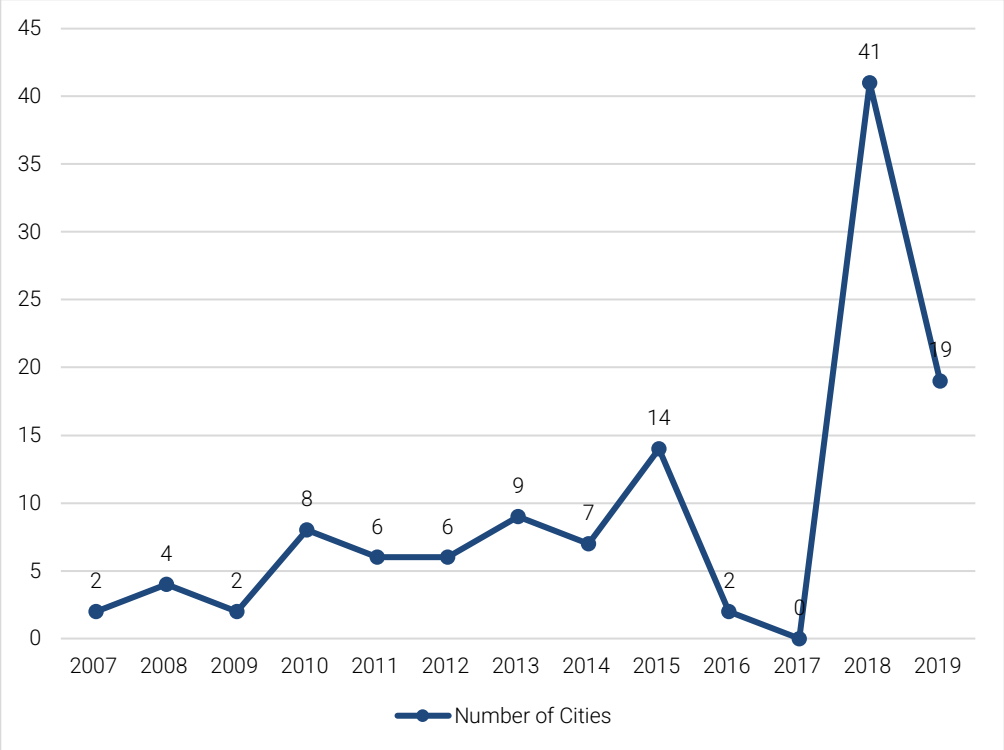


Figure 1. 56: Number of Cities with ATCS Development Program

Source: MoT, 2019

The highest number of cities which implemented the ATCS Development program happened in 2018 with total 41 cities when there was zero city that develop the ATCS program in the previous year (2017). The list of the cities can be seen in table below.

Table 1. 4: Cities/Regencies with Area Traffic Control System Program

No.	Year	Cities/Regencies with ATCS Development Program
1	2007	Batam, Tegal
2	2008	Bukit Tinggi, Manado, Balikpapan, Pontianak
3	2009	Sragen Regency
4	2010	Surakarta, Bogor
5	2011	Samarinda Regency, Denpasar, Badung Regency, Gianyar Regency, Tabanan Regency, Samarinda, Bandung, Surakarta
6	2012	Medan, Bandung, Surakarta, Samarinda, Denpasar, Yogyakarta
7	2013	Medan, Bandung, Samarinda, Yogyakarta, Padang, Denpasar, Badung Regency, Gianyar Regency, Tabanan Regency
8	2014	Medan, Batam, Padang, Bandar Lampung, Bandung, Pekalongan, Yogyakarta
9	2015	Medan, Batam, Padang, Pangkal Pinang, Palembang, Bandung, Yogyakarta, Pekalongan, Kediri, Sidoarjo, Palu, Depok, Purwokerto, Tasikmalaya
10	2016	Yogyakarta, Kediri
11	2017	-
12	2018	Batam, Tegal, Bukit Tinggi, Manado, Balik Papan, Pontianak, Sragen Regency, Surakarta, Bogor, Samarinda, Denpasar, Badung Regency, Gianyar Regency, Tabanan Regency Medan, Bandung, Yogyakarta, Padang, Bandar Lamping, Pekalongan, Pangkal Pinang, Palembang, Kediri, Sidoarjo, Palu, Depok, Purwokerto, Tasikmalaya, Pekanbaru, Tanjung Pinang, Jambi, Mataram, Palangkaraya, Kendiri, Bengkulu, Jayapura, Mamuju, Salatiga, Ungaran Regency, Kupang
13	2019	Aceh, Padang, Bukit Tinggi, Pekanbaru, Tanjung Pinang, Jambi Regency, Bengkulu, Salatiga, Semarang Regency, Banyumas, Situbondo, Kupang, Palangka Raya, Kendari, Mamuju, Makassar, Palu, Jayapura

Source: MoT, 2019

Data on percentage reduction in annual final energy consumption in homes using smart monitoring systems is not available. Nonetheless, the Indonesian government has made notable efforts on the city scale. Presidential Decree number 95/2018 about Electronic Based Governance System. Additionally, Jakarta, Makassar, and Banyuwangi were chosen for ASEAN smart cities network (ASCN). Pilot master plan for smart city has been made for 25 cities/regions in 2017 and followed by 50 more in 2018 as part of 100 smart city initiative.

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2

Effective Implementation

2.1 Building Governance Structure: Establishing a supportive Framework

Decentralization for urban areas, especially its management, has evolved since 1980s with emphasis on simplification of the types of management. The management with highest authorities is divided into for urban and rural areas, with with less regulations imposed on the types of management for metropolitan areas, urbanized regions or for unincorporated urban areas. Efforts to monitor performance management of these areas slowly introduced.

2.1.1 Decentralization to enable subnational and local governments undertake their assigned responsibilities

Adherence to the rule of law in the management of local authorities is a prerequisite for efficient management practices. The New Urban Agenda calls for metropolitan governance that is inclusive and based on legal frameworks (NUA §90).

Since the reform of 1998, decentralization in Indonesia shifts substantially from the previous period. A level of autonomy exercised by local governments, through direct elections, has created dynamics, and orientation on local development that have not been experienced since the Old Order Era. Citizens' involvement on local democracy enriches not only through participation in elections of mayors and members of city councils but also through engaging in open, participatory discussions and gaining access to communicating with local authorities.

The period of 1999-2004 the local governments in Indonesia have had the autonomy to participate in plan, design and build their cities. It was followed by direct local elections in 2008 in which the vision and mission of the elected leaders used as a reference for preparing a mid-term development plan. The changing structure in the government system, rapid and massive urbanization, fast environmental changes, and progressive communication and information technology demand execution with a good governance framework. Consistent but responsive national regulatory system strengthens an enabling environment for cities to develop effective and inclusive governance. Having strong leaderships, increasing urban financial capacity, encouragement of active stakeholders, and promotion of collaborative work are some of the initiatives and practices that occur in Indonesian cities.

Urban governance policies require integration of various sectoral policies to solve the urban problems. The decentralization period (2000-present) generated more urban policies and programs regarding number and variation compared to those produced in the centralization period (1945-2000). A lack of directives that regulate urban governance issues at the national level however, creates an overlap of regulations, as a result of competing sectoral policies, in urban governance in Indonesia.

The main regulation on urban governance is the Law Number 23/2014 regarding local government. City government is categorized as a part of local government. Urban management in unincorporated urban regions are recognized wherein the government has to be involved in managing it. Urban service standards are introduced as a concept of standardization in the regions. These regions are divided into planned and unplanned. Where the location of such regions encompasses more than one administrative

boundaries, inter-governmental cooperation are encouraged. In some regions have become a pressing issue. While various types of management in unincorporated urban region is to be legislated further by executive government regulation.

The Law number 23 of 2014 allows for selected sectoral activities decentralize authorities to municipalities/ regencies from the national government and some are to the provincial governments. Partial authorities in several sectors such as mining activities, ocean and fisheries, high school education is decentralized only to provinces. The national government maintains the authority on managing border regions and housing for low-income groups in addition to the sole purview of national defence, international relations, justice, statistics, fiscal and finance matters, and religions. Municipalities / regencies deal with many other sectoral activities such as health, primary education, local infrastructure, detailed zoning and its control, tax collection.

Another important law was adopted in the same year of 2014, Law number 6 of 2014 on villages' governance and finance. Villages are recognized as self-governing entities and obtain broader authority and resources. This allows for more participatory and grassroots based development. Budgets for villages are allocated from direct financial transfer from the National level (Village Fund/Dana Desa) and through regencies or municipalities (Village Fund Allocation/Alokasi Dana Desa). With such allocations, villages are required to develop their own LMDPs, LAWPs and LABAs (Bappenas, 2020). Some villages located within the municipalities such as in Kendari, gain extra resources for their development.

Table 2. 1 Regulations Related to Urban Governance

Year	Policy Regulations	Important Remarks
1999-2004	Law number 2/1999 Law number 22/2003	The election of mayor was carried out by the legislatures The executives were responsible for the legislation process The legislatures were equal partner of the executives
2004 – 2014	Law number 32/2004 Law number 8/2005 Law number 12/2008	The election of mayor was carried out directly by the citizens The legislation process was started to manage by the legislative as the legislative council within the local parliament was established. Public participation was taken into consideration during formation process of the local regulation Mayor work with the Governor as the representative of the central government
2014 – present	Law number 23/2014 on local governments Law number 2/2015	Similar as in the previous period, mayor was directly elected by the citizen Improvement of the legislation role of the local parliament Mayor work with Governor as the representative of the central government.

Source: (MoPWH, 2017)

2.1.2 Linking urban policies to finance mechanisms and budgets

In the New Urban Agenda (NUA), Indonesia committed to: mobilize internal resources and revenues generated through the capture of benefits of urbanization (NUA §132). Based on VNR SDGs 2021, it can be seen that the Proportion of the Domestic Budget Funded by Domestic Tax from 2019 to 2020 has decreased from 65.18% to 62.60%. (See table 2.2).

Table 2. 2 Proportion of Domestic Budget Funded by Domestic Taxes

Indicator	2016	2017	2018	2019	2020
Proportion of domestic budget financed by domestic taxes (%)*	67.02	64.98	67.01	65.18	62.60
Total Spending**	1864.3	2007.4	2213.1	2309.3	2739.1
+ Central Government**	710.3	742.0	757.8	813.0	763.9
+ Transfer to Sub-national Governments**	1154.0	1265.4	1455.3	1496.3	1975.2
Domestic Revenue**	1546.9	1645.7	1928.1	1955.1	1698.6
+ Tax**	1285.0	1343.5	1518.8	1546.1	1404.5
+ Non-Tax**	262.0	311.2	409.3	409.0	294.1

Source: Bappenas, 2021

The tax ratio tends to weaken with the lowest level found in the last decade: only 8.31%. The declining trend has occurred since a decade ago, albeit the lower-bound taxable income had been lifted-up and a tax amnesty had been once introduced in 2017-2018 through Law 11/2016. From this depiction it can be evidently be seen that the capacity of the government to generate revenue through the tax system in 2020 shrank significantly. The lower capacity of the government to generate revenue directly affects the proportion of domestic spending financed by domestic tax. This worsened situation in 2018-2019 when the proportion fell from 67% to 65%, the tax ratio became 6.6% in 2020.

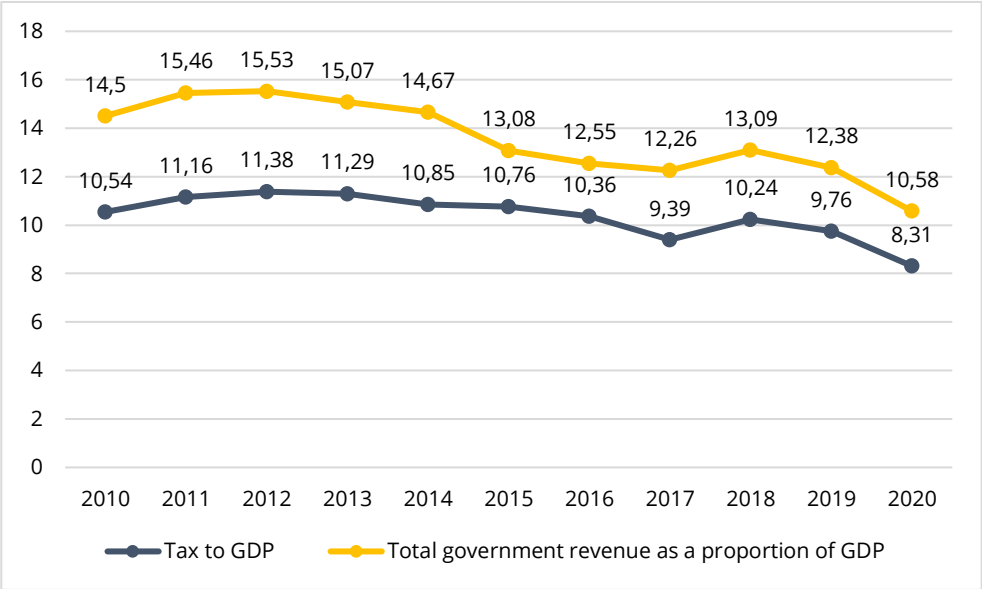


Figure 2. 1 Government Revenue and Tax

Source: (Bappenas, 2021)

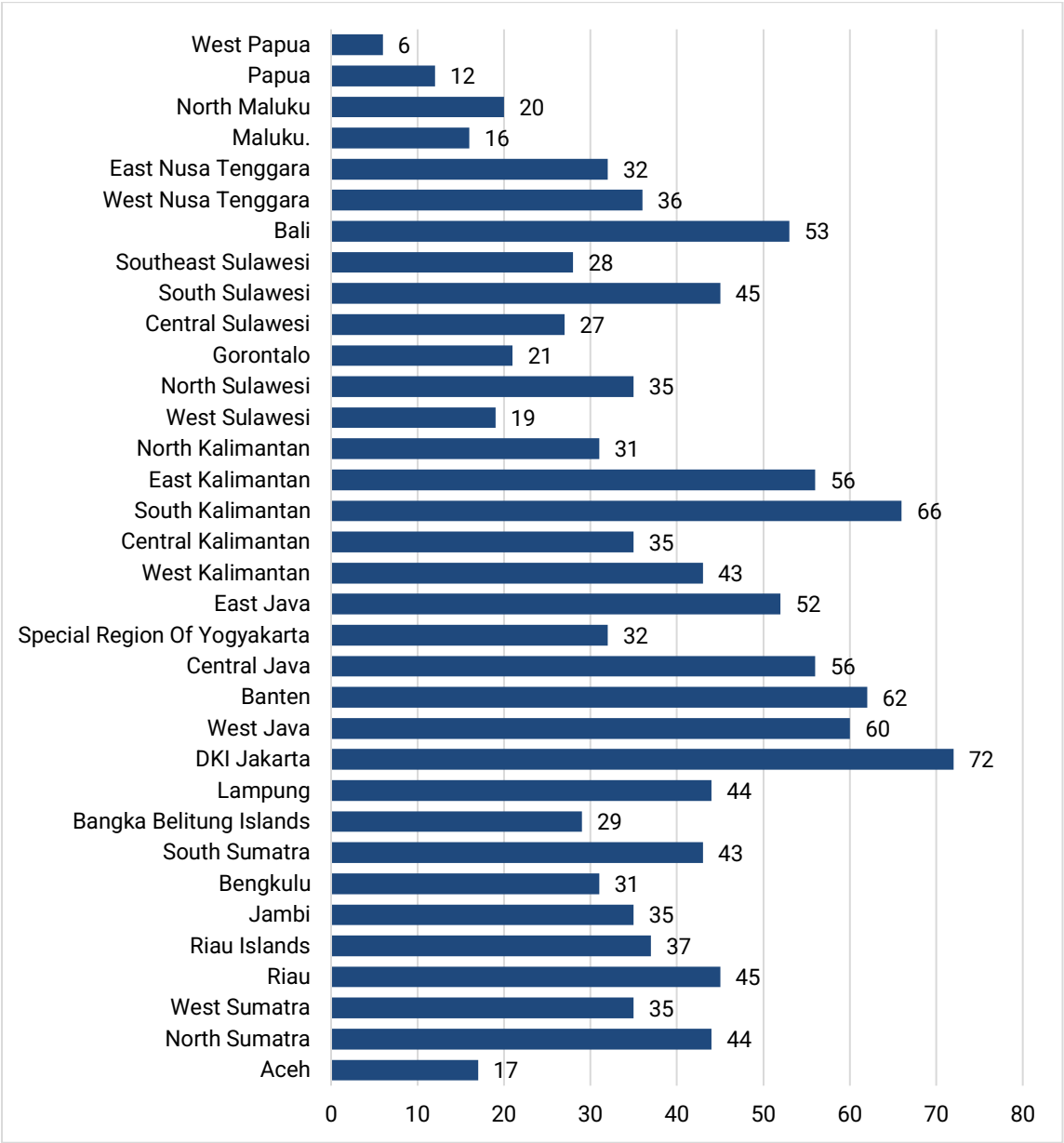


Figure 2. 2: Percentage of Locally-Generated Revenue by Provinces (2020)

Source: MoHA, 2021

The Locally-Generated Revenue is measured from the taxes, levies, wealth management outcomes separated areas and other legitimate Locally Generated Revenue. In total, the regional income in Indonesia reached 365 trillion IDR, and 49% out of the total regional income is locally-generated revenue. Specifically, DKI Jakarta has the highest locally-generated revenue of all regions in Indonesia with a total local revenue of IDR 51,891 trillion or equivalent to 72% of regional income. This was obtained from local taxes which reached IDR 41.525 trillion (MoHA, 2021; RKPD DKI Jakarta, 2021)

2.1.3 Develop legal and policy frameworks to enhance the ability of governments to implement urban policies

This indicator monitors the existence of legal and policy frameworks that ensure that there are forums that allow effective participation of groups in decision-making, planning and follow-up processes as well as implementation of effective local and

metropolitan multilevel governance. It also monitors whether there exists appropriate political, fiscal and administrative decentralization based on the principle of subsidiarity (NUA §41, 89 and 90).

The future of cities must be one shaped by laws that address the lived experience of households and firms. These laws must: offer a reasonable trade-off between the costs and benefits of compliance; reflect the current context; be the product of consultative, inclusive processes; be economically and politically inclusive while creating the basic preconditions for economic growth; protect the interests of the public (with a focus on the poor) when confronted by stronger commercial and political interests; promote stable and sustainable urban governance; and build strong social contracts between state and non-state actors.

In Indonesia, based on now defunct Government Regulation No 34 of 2009 on Guidelines for Management of Urban Areas, there are three categories of urban areas. First are urban areas as a municipality or an autonomous region, second, an urban area that is a part of a regency, and third urban areas as functional area that has urban characteristics and consists of two or more regencies/municipalities in one or more provinces. This classification reflects the need for urban management even when the urban regions continue to change and expand.

In an effort to maintain harmony and integrity of the future of urban areas in Indonesia the local governments in Indonesia have been contributing to make legal and policy frameworks in field of Municipal and Regency Spatial plan (RTRW Kota/Kabupaten) based on Spatial Plan and Long-Term Development Plans at the National and Province levels. . The Municipal and Regency Spatial plan focus on spatial aspects, such as spatial structure plan, spatial pattern plan, land use control and directions for 20 years.

Furthermore, the Detailed Spatial Plans (RDTR) is an important aspect for future development, be it for city expansion or developing a new city. The RDTR focuses on detailed arrangement for region spatial planning for municipal City or urban areas that are a part of a regency region. The RDTR will include various spatial aspects; including housing, disaster risk, protected areas, etc. In Indonesia, there are at least 55 cities and regions that have the Detailed Spatial Planning (RDTR) and are already established into regulations. The Ministry of Agrarian and Spatial Planning/National Land Agency is planning to double it up to reach 110 cities/regions to have their own Detailed Spatial Planning. In 2021, all of the municipal cities (93 cities) in Indonesia already have legalized Municipal Spatial Plans and 18 cities out of 93 municipalities have the Detailed Spatial Plan (RDTR) and are already established into regulations. For regencies, there are 396 out of 450 that have legalized their spatial plans.

2.1.4 Strengthen the capacity of local and subnational governments to implement local and metropolitan multilevel governance

This indicator monitors the existence of legal and policy frameworks that ensure that there are forums that allow effective participation of groups in decision-making, planning and follow-up processes as well as implementation of effective local and metropolitan multilevel governance. It also monitors whether there exists appropriate

political, fiscal and administrative decentralization based on the principle of subsidiarity (NUA §41, 89 and 90).

The future of cities must be one shaped by laws that address the lived experience of households and firms. These laws must: offer a reasonable trade-off between the costs and benefits of compliance; reflect the current context; be the product of consultative, inclusive processes; be economically and politically inclusive while creating the basic preconditions for economic growth; protect the interests of the public (with a focus on the poor) when confronted by stronger commercial and political interests; promote stable and sustainable urban governance; and build strong social contracts between state and non-state actors.

Indonesia committed to promoting capacity-development programmes to assist subnational and local governments in financial planning and management, focusing on environmental sensitivity and anti-corruption measures, embracing transparent and independent oversight, accounting, procurement, reporting, auditing and monitoring processes, among others, and to review subnational and national performance and compliance, taking into account age- and gender-responsive budgeting and the improvement and digitalization of accounting processes and records, in order to foster results-based approaches and increase medium- to long-term administrative and technical capacity (NUA §151).

Decentralization for urban areas, especially its management, has evolved with attempts to simplify the types of management. There is less management of unincorporated urban areas, or metropolitan areas. However, efforts to monitor performance are improved, promoted by the MoHA. Performance delivery standards is an important aspect to strengthen the capacity of governments. In Indonesia, one of the delivery standards which is Key Performance Indicators, hereinafter referred to as IKK as a performance indicator that describes successful implementation of a business government, in which is reported in the Local/National Government Implementation Report.

Based on Government Regulation Number 34 of 2009 on Guidelines for Management of Urban Areas, Development Cooperation Agency is also encouraged to be established, allowing for inter-municipalities cooperation to spatial integration. Government regulation no 12 of 2021, recognizes that there are small, medium and large urban regions. In other words, urban regions take place at a different scale.

2.1.5 Promote participatory, age- and gender-responsive approaches to urban policy and planning

Indonesia committed to creating inclusive platforms for meaningful participation by all stakeholders, to promote effective participation and collaboration among relevant stakeholders (NUA §41 & 48). [2]. The government has been mandated to implement a strategy built to integrate gender into an integral dimension of planning, implementing, monitoring, and evaluating national development policies and programs.

[2] According to President's Instruction No.9/2020 Concerning Mainstreaming of Gender in Development.

According to President's Instruction No.9/2020 Concerning Mainstreaming of Gender in Development. The government has been mandated to implement a strategy built to integrate gender into an integral dimension of planning, implementing, monitoring, and evaluating national development policies and programs.

Data on the proportion of cities with a direct participation structure of civil society engagement in urban planning and management, which are regular and democratic, is yet to be available. Nonetheless, there are numerous planning dialogues taken at various levels from national to local village level. One example at the national level can be found at the Sustainable Urban Development Planning Dialogue Forum in which institutions can participate in achieving sustainable urban development. At the local level, from village, sub-district, city and district, public consultation *Musyawarah Perencanaan Pembangunan (Musrenbang)* is regularly being held yearly in January to have discussions and reach agreement between stakeholders on development work plans. Equality and non-discriminative is one of the principles in conducting such participatory events.

National Children Forum (Forum Anak Nasional (FAN) is an organization guided by the Ministry of Women Empowerment and Child Protection, to bridge communication and interaction between government and children in order to fulfil children participation rights. Currently, FAN is found in 170 villages, 267 districts, 406 municipalities, and 31 provinces. One main requirement to be a member of FAN is to be children or under 18 years old. One successful example of FAN is found at Banjarmasin, where children have played as pioneer as well as reporter through the work program of replacing cigarettes with candy.

Gender responsive approaches are also implemented in infrastructure development under the MoPWH. Gender Mainstreaming is applied in waste and sanitation services in the planning process of construction and post-construction implementation of Community-Based Sanitation (SANIMAS) activities. The SANIMAS activity is the provision of government assistance funds, as a form of initiative to provide infrastructure and facilities for responding to needs. The focus of SANIMAS activities is the handling of domestic household wastewater. Through the implementation of Community-Based Sanitation, the community chooses the appropriate domestic wastewater infrastructure and facilities, forms a Community Self-Help Group (KSM), actively participates in preparing action plans and carries out physical development and forms a Benefit and Maintenance Group (KPP) to carry out the management of operations and activities maintenance.

Figure 2. 3 Community Involvement in Sanimas and TPS-3R

Source: MoPWH, 2021

Table 2. 3 Number of Men and Women Participation to TPS-3R and SANIMAS Program

	Number of Location	Men	Women	Total
TPS-3R				
2019	6	782	289	1,071
2020	139	10,835	2,745	13,580
TOTAL	145	11,617	3,034	14,651
SANIMAS				
2019	41	7,628	3,779	11,407
2020	225	16,581	5,363	21,944
TOTAL	266	24,209	9,142	33,351

Source: MoPWH (2021)

Other than SANIMAS, gender mainstreaming is also applied in waste management. TPS3R infrastructure approach emphasizes more on how to reduce, utilize, and treat waste from the source on a communal scale (residential areas, commercial areas, office areas, educational areas, tourist areas, and others). The implementation of the TPS3R is directed at the concept of Reduce, Reuse and Recycle, which is carried out to serve a group of people (including in low-income areas) serving a minimum of 200 houses or families.

2.1.6 Promote women's full participation in all fields and all levels of decision-making

The New Urban Agenda calls for achievement of gender equality and empowering all women and girls by ensuring women's full and effective participation and equal rights in all fields and in leadership at all levels of decision-making and addressing of multiple forms of discrimination faced by women and girls, as well as other vulnerable population groups (NUA §20). This indicator is monitoring section 2.1.6 of the Guidelines for Reporting on the Implementation of the New Urban Agenda, which is on "Promote women's full participation in all fields and all levels of decision-making.

Law number 10 of 2008 on Election requires 30% of women to be nominated as members of The House of Representatives (DPR) at national, provincial, and district/city levels. Additionally, at least 30% representation for women's votes heard in the House of Representatives or in institutions is needed. This target was only fulfilled for the Regional Representative Council (DPD) members in the 2019 general election. Meanwhile, the proportion of women who are members of the House of Representatives (DPR) and the Regional House of Representatives (DPRD) at provincial and district/city levels is still far from the target figure of 30%.

Nevertheless, the Proportion of women in managerial (private) positions reached 30.63% or above of baseline target (24.17%). The following table are Proportion of national and regional legislative seats held by women, 2009, 2014 and 2019.

Table 2. 4 Proportion of National and Regional Legislative Seats Held by Women, 2009, 2014 and 2019

Legislative	Year (%)		
	2009	2014	2019
The House of Representatives (DPR)	17,86	17,32	20,52
The Regional Representative Council (DPD)	26,57	25,76	30,88
The Provincial House of Representatives (DPRD Provinsi)	15,50	15,92	17,53
The District House of Representatives (DPRD Kabupaten/Kota)		14,24	15,30

Source: (Bappenas, 2021)

The proportion of women in managerial positions in both government, public and private companies continue to increase from 22.32% (2015) to 33.08% (2020). The achievement between provinces varies with the highest proportion in Gorontalo Province (50.43%) and the lowest in Southeast Sulawesi Province (21.54%).

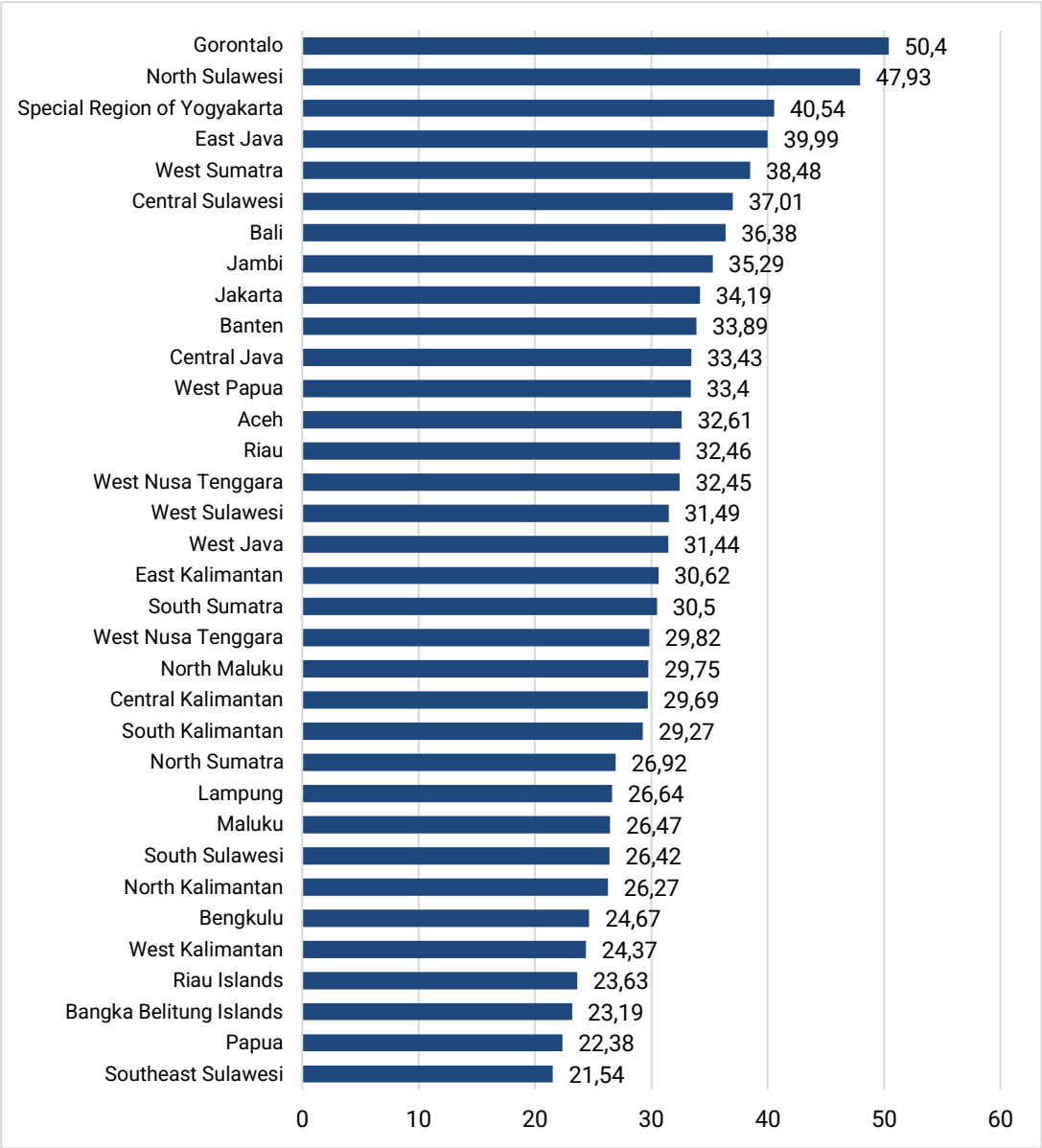


Figure 2. 4 Proportion of women in managerial positions by province, 2020

Source: Bappenas, 2021

In addition to the government and company levels, women's voices are also channelled through Family Welfare Empowerment (PKK) in the annual Development Planning Consultation Forum (Musrenbang) which is a bottom-up planning process. PKK is an organization at the environmental/village/regional level that involves women's participation and is an educational program to empower women. The efforts to enhance women's role in Musrenbang are by reviewing government policies and the commitment of stakeholders on women's representation in development planning, revitalizing women activists, and increasing women's self-reliance, mental and spiritual endurance, quality, confidence, and courage in using all accesses to improve women's status.

2.2 Planning and Managing Urban Spatial Development

Territorial development policies are enforced through promotion of housing provision, culture, planned urban extensions, as well as territorial / spatial comprehensive and detailed plans. The roles of small and intermediate cities/towns are promoted through rural development policies.

2.2.1 Implement integrated, and balanced territorial development policy

Indonesia committed to promoting participatory age- and gender-responsive approaches at all stages of the urban and territorial policy and planning processes, from conceptualization to design, budgeting, implementation, evaluation and review, rooted in new forms of direct partnership between Governments at all levels and civil society, including through broad-based and well-resourced permanent mechanisms and platforms for cooperation and consultation open to all, using information and communications technologies and accessible data solutions (NUA §92).

Based on Presidential Decree No. 2 of 2015 concerning the National Medium-Term Development Plan (NMDP) 2015-2019, the policy direction for urban area development is focused on sustainable building and competitive cities towards a prosperous urban society based on physical character, economic potential and local culture. The promotion of a new independent and integrated public town around a large city or metropolitan urban area, especially outside Java – Bali is urgent and implemented as part of the channelling rural urban -interaction and directed as a buffer for urbanization at a larger scale.

In the planning process, various standards are considered in order to make sure the cities are well planned and designed. Some of them include; Presidential Decree Number 34 of 2009: Guidelines for the Management of Urban Areas, Indonesia National Standard 37123:2019 regarding of Sustainable Cities and Communities – Indicators for Resilient Cities, Indonesia National Standard 37122 regarding of Smart City Maturity, and Indonesia Nasional Standard 37120 regarding of Sustainable Cities and Communities Development - Indicators for Urban Services and Quality of Life.

Along with ensuring balanced territorial development, Indonesia is also actively encourages the conceptualization and implementation of Smart City for the local context. One of the guidelines used is the Indonesian National Standard 37122 on the Maturity of Sustainable Smart Cities which adopts the international standard, namely ISO 37122:2019 to ensure the development of Smart City in Indonesia has good standards. The smart city standard 37122 has already considered relevant regulations in the planning process,

including the National Medium-term Development Plan (2020-2014), Law Number 23 Of 2014 Concerning Regional Autonomy, And Presidential Regulation Number 2 Of 2018 Concerning Minimum Service Standards. A few points considered from previous regulations can be seen below.

Table 2. 5: Relevant Regulations Considered in the Indonesia National Standard 377122

No.	Regulations	Regulations Points
1.	National Medium-Term Development Plan (2020-2024)	• Strengthen the infrastructure to support economy and basic services (National Medium-Term Development Plan (2020-2024) • Smart city became one of the goals in cities development (National Medium-Term Development Plan (2020-2024) • Digital transformation policy goals and directions (National Medium-Term Development Plan (2020-2024) • Urban ICT infrastructure and ecosystem (National Medium-Term Development Plan (2020-2024) • Welfare through basic services for the wider community (Bappenas, 2016) • Utilization of IT that supports smart city services (Bappenas, 2016) • Strengthening city service standards (Bappenas, 2016)
2.	Law Number 23 Of 2014 Concerning Regional Autonomy	• Mandatory government affairs related to basic services • Mandatory government affairs that are not related to basic services • Selected government affairs
3,	Presidential Regulation Number 2 Of 2018 Concerning Minimum Service Standards	• Education • Social • Public works • Healthcare • Housings • Peace, public order, and community protection

Source: Indonesia National Standardization Agency

Meanwhile, Indonesia National Standard (INS) 37122 on smart city focuses on urban risk management. Some of the indicators included in INS 37122 are on economy, education, energy, environment & climate change, finance, government, health, housing, population and social conditions, recreation, security, solid waste, sports and culture, telecommunications, transportation, agriculture and food, urban planning, waste and water. In the implementation of the national standard of smart city, prioritization is executed through formulation the infrastructure and facilities needed as high priority, priority and customize them.

Moreover, the various territorial areas development are prioritized in order to integrate and have balanced development throughout the country. One of the development agendas is implemented through the Strategic Development Region (*Wilayah Pengembangan Strategis* / WPS) in 35 locations. Within the WPS, there are thematic regions such as industrial, tourism, economy, rural priority, and national border. It is further elaborated in Detailed Spatial Planning (RDTR). For National Border Areas, for example, gets supports from the government's priority programs on development from the periphery by strengthening regions and villages within the framework of the Unitary State. In total,

there are at least 81 locations designated as National Border Areas whereas 7 have already been built (PLBN Entikong, PLBN Badau, PLBN Aruk, PLBN Motaain, PLBN Motamasin, PLBN Wini, PLBN Skouw) and 11 of them, located in 9 regencies and 5 provinces, are in the planning stage this year (2021). The development of National Border Areas is a challenge that requires out of the box vision, that needs careful planning, is located in remote area, difficult to reach and some are disaster-prone areas. The RDTR would be the benchmark for future development.

2.2.2 Integrate housing into urban development plans

Indonesia committed to promoting national, subnational and local housing policies that achieve adequate housing for all (NUA §31). The rationale for this indicator is that when people have adequate housing, they are more likely to be healthy, and they are in a better position to have more education and skills training and hence improve their skills. Housing expenditures, in the form of new buildings or renovations, has a multiplier effect throughout the economy. Stimulating industries that supply housing construction supplies, leading to more employment and output.

Data on percentage of households that had access to decent and affordable housing in 2019 as well as province with the highest rate of slum households has been provided in section 1.1.2.4. Despite a notable decrease of slum, however, providing affordable housing is still a big challenge for Indonesia. Even so, various stakeholders including the government, regional/cities government, housing developer actors and so many more continue to give major efforts in order to erase slums from Indonesia and give prosperity for all. The government, through the MoPWH, continues to implement the program of one million houses. This is aligned with 100-0-100 programs which aim for zero slums throughout the country, which is written in the National Medium-Term Development Plans (National RPJM). This means that hopefully everyone could live in decent housing in the future.

Additionally, there is a planning document called Settlement Area Plan (RKP) as a guidelines in meeting the needs of residential environments in urban and rural areas as well as places for supporting activities that are prepared in the short, medium and long term. Settlement area plan is also a form of control in the administration of residential areas. One of the controls of settlement area planning is executed by providing zoning boundaries for settlement areas and places for supporting activities. Delineation of zoning boundaries requires consideration of population projection, number and types of houses to indicate the size and distribution of housing/settlement which will then determine the character of the Residential Environment.

The content of the Settlement Area Plan consists of: a. policies and strategies for the development and construction of residential areas; b. urban and rural residential neighbourhood plans; c. plan for the integration of infrastructure, facilities, and public utilities; and D. indication of development programs and utilization of residential areas. The preparation of the RKP document is carried out through the preparation stage, survey/data collection, profiling, formulation of policies and strategies, identification and analysis of development concepts, preparation of plans and program indications as well as stipulation of district/city regional head regulations.

2.2.3 Include culture as a priority component of urban planning

This theme uses indicator that measures the per capita (public and private) expenditure in the preservation, protection and conservation of cultural and/or natural heritage over time. It would allow insight into whether or not countries are strengthening their efforts into safeguarding their cultural and natural heritage. It will help to identify areas that require more attention for policy purposes. In the New Urban Agenda, Indonesia committed to the sustainable leveraging of natural and cultural heritage in cities and human settlements through integrated urban and territorial policies and adequate investments at the national, subnational and local levels, to safeguard and promote cultural infrastructures and sites, museums, local cultures and languages. This includes fostering an enabling environment for businesses and innovation and creation of decent and productive jobs through the promotion of cultural and creative industries, sustainable tourism, performing arts and heritage conservation activities (NUA §38, 45, 60 and 97).

As regulation on preserving cultural heritage, especially in the form of objects, structures, buildings, sites and areas are enacted. More local governments and private associations register their cultural heritage sites. Based on the Cultural Heritage Portrait of 2020 by The Ministry of Education and Culture there are 2.907 cultural heritages sites in 2019. The following figure is the number of Cultural Heritage Sites in Indonesia from 2015 to 2019.

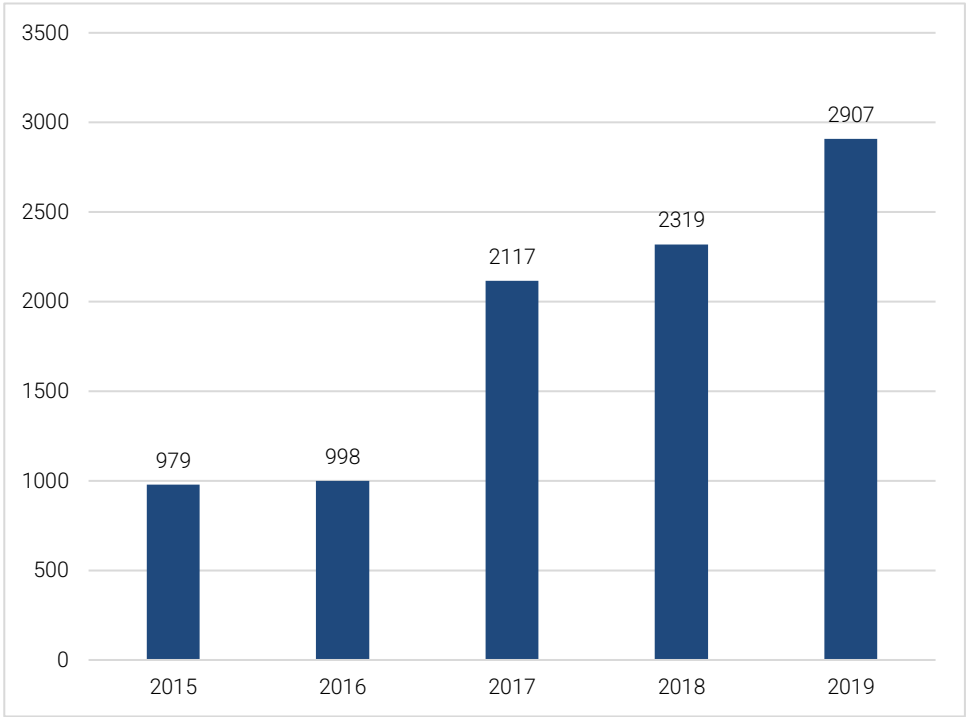


Figure 2.5 Number of Cultural Heritage in Indonesia (Units), 2015-2019

Source: MoEC (2020)

According to the figure above, the number of cultural heritages in Indonesia continues to grow every year. Within five years, the number of Indonesian cultural heritage increased by 1,928. The most significant additions occurred in 2017 where in that year there was an increase of 1,119 cultural heritage sites. At the provincial level there is data on the distribution of cultural heritage in 2019 can be seen in the following map below.

Figure 2. 6 Distribution of Cultural Heritage in Indonesia, 2020

Source: MoEC (2020)

The Indonesian government, through the cooperation between Ministry of Public Works and Housing and non-profit organization: Indonesian Heritage Preservation Agency (BPPI), initiated a Heritage City Management and Preservation Program (P3KP). This program is implemented in order to integrate the mandate of Law number 11/2010 concerning Cultural Conservation, and Act no. 28/2002 on Buildings, and technically explained in the Minister of Public Works and Housing regulation. In 2013, Indonesian Heritage City Preservation Charter was enacted. Additionally, Minister of Public Works and Housing Regulation number 19 / 2021 on Technical Guidance for Developing Cultural Heritage Building has also been issued as a supporting regulation towards cultural heritage preservation.

During 2012 - 2018, there were 54 Cities/Regencies in 22 Provinces registered to participate in this program. City/Regency commitment is the key in the sustainability of conservation efforts going forward. During this period, several actions have been taken including 66 Heritage City Action Plans prepared by the Regency/City government, RTBL in 30 Regions, Technical Planning in 34 Regions, Implementation and Physical Implementation in 28 Regions. Some examples of management in the program that are considered successful include:

Figure 2. 7 Locations of P3KP Program

Source: Ministry of Public Works and Housing, 2021

- Handling the Dutch Tangsi, Siak Regency, Riau Province. The local government and the community are active and participate in the city's conservation efforts [Good Practice of Conservation of Tangsi Mempura Heritage Building]. The restoration of the Dutch Tangsi Building became a model for local governments whose procedures can be replicated for restoring the heritage building.
- Johar Market, Semarang, Central Java. The Semarang City Government has actively conducted heritage research efforts on its rebuilding after a fire occurred in 2015. The Semarang City Government also has building experts and heritage expert teams which are active in conservation efforts.

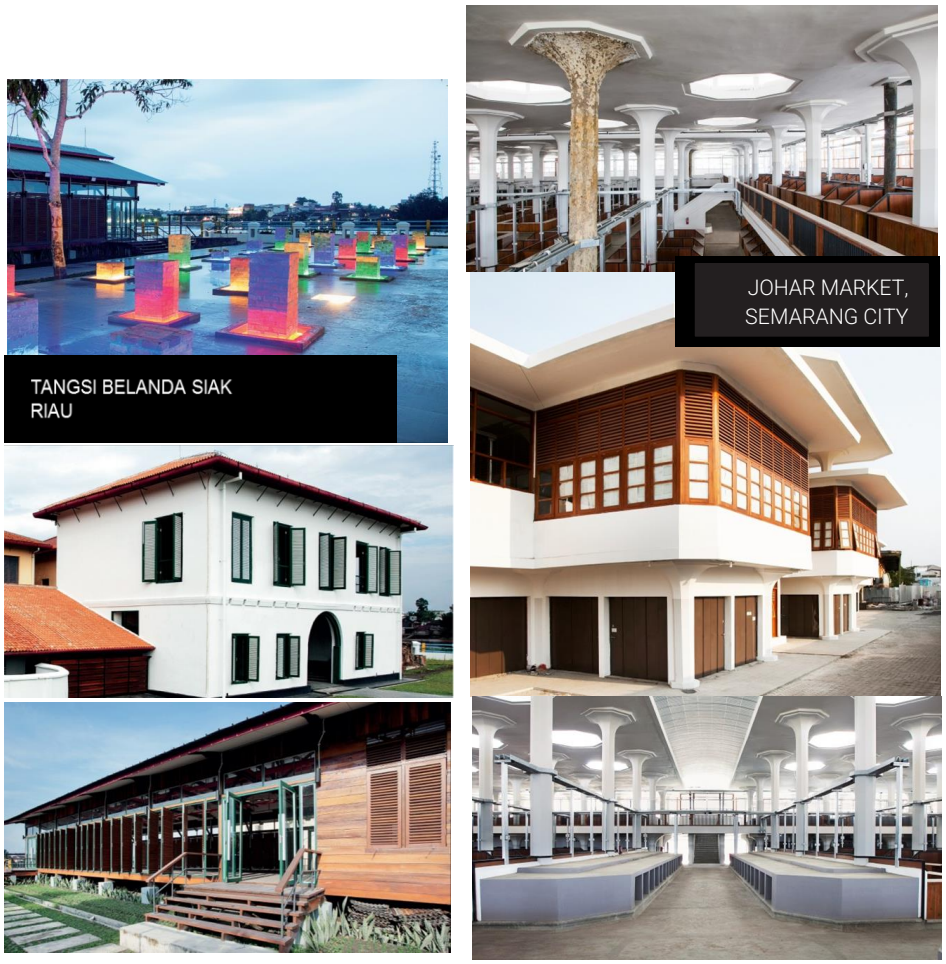


Figure 2. 8 Tangsi in Riau and Johar Market in Central Java

Source: MoPWH , 2019

2.2.4 Implement planned urban extensions and infill, urban renewal and regeneration of urban areas

High population density makes provision of many public services economically feasible, e.g., mass transit systems. In the New Urban Agenda, Indonesia committed to encouraging spatial development strategies that prioritize urban renewal by planning for the provision of accessible and well-connected infrastructure and services, sustainable population densities and compact design and preventing urban sprawl (NUA §52).

Based on Statistics Indonesia, the population density in Indonesia is increasing every year. From 2015 to 2016, the population increased from 134 to 135 people per sq km. The population density continued to increase until in 2019 it became 140 people per sq km. The most densely populated province in Indonesia is DKI Jakarta with population density up to 15.900 people / km^2. That is over ten times of overall Indonesia's population density that only reached 140 people / km^2. Population in Indonesia is centred in Java Island, which consists of DKI Jakarta, West Java, Central Java, East Java, Special Region of Yogyakarta and Banten Province. The average density in the island is up to 3.484 people/km^2, which is still higher than any other province in Indonesia. The phenomenon is most likely due to dense metropolitan cities centred in Java Island, including Jakarta Metropolitan Area (Jabodetabek), Bandung Metropolitan Area (Bandung Raya), Semarang Metropolitan Area (Kedungsepur), and Surabaya Metropolitan Area (Gerbangkertosusila). Meanwhile, the province with lowest population density is located in West Papua which is only 9 people/km2. By 2035, it is estimated that 66.6% of the population in Indonesia will live in urban areas and only 33.4% live in rural areas.

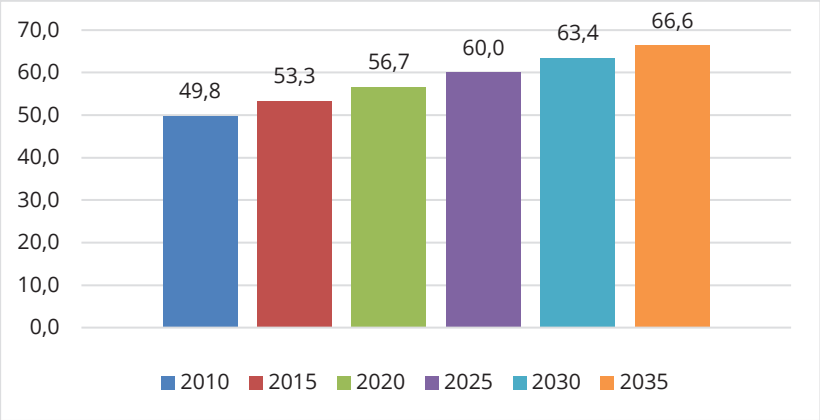


Figure 2. 9 Percentage of the Population of Urban Areas in Indonesia, 2010-2035

Source: Statistics Indonesia, 2020

For the high-density cities of Indonesia, diversity of land use is commonly found in a city or district spatial plan. Within such a plan, zoning is usually determined based on function, i.e., settlements, industry, business, commercial, and green areas. In each zone, however, several functions are allowed. For settlement function, for example, housing, local commercial facilities, as well as household industry. In this sense, it can be said that the diversity of land use per square kilometre, within a city or urban area, is pretty high on average.

One of Indonesia's challenges in spatial planning is the massive conversion of agricultural land to non-agricultural functions. Statistics Indonesia shows that in June 1998-June 2003, conversion of paddy fields to non-agricultural lands reached around 12.7 thousand ha, while conversion from non-agricultural lands to non-agricultural lands reached nearly 30 thousand ha. If this is allowed, there will be a decline in food production, especially rice. As a result, local food production capabilities are increasingly unable to meet a fairly high food demand pressure.

In response to this condition, the government issued Law Number 41/2009 concerning Sustainable Food Agricultural Land (LP2B). This law is expected to restrain the

rate of conversion of rice fields, especially rice fields with technical irrigation, to support national food security. In addition, the government will have perpetual agricultural land in providing food because, in the law, it is explained that lands that are included in the category of LP2B cannot be converted to other uses.

Based on the evaluation carried out by Bappenas (2015), the implementation of LP2B can be said to have not been running as it was supposed to. Based on evaluations in several locations, the planning and delineation of LP2B in the local spatial plans were carried out unilaterally by the government, not based on opinions or suggestions from the community.

2.2.5 Improve capacity for urban planning and design, and training for urban planners at all levels of government

The New Urban Agenda calls for planning and managing spatial urban development. There is a need for the numbers of urban planners in a country to prepare and implement urban plans. In this regard, the New Urban Agenda calls for improved capacity for urban planning and design and the provision of training for urban planners at all levels of government (NUA §102).

According to Indonesian Association of Planners or *Ikatan Ahli Perencanaan Indonesia (IAP)* data in 2016, with 31 provincial boards and 1,200 members, there were merely 3,100 planners out of 246,864,191 Indonesian population. These figures equal to 0,00126% or 1 planner per 100,000 persons. Such a figure is derived from numbers of individuals who passed the certification procedures oversees by MoPWH. About 3,100 planners are holders of IAP Smart Card memberships. While IAP data is based on educational background and profession, there is another measurement based on occupational titles being held by public servants which is called development planning. This latter measurement accumulates about resulted in about 50,000 planners available in the country. However, a small number of development planners specialize in urban planning and its related fields. This means that the number of planners and designers still fall behind of the need of 42,000 planners. Meanwhile, annually there is a huge need of 1.500 to 2000 planners for planning and designing urban areas.

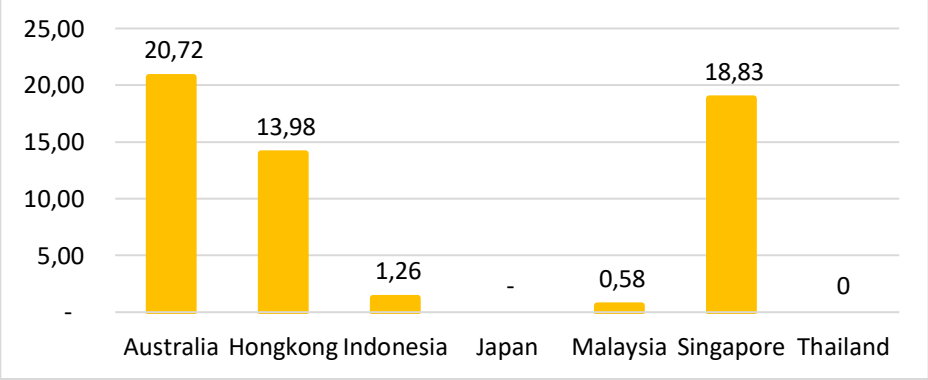


Figure 2. 10: Ratio of Planners per 100.000 Population in Indonesia, 2016

Source: IAP (2016)

As an effort to overcome the problem of the lack of human resources for urban planners in Indonesia, IAP ever had a direct role in the certification of urban planners.

However, due to changing regulation on professional certification, as an MPWH-accredited professional organization, IAP has established the independent certification since 2020 that will serve the professional certification. IAP is now concentrating on the professional development through continuous professional development (CPD) program. This CPD credit is one of requirements for certification process. This institutional re-arrangement is again requires an innovative capacity building program.

The recent omnibus law has changed several aspects of ease doing business, including building permit. Under the PP 14/2021, urban and planning professional service is located as the upstream of construction services, followed by Landscape Architecture, Architecture, environmental and civil engineering services in the downstream. Under the urban and regional planning, there are 3 (three) sub-classification of regional planning, city planning, and urban design. Therefore, for the next three years, the capacity building of urban planning is highly urgent to follow up this transformation.

In addition, the Indonesian Architects Association (IAI) also play a role in strengthening the planning profession in the urban sector and improving the quality of urban governance. IAI encourages the use of Law no. 6 of 2017 concerning Architects. This law is important in relation to ensuring the quality of professional architect services in cities in Indonesia. In the future, the condition of the city will be more complex and more and more parties will be involved in the construction and development of urban areas. Ultimately, all stakeholders are expected to be involved in urban governance, and encourage all stages of the city development process to be more inclusive. (MoPWH, 2019).

Urban planner is a multidisciplinary profession. The Indonesian Urban Design Alumni Association (IARKI) and Indonesian landscape architecture Association (IALI) also play a role in urban development. Relatively younger than both associations mentioned above, IARKI members are usually architects who studied urban design which in most schools are a specialty major resulting from a combination of Architecture and Urban Planning. There are about 200 members of IARKI dan about 100 members of IALI.

There is also a career path for urban planners and designers in Indonesian bureaucracy as functional officers. Development Planning Functional Officers (coordinated by the Ministry of National Development Planning) are positions for those who engaged in development planning, programming and budgeting which include spatial dimension of development planning. This position is for civil servants either working at the national or local levels. Since its inception in the early 2000s, around 10, 479 civil servants have been educated in degree granting programs in Indonesia or abroad. They are either at the masters or doctoral levels. About 43,500 civil servants have been trained as development planners in non-degree programs, of which includes themes on urban planning, smart cities, infrastructure development and public private partnerships.

The education a program is the results of cooperating with local and international universities specialized in development planning and urban planning. In the civil servant profession, there are even a hierarchy of position, starting as junior planners (pratama), planners (muda), senior planners (madya) and chief planners (utama). This allows for urban planners and designers continue building portfolio on renewing their knowledge, improving their technical capabilities through these functional officer path. The Indonesian

government continue to improve regular training, capacity building as well as increase the reputation for those who choose a functional officer career path.

2.2.6 Strengthen the role of small and intermediate cities and towns

The small and intermediate cities of Indonesia keep growing. In 2020, 67 municipalities can be categorized as small or intermediate city by the standards of the MoPWH (cities with populations of less than 500,000). Some of these municipalities are located within close proximity to the bigger cities, making them part of the larger urban systems that are designated as metropolitan areas. On the other hand, some municipalities are located outside of the reach of the bigger cities, making them geographically located far away as a small or medium city. In fact, many of these municipalities experienced relatively higher population growth. Some of the municipalitie in Indonesia with the highest population growth rates between 2010 and 2020 are small and intermediate cities (Jayapura, Sorong, Palangka Raya, Kupang, Tidore, Tual, Subulussalam, Sabang), as well as some of the large cities such as Bandar Lampung and Batam. The rest of the large metropolitan cities experienced relatively slower growth during the same period.

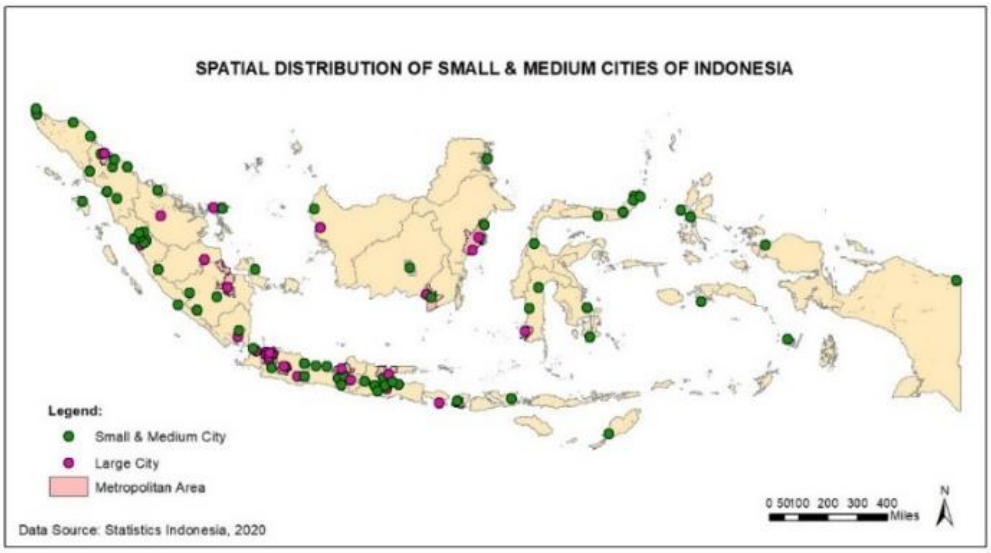


Figure 2. 11 State Distribution of Small & Medium Cities of Indonesia

Source: Statistics Indonesia, 2020

As stated in Indonesia's National Medium-Term Development Plan of 2020-2024, Indonesia is committed to promote balanced development and reduce regional disparity by distributing growth and service centres to less developed regions. Therefore, small and intermediate cities play a crucial role in connecting big cities to more than 74.000 villages in Indonesia, as well as promoting supportive rural-urban development.

National Priority Rural Areas (KPPN/*Kawasan Perdesaan Prioritas Nasional*) and 52 transmigration areas (previously known as KTM/*Kota Terpadu Mandiri*) had developed by the end of 2019 with the aim of creating new centres of economic growth, enhancing connectivity with larger cities, and promoting connectivity to neighbouring countries (MoVDDRT, 2020). Therefore, in 2018 the Regional Infrastructure Development Agency (BPIW) prepared small town master plan for border areas in 3 (three) locations, namely the

Wini Border Area in North Central Timor Regency, Motamasin Border Area in Malaka Regency, and the Skouw Border Area of Jayapura City.

The establishment of the Law Number 6 in 2014 regarding of Villages has strengthened the role of village governments to implement village development programs, as well as empower the community. The goals of village development are including realizing community independence, creating sustainable and independent villages that have social, economic, and ecological resilience, and strengthening the linkage of rural-urban economic activities.

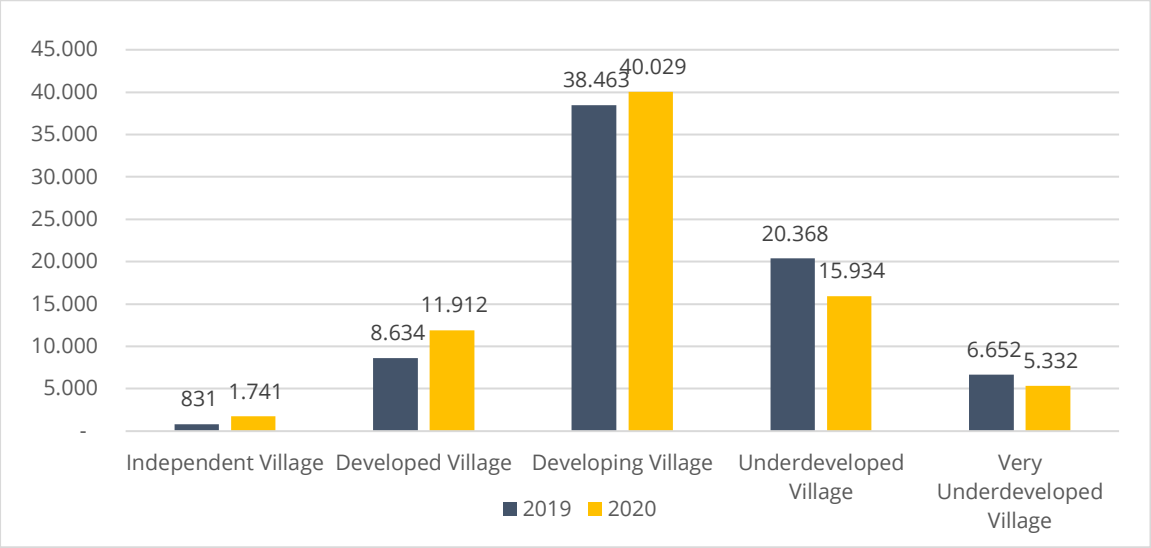


Figure 2. 12 Village Development Index, 2019-2020

Source: MoVDDRT, 2020

To measure the level of village development, the Ministry of Villages, Development of Disadvantaged Region, and Transmigration has created the 'Village Development Index' which is measured by three dimensions: social, economic, and ecological. Within a period of 6 years, in 2020, 71.6 percent of the total 74,948 villages has reached the status of developing, developed, and independent villages. This number increased by 12% from 2019, indicating a positive trend in rural development.

Indonesia is committed to strengthening the role of small and intermediate cities and towns. In the President's Nawacita, or the President's nine development priorities for the next five years, point 3 mandates that national development be prioritized from the periphery by strengthening regions and villages within the framework of the Unitary State. The roles of small and intermediate cities/towns are promoted through rural development policies. The goals of developing rural areas include realizing community independence, creating sustainable and independent villages that have social, economic and ecological resilience, and strengthening the linkage of rural-urban economic activities. The commitment is implemented through the establishment of the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration (MoVDDRT) in 2014 whose duties and functions focus on improving the quality of rural and underdeveloped areas with various programs and policies, one of the policies is Village Development Planning.

Village development planning aims to produce guidelines for the preparation of the Middle-Term Village Development Plan (RPJM) & RJP and to strengthen rights and

authorities and optimize the resources of wealth owned by each village so that in the long term the village has plans and resources that can It is used to improve the quality of life of its people, both socially and economically.

In addition, the MoVDDRT are also running the SDGs-based Village Data Update program which aims to support the implementation of the Village SDGs. The Village SDGs is an integrated effort to realize a village without poverty and hunger, an economic village that grows evenly, a village that cares about health, a village that cares about the environment, a village that cares about education, a women-friendly village, a networked village, and a culturally responsive village to accelerate the achievement of the Sustainable Development Goals. The Village SDGs are a sustainable development role that will be included in the priority program using the 2021 Village Fund.

Figure 2. 13: 10 Village Sustainable Development Goals Program

Source: MoVDDRT, 2020

Various programs are implemented for SDGs realization in order to bring equality across Indonesia, especially in rural and underdeveloped areas. One of the programmes is New Urban Areas Development Program or also called Independent Integrated Cities (KTM) for 20 new urban areas. The program has become a target for national development in the transmigration sector in 2015-2019, aiming to develop these small cities to be the new growth center of economic development.

In addition to the development of new growth centres, the 2015-2019 National RPJM also mandates the development of economic centres in border areas. In 2018 the Regional Infrastructure Development Agency (BPIW) is preparing a small-town masterplan for border areas in 3 (three) locations, namely the Wini Border Area in North Central Timor Regency, Motamasin Border Area Regency, Malaka Regency, and the Skouw Border Area of Jayapura City. The government is committed to developing transmigration areas with the KTM formation program, which has been incepted in 2007 and a decade later already has built over 48 KTMs, spread across 23 provinces and 45 regencies as the engine of the new economy.

2.2.7 Implement sustainable multimodal public transport systems including non-motorized options

Data from Statistics Indonesia in 2014 on Environmental Care Behaviour Indicator shows that transportation to go to school or work activities, people mostly use motorbikes and without vehicles. A total of 48.14% of people do not use a vehicle to work and 44.99% do not use a vehicle to go to school. A total of 44.18% of people use motorbikes to go to school, and 37.02% to work. The rest use public transportation, bicycles, cars, trains, and rickshaws to go to work or to school. For Jabodetabek commuters, however, Statistics Indonesia recorded that in 2019 only 20.36% and 21% people use public transportation to and from their destinations respectively (see section 1.1.3.2).

Indonesia has started to implement the concept of Transit Oriented Development (TOD) with the enactment of Minister Regulation of Agrarian and Spatial Planning No 16 Year 2016 on Development Guidance on Transit Oriented Area. In DKI Jakarta Province, TOD is planned at 12 stations within the corridor of Lebak Bulus–Dukuh Atas with varied classifications ranging from maximum TOD to minimum TOD based on capacity parameter. Dukuh Atas which will integrate 7 different mass transit corridors: BRT Transjakarta, MRT Jakarta, LRT Jabodetabek, LRT Jakarta, airport trains, commuter trains, and regular city buses. The capital city of Jakarta has implemented mass transportation, namely Mass Rapid Transit (MRT), Light Rapid Transit (LRT) and Bus Rapid Transit (BRT). In 2019, the average daily ridership for MRT Jakarta is 89,645 passengers per day, 4,500 passengers per day for LRT in 2020, and 1 million passengers per day for BRT in 2020.

MRT Jakarta operates to serve 5 areas in Jakarta, namely Lebak Bulus, Fatmawati, Blok M-ASEAN, Istora Senayan, and Dukuh Atas. This area is an area that plays a role in TOD. In 2020 the total MRT users reached 9,926,513 passengers with an MRT user satisfaction index of 86.64%. MRT Jakarta has an on-time performance of 99.97% for arrival times, 99.98% for stop times, and 99.98% for travel times. MRT Jakarta also has a zero-accident rate and has received an award at the IDX Channel Anugerah Innovation Indonesia (ICAII) 2020 event as the winner of Transportation Provider with Application-Based Ticket Purchase Innovation through QR Codes.

The implementation of MRT Jakarta also involves collaboration with 13 start-up companies, Central and Local Government, Funder, Micro Small and Medium Enterprises (MSMEs), Commercial Partners, and NGO Agencies such as Communities of people with disabilities; Communities of bicycle users; Communities of pedestrian; and other communities as partners to improve the service for service users. (Jakarta MRT performance report, 2020). MRT Jakarta also managed to rise to provide the best services, to maintain financial conditions, and to carry on with Phase 2A MRT Jakarta construction. In the operations, the Corporation ensures the implementation of occupational safety and health aspects of all employees and passengers through operational excellence and implementation of Clean, Safe, Comfortable, Go Green, Collaboration, Innovation, and Good Governance/ BANGKIT Protocol (Sustainability Report MRT Jakarta, 2020)

2.3 Means of implementation

2.3.1 Mobilization of Financial Resources

2.3.1.1 Develop financing frameworks for implementing the NUA at all levels of government

UN-HABITAT recommends that the preparation of the Report on the Implementation of the New Urban Agenda should be led by the ministry dealing with urbanization in a country. National Habitat Committees (NHC) and National Urban Forums (NUF), where they exist, should either play a major role or lead the preparation of the Report. The indicator seeks to determine whether there is an office or committee or task force for implementing the New Urban Agenda. It is also important that the New Urban Agenda has been integrated into the national urbanization and infrastructure plans.

The Government Regulation on Implementing Achievement of SDGs states that the implementation of SDGs is incorporated in the National Medium Term Development Plan 2020-2024. The President's Regulation number 18 / 2020 on National Medium Term Development Plan 2020-2024, lists the major/strategic projects and financial resources to support these projects. Some of the projects relevant to the SDGs and source of finance include the following:

Table 2. 6 Source of Finance Projects

Major project	Financial source
Metropolitan area development (support sustainable city): Palembang, Banjarmasin, Makassar, Denpasar Highlights: public transportation, water supply, waste management,	State budget, local budget and private sector
New Town development: Maja, Tanjung Selor, Sofifi and Sorong Highlights: water supply, public transportation,	State, state owned enterprises (SOE) and private sector
Urban public transport system in 6 Metropolitan areas: Jakarta, Surabaya, Bandung, Medan, Semarang, and Makassar	State budget, local budget, SOE
Access to safe and adequate sanitation (90% households)	State budget, local budget, private sector and community
Piped clean water to households (10 million)	State, local budget, public private partnership
Urban housing (apartment) - 1 million housing program	State, local budget, SOE, private sector and community
Gas line infrastructure (4 million) / 2018	State, SOE, public private partnership

Source: The President's Regulation number 18 / 2020 on National Medium Term Development Plan 2020-2024

A general financing framework has been issued to support public-private partnerships (*Kerjasama Pemerintah dan Badan Usaha* /KPBU) in infrastructure development through the Presidents Regulation number 56 year 2018 on KPBU which are further elaborated in ministerial regulations at the Ministry of Finance (MoF), respective Ministries and local governments. The PPP projects fill the gap of funding for infrastructure development. Within the infrastructure cluster of public works and housing (roads, water and sanitation, housing), the funding gap for 2020-2024 is IDR 1.4 trillion or USD 102 million – about 70% of the total budget. One example of PPP infrastructure project can be found in Semarang.

In 2009, Indonesia established PT Sarana Multi Infrastruktur (SMI), one of the Special Mission Vehicles (SMV) under the Ministry of Finance (MoF) which is engaged in financing and preparing infrastructure projects. There are 8 sectors that can be financed by PT SMI, namely roads and bridges, transportation, oil and gas, telecommunications, waste management, electricity, irrigation, and drinking water supply. Since 2019, these sectors have been expanded 2019 to include the financing of water resources and irrigation infrastructure, system infrastructure waste management, informatics infrastructure, renewable energy infrastructure, energy conservation infrastructure, sports and arts facilities and infrastructure, and public housing infrastructure.

Through the expansion sector that can be financed, PT SMI can increasingly provide innovative solutions for Indonesia's development that contribute to poverty alleviation, availability of access to cleanliness or sanitation, health, education and technology, and the achievement of the Sustainable Development Goals (SDGs) in Indonesia.

2.3.1.2 Mobilize endogenous (internal) sources of finance and expand the revenue base of subnational and local governments

Realization of Local budget revenue in 2018 comes from the local based resource revenue, balance fund and other sources. The balance fund is funds transferred from the State Budget (APBN) revenues allocated to fund regional needs in the context of implementing Decentralization. The amount of the Balancing Fund is determined every fiscal year in the State Budget (APBN). The amount of the balance fund in 2018 was IDR 663.11 trillion, including revenue sharing fund (13.99%), general allocation fund (60.77%) and special allocation fund (25.34%).

Table 2. 7 Percentage of Realization of Balance Fund in Local Budget

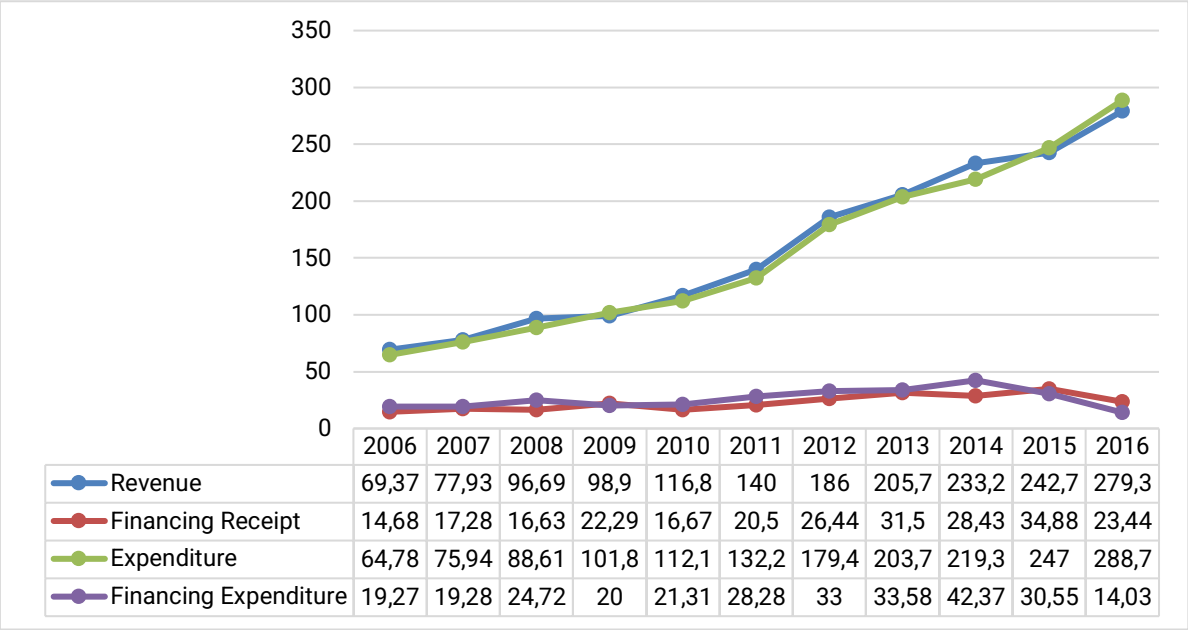
Balance Fund	Percentage	Amount (Trillion IDR)
Revenue Sharing Fund (DBH)	13.99%	92.67
General Allocation Fund (DAU)	60.67%	402.32
Special Allocation Fund (DAK)	25.34%	168.03

Source: MoF, 2018

The General Allocation Fund (DAU) is part of the Balance Fund. General allocation fund is funds sourced from The State Budget revenues which are allocated with the aim of equalizing financial capacity among regions or autonomous to fund regional needs in the context of implementing decentralization. The amount of the General Allocation Fund for

local budget realization in 2018 was IDR 402.32 trillion. The table 2.7 is the Percentage of Balance Fund in Local Budget Realization from The MoF.

Based on Statistics Indonesia, it could be seen that every year, both the local government revenue and expenditure increases. The major increases occurred in 2011 to 2012, from IDR 140 trillion to IDR 186 trillion. In a whole decade, the regional government's revenue kept increasing until it reached IDR 279 trillion in 2016 from just IDR 69 trillion in 2006. The increasing revenue came from tax, non-tax sources and grant.



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Revenue	69,37	77,93	96,69	98,9	116,8	140	186	205,7	233,2	242,7	279,3
Financing Receipt	14,68	17,28	16,63	22,29	16,67	20,5	26,44	31,5	28,43	34,88	23,44
Expenditure	64,78	75,94	88,61	101,8	112,1	132,2	179,4	203,7	219,3	247	288,7
Financing Expenditure	19,27	19,28	24,72	20	21,31	28,28	33	33,58	42,37	30,55	14,03

Figure 2. 14 Indonesia Local Government Revenue and Expenditure Realization (in Trillion IDR), 2006 – 2016

Source: Statistics Indonesia, 2020

Moving forward, aside from the local government's revenue, the local government's expenditure also increases. The expenditure of the local government cannot be separated from the massive building of infrastructure throughout the country in order to provide convenience in the transportation of goods. Meanwhile there's not much difference in terms of revenue and expenditure. The debt and loans have yet to reach a quarter of the government's revenue, which is the highest debt only reached IDR 34 trillion in 2015 while loan only reached IDR 42 trillion in 2014. For data on Proportion of the Domestic Budget Funded by Domestic Tax as well as Tax Ratio to GDP has been provided in section 2.1.2.

Referring to Law number 33 of 2004 concerning Financial Balance between the Central Government and Regional Governments, the source of revenue for urban development which is conventional in nature is still sourced from Regional Original Income (PAD), namely the results of regional taxes and levies, balancing funds consisting of general allocation funds (DAU), and special allocations (DAK) and other official regional revenues. Tax revenue in an area is the variable that has the most significant effect on increasing PAD (Roslina, 2014), which is the foundation and important factor in ensuring the sustainability of development in the area. Regulation of Ministry of Home Affairs No. 31 of 2016 concerning Guidelines for the Preparation of the 2017 Local government budget

(APDB), states that nationally, regional taxes and retributions experienced an increasing trend from 2015 to 2018, with an average of IDR 18 trillion or 20 percent. The contribution of increasing district/city taxes and retributions is 13 trillion IDR or 20 percent. Meanwhile, on the national average, the proportion of regional taxes and retributions from districts/municipalities to PAD is 73.3%.

Based on this situation, currently several district/city governments are starting to explore and manage local tax revenues as a potential source of development financing to be developed. Cities on the island of Java in particular take advantage of the large population and the transportation sector as potential sources of tax revenue. This is indicated by several large cities that have a very significant percentage of Motor Vehicle Tax (PKB) receipts. In addition to the PKB, other types of transportation taxes, such as the Transfer Fee for Motor Vehicles (BBNKB) and the Motor Vehicle Fuel Tax (PBB-KB) are also significant. For example, the DKI Jakarta Province, based on APBD budget data, 2018 PKB revenues reached IDR 5.69 trillion, BBNKB 3.69 trillion IDR and PBB-KB 798.64 billion IDR. If we add up, the transportation sector tax revenue reaches 10.2 trillion IDR.

Urban funding can also take advantage from CSR commitments. CSR has long been implemented in Indonesia and is regulated in laws and regulations as Social and Environmental Responsibility (TJSL) Law Number 40 of 2007 concerning Companies states that CSR is the company's commitment to participate in sustainable economic development in order to improve the quality of life and the environment that is beneficial to the private sector, local community, and society.

2.3.1.3 Formulate sound systems of financial transfers from national to subnational and local governments based on needs, priorities and functions

In the New Urban Agenda (NUA), Indonesia committed to promoting sound and transparent systems for financial transfers from national governments to subnational and local governments (NUA §135).

The Model Details of Allocation of Transfers to Regions and Village Funds (TKDD) is stated in the State Budget (APBN) every year. The following are the details of the TKDD to local governments from the central government.

Table 2. 8 Transfer Allocation Details to Regions and Village Funds

Transfer Allocation Details to Regions and Village Funds	Amount (IDRTrillion)			
	2018	2019	2020	2021
Revenue Sharing Fund (DBH)	89,2	106,35	117,58	101,96
General Allocation Fund (DAU)	401,5	417,87	427,09	390,29
Physical Special Allocation Fund (DAK Fisik)	62,4	69,33	72,25	65,25
Non-physical Special Allocation Fund (DAK Non Fisik)	123,5	131,04	130,28	131,18
Special Autonomy Fund	21,1	22,18	22,75	21,30
Local Incentive Fund (DID)	8,5	10,00	15,00	13,50
Village Fund	60,0	70,00	72,00	72,00
Total	766,20	826,77	856,95	795,48

Source: MoF, 2018-2021

The amount of Allocation of Transfers to Regions and Village Funds had increased from 2018 to 2020. In 2020 the total Allocation of Transfers to Regions and Village Funds

is IDR 856.95 trillion. But it has been adjusted in 2021 to IDR 795.48 trillion. Based on the 2021 Economic, Financial and Fiscal Review of the strategy of Indonesia Government in the pandemic period in 2021-2022 about financial recovery and reform policy by strengthening recovery leverage and reforming foundation strengthening. One of the accelerations of recovery and reform is by handling the pandemic and vaccination program, accelerating recovery through sustainability, and transformation through fiscal policy reform.

2.3.1.4 Mobilize and establish financial intermediaries (multilateral institutions, regional development banks, subnational and local development funds; pooled financing mechanisms etc.) for urban financing

Indonesia committed to: supporting effective, innovative and sustainable financing frameworks and instruments enabling strengthened municipal finance and local fiscal systems; promote risk mitigation mechanisms such as the Multilateral Investment Guarantee Agency, while managing currency risk; Support access to different multilateral funds to secure resources for climate change adaptation and mitigation plans, policies, programs, and actions; and encourage the use of official development assistance, which promotes additional resource mobilization from all available sources, public and private (NUA §15, §139, §143, §145).

Indonesia has a funding shortage of more than US$2.5 trillion annually to achieve the SDGs, a funding gap that far exceeds government budgets and that can only be plugged by private funds and other resources. Blended finance is emerging as one of the best ways to attract private capital. It uses official development or philanthropic finance to remove the barriers to private finance by reducing the risk of SDG investment. By de-risking these investments, blended finance has the potential to capture more than $1 trillion in additional annual investment.

The importance of blended finance has also been acknowledged at the 3rd International Conference on Financing for Development known as the Addis Ababa Action Agenda in 2015. More recently, at the Group of 20 leaders' meeting in Osaka in June, Indonesia was firm to make blended finance recognized as one of the innovative financing mechanisms for development. As a G20 economy and fast-growing emerging country, Indonesia has been demonstrating strong leadership for the SDGs, including through the development of various innovative financing mechanism.

Green sukuk or green Islamic bonds are among the government's instruments for financing climate change-related activities and achieving the SDGs. The first green sukuk, issued in March 2018, reached $1.25 billion, and the latest, in February 2019, attracted $750 million.

In recent years, Indonesia has embarked on concrete action to advance its innovative financing mechanisms. It launched its first blended financing platform — SDGs Indonesia One — to support large-scale sustainable infrastructure projects through PT Sarana Multi Infrastruktur. The platform has raised an impressive $2.46 billion in commitments to date and is targeting to reach $4 billion.

The government has also reached a milestone by utilizing *zakat* funds in partnership with the UN Development Program, the National *Amil Zakat* Agency (Baznas)

and Bank Jambi to provide much-needed access to electricity for over 4,000 villagers through micro-hydropower plants. Indonesia believes that blended finance is a key pathway to drive inclusive and sustainable growth, deliver global climate action under the Paris Agreement and achieve the SDGs.

Globally, the government took on a leadership role by hosting Tri Hita Karana (THK) Forum on Sustainable Development for Blended Finance and Innovation during the International Monetary Fund-World Bank Annual Meetings in Bali last October. The Forum launched more than 30 high-impact projects, investments and initiatives and mobilized up to $10 billion for priority SDG sectors, including green infrastructure, sustainable land use, women and innovation.

Based on the 2021 Economic, Financial and Fiscal Review from the MoF, the total realization of grants in 2020 is IDR 12,290 trillion. In addition, the forms of financial cooperation carried out by Indonesia with multilateral institutions, regional development banks, subnational and local development funds, include:

Table 2. 9 Form of Indonesia Multilateral Cooperation

Multilateral Institutions	Year	Total Nominal	Form of Multilateral Cooperation
ADB - Asian Development Bank	2018	USD 37,6 Billion	Loans, public sector management grants and energy
AIIB - Asian Infrastructure Investment Bank	2018	USD 7,5 Billion	Financing loans for 35 infrastructure projects
IDB Group - Islamic Development Bank	2018	USD 5,1 Billion	Financing loans, consultation on the establishment of Islamic banks, capacity building for human resources, seminars, conferences
ICD- The Islamic Corporation for the Development of the Private Sector	2018	USD 170,8 Million	Financing to the private sector in the form of line of financing to Islamic financial institutions
ITFC - International Islamic Trade Finance Corporation	2011-2014 2016-2019	USD 666 Million USD 1,8 Billion	Finance for agriculture, manufacturing, garment, CPO, sugar, coffee, cotton and coal sectors
ICIEC - The Islamic Corporation for the Insurance of Investment and Export Credit	2011-2019	USD 987 Million	Support for credit insurance guarantees for export activities and import facilitation of capital goods and strategic commodities to help increase export and import activities; and increasing foreign direct investment (FDI) in Indonesia through political risk insurance support.
IBRD - International Bank for Reconstruction and Development	1974-2019	USD 52,85 Billion	Financing 368 projects in Indonesia. In 2019 there are 29 active projects worth USD 6.66 Billion and investment in 2020 worth USD 1.52 Billion through current IBRD activities in Indonesia in addition to Investment Project Financing (IPF), Development Policy Loan (DPL), Program for Result (P4R), also mostly in the form of Trust Funds or grants (TF).

Multilateral Institutions	Year	Total Nominal	Form of Multilateral Cooperation
IDA- International Development Association - World Bank	1970-2019	USD 2,69 Billion	Loans and grants and support for 45 projects
IFC- World Bank Group	1986-2019	USD 3,05 Billion USD 37,24 Million	Support through 75 IFC investment project and 22 ICF Advisory projects
MIGA - World Bank Group	1989-2019	USD 1,86 Billion	Project support for the telecommunications sector and energy infrastructure (power generation projects).
IFAD- International Fund for Agricultural Development	1981-2019	USD 550,7 Million	Financing, grants, and technical assistance in the agricultural sector
AIF - ASEAN Infrastructure Fund	2019	USD 497 Million	Financial support for infrastructure projects in the energy, sanitation and clean water sectors
CGIF - Credit Guarantee and Investment Facility	Since 2018	USD 273 Million	Support the local currency bond market for Indonesian issuers in the form of guarantees in the issuance of bonds
CFC - Common Fund for Commodities	-	USD 17 Million	Financing investment support and grants to improve agriculture, production, processing and commodity trading
IRCo - International Rubber Consortium Limited	-	-	Maintain a balance between demand and supply of natural rubber; share knowledge and expertise in improving the quality of rubber harvest

Source: Book of Indonesia Multilateral Cooperation MoF, 2019

2.3.2 Capacity Development

2.3.2.1 Expand opportunities for city-to-city cooperation and fostering exchanges of urban solutions and mutual learning

Indonesia committed to expand opportunities for city-to-city cooperation and North-South, South-South and triangular regional and international cooperation in order to contribute to sustainable urban development, developing capacities and fostering exchanges of urban solutions and mutual learning at all levels and by all relevant actors; and equip public water and sanitation utilities with the capacity to implement sustainable water management systems (NUA §146, §120).

Indonesia's local governments have participated in major regional and international city networks and platforms such as about 49 cities involved in SisterCities International, and 29 local governments in UCLG-ASPAC , by which_Padang, Bandar Lampung, Surakarta, Surabaya, Banjarmasin, and Gorontalo are among cities that have actively participated. Additionally, Bogor and Bekasi are among seven local governments involved in the World Association of the Major Metropolises (Metropolis). Jakarta and Semarang involved in Resilient Cities Network. These are parts of the networks that

collaborate through multi-city association. However, city to city cooperation through the sister city program has been pursued by many cities for a long time. It relies on the strength of their Cooperation Division within the local governments, the more internationally oriented the division, the sister city program can be more materialized. Within the context of SDGs, in SDGs 17 there is a Para diplomacy aspect that promotes diplomacy between local governments across countries. Association of Indonesia Municipalities (APEKSI) and UCLG ASPAC champions Para diplomacy for local governments in Indonesia.

2.3.2.2 Promote the capacity development as a multifaceted approach to formulate, implement, manage, monitor and evaluate urban development policies

Indonesia acknowledged the importance of local governments in the follow up to and review of the New Urban Agenda (NUA §163). Having adequately trained staff in planning and implementing urban development policies are expected to increase capacity to engage in urban development policies. Capacity development in urban development policies especially at the government levels have increased. Bappenas initiate cooperation with universities to train civil servants for positions as planners specially to deal with government-based urban management, urban development and planning. Aside from non-degree training, Bappenas also initiate double degree and 18 months post-graduate program for civil servants. However, as of now there is no statistical data on the percentage of cities and subnational governments with staff trained in formulation, and implementation of urban development policies.

2.3.2.3 Strengthen the capacity of all levels of government to work with vulnerable groups to participate effectively in decision-making about urban and territorial development

Within the formal development planning system in Indonesia, there is so called musrenbang or Community Discussion held at the village, continually to the municipalities/regencies, provincial and national levels. This is to absorb aspirations for development for the year to come as it is held annually. Musrenbang allows for participation of various community members, including vulnerable groups. For vulnerable groups, there are also local branches of the Ministry of Women Empowerment and Child protection and the ministry of Social Works, that champion programs and activities dedicated to vulnerable groups. Their priorities are integrated into the local development plans. In terms of urban and territorial development, the forum of spatial management (*Forum Penataan Ruang*/FPR) is encouraged to be established at the local level. The forum includes local community leaders who have a wealth of knowledge in particular territories. They are the ones that voice concerns from vulnerable groups including those whose livelihoods may be threatened because particular development proposals took place. As of now, statistics on the proportion of cities with a direct participation structure of civil society engagement in urban planning and management, which are regular and democratic, are not yet maintained.

Nevertheless, there are efforts to engage direct participation of society on spatial utilization control through online system in several municipalities. Endorsed by the MoAASP, Medan city, Malang city, and Badung regency, have launched *Sistem Pantau dan*

Kontrol Penataan Ruang (PATROL TARU / Spatial Planning and Control System) as consultation and reporting channel for any misconduct in spatial plan and zoning regulation. Since the launched in 2019 and 2020, these three municipalities have received 157 reports and gained 495 rapporteurs. Each report is subject to be verified on-site by the related Local Government Agency prior to any actions taken which may include demolition (MoAASP, 2021).

2.3.2.4 Support local government associations as promoters and providers of capacity development

Indonesia committed to strengthening the capacity of national, subnational and local governments, including local government associations, in shaping organizational and institutional governance processes, enabling them to participate effectively in decision-making about urban and territorial development; support local government associations as promoters and providers of capacity development, recognizing and strengthening both their involvement in national consultations on urban policies and development priorities and their cooperation with subnational and local governments and their existing networks to deliver on capacity-development programmes (NUA §148; §149). The roles of local government associations have been important to represent local governments interests, coordinate with the central government to draw attention and resources to the associations' priority areas. In Indonesia there are several local government associations, such as Association of the provincial government of Indonesia (APPSI), the Association of Regencies of Indonesia (APKASI) and Association of Regencies' Assemblies in Indonesia (ADKASI). Associations that are involved in urban issues are Association of Indonesia Municipalities (AIM / APEKSI) and Association of City Council in Indonesia (ADEKSI). Increasingly, they participate in the national political dialogue, and the definition of public policies, as well as assisting members to carry out their legal competences and being a forum where municipalities can exchange good practices and learn from each other.

It is important to have a substantial budget in order to advocate with adequate substantive support for the associations' positions. These associations operate using financial support from stipends from its members. They also execute programs sponsored by donor agencies and international institutions. The size of the budget of local government associations depends on the active participation of its members. Members draw its membership stipends from local public budgets. The number of stipends which each member paid to the AIM, according to their 2020 annual report, is ranging from 25 to 35 million IDR subject to their city classification. In 2020 with 98 members, it makes the total of 2.24 trillion IDR. In addition to the membership stipends, AIM also receives additional funds from donors, programs, as well as other kinds of sources reaching to a total of 2.12 trillion IDR. These funds allow AIM to operate with a total budget of 4.36 trillion IDR in 2020.

2.3.2.5 Promote capacity development programmes on the use of legal land-based revenue and financing tools

Indonesia committed to promote capacity-development programmes for policymakers and local public officials on the use of legal land-based revenue and financing tools, focusing on the legal and economic foundations of value capture and distribution of

land value increments (NUA §152). The use of legal land- based revenue and financial tools are limited to the application of property taxes and the function of properties for commercial and industrial purposes. It still follows the standard tools used in calculating local accounting. There is still limited capacity to use tools such as development rights or transfer of development rights, application for land development, and land value capture. Even in the private sector the exploration of financial tools cannot be left without the involvement of the government. Understanding and recognition of the needs to explore such financial tools may rest on the willingness of the MoF at the national level. As this ministry is responsible for how far local governments can participate in financial sources related to land development. Thus, the number of people who have been trained in the use of land-based revenue and financing tools have not been calculated.

2.3.2.6 Promote capacity development programmes of subnational and local governments in financial planning and management

Indonesia committed to promoting capacity-development programmes to help subnational and local governments in financial planning and management (NUA §151). Municipal finance consists of the revenue and expenditure of local government especially as a part of national government transfer, and local government revenues. Municipal finance in Indonesia limited deal with non-government financial sources especially that contribute towards program implementation.

A prerequisite of efficient local government financial administration is having qualified staff in the areas of financial planning and management as well as accounting. The indicator measures local government staff trained up to bachelor's degree level or certified public accountant (or equivalent) as a percentage of total local government staff that have not been acquired. For the purpose of property tax and income tax, the national government involved in providing public accountants needed. In some cases, independent public accountants are employed to add in the time needed.

Annually, local governments have to submit its financial statement to the Audit Board of the Republic of Indonesia (BPK) to ensure the statements follow financial auditing standards. Annually. BPK publishes their auditing opinion to the statements as qualified or not qualified. BPK auditing opinion for local financial statements has been a benchmark to show that local governments have reported their financial statements in excellent manners.

2.3.3 Information Technology and Innovation

The current Covid-19 pandemic and the need to implement public health protocols, many government offices have accelerated efforts to introduce electronic based information and digitalization on various public services, including identity card, land registration, aggregate data provision and use of virtual reality.

2.3.3.1 Development of user-friendly, participatory data and digital platforms through e-governance and citizen-centric digital governance tools

Indonesia committed to foster the development, promotion and enhancement of open, user-friendly and participatory data platforms using technological and social tools available to transfer and share knowledge among national, subnational and local governments and relevant stakeholders (NUA 160).

E-governance can improve the speed of delivery and transparency of government services, as it is beneficial not only to city governments but also urban residents, businesses, city employees and non-government organizations. Innovation of the use of e-governments have been initiated not only by the national government, but also by local governments. In reducing the time to process application by citizens, government led permits such as permit Birth Certificate, ID cards, drivers licenses, business permit application, even property tax payments have been introduced as electronic application. For the public at large, requests for public information to the government, for example in DKI Jakarta, has been introduced as an online mobile app. The public also can report or provide information on the state of public services such as roads with potholes, assistance to homeless people, potentials for floods, so that the government can respond. In the monitoring to building developments and spatial utilization, building permits are centrally managed in an online information system at simbg@pu.go.id by the ministry and in coordination with local governments to monitor building permits within their jurisdictions.

The introduction of the concept of smart cities in many cities and regions in Indonesia have evolved from previously toward monitoring urban services to providing services. Smart cities entail the application of advanced technology to develop e-governance or smart governance that fit into the needs of its citizens. Smart governance as one of the important indicators of a smart city requires several important aspects of government. The three main aspects of smart governance are the implementation of information and communication technology in government, transparency and openness of data, and formulating policies according to the needs of citizens. Cities in Indonesia that have implemented smart governance include Jakarta, Surabaya, Bojonegoro, Binjai, Bandung, Semarang, Makassar and Yogyakarta.

The Municipality of Surabaya, for example, since 2014 has implemented the Governmental Resource Management Information System (GRMS) as the integrated regional financial management. It is applied in various bureaucratic activities starting from the upstream to downstream level (in the context of expenditure), including budget preparation (e-Budgeting), project planning (e-Project Planning), electronic procurement (e-Procurement), and contact administration and job disbursement (e-Delivery). This system guides the government resource management system in different city development programs to a more inclusive process as it involves more stakeholders to take part actively. Moreover, the system maintains the transparency of the City Governments' budget by utilizing ICT. In the monitoring to building developments and spatial utilization, building permits are centrally managed in an online information system at simbg@pu.go.id by the ministry and in coordination with local governments to monitor building permits within their jurisdictions.

The challenges of e-governance are in fact, the threats in the form of cyber-crimes such as: denial of service; spoofing, tampering, repudiation, disclosure, miss-information, fraud etc. have been limited. Municipalities, if realized, have to invest continually in ICT infrastructure and capacity building of their ICT staffs. Even today, public servants have to have a digital literacy in order to engage in electronic or digital administrative systems.

2.3.3.2 Use of digital tools, including geospatial information systems to improve urban and territorial planning, land administration and access to urban services

The New Urban Agenda encourages the use of digital platforms and tools such as GIS which improve long-term integrated urban and territorial planning and design, land administration and management and access to urban and metropolitan services (NUA §156).

Digital tools have been increasingly used by many ministries to increase the accuracy and reliability of spatial information contained in geospatial maps. This is specially to reduce the potential of land conflict, loss of revenues, inaccurate implementation of development agenda. In the time of COVID-19 Pandemic, to follow with public health protocols, such uses have also been increasingly implemented for serving the communities such as application for property ownerships.

The geospatial information system and Spatial Plans (GISTARU) that present online spatial plans at the local level are introduced in 2019. Initiated by the Ministry of Agrarian Affairs and Spatial Plans, it is aimed at providing spatial data that is open for public and is intended to create information transparency. Overall, it is a part of efforts to support the One Submission System (OSS) to facilitate the process of obtaining development permits in accordance with the spatial plan. Through the GISTARU, applications for investing in a certain area can be matched with Detailed Spatial Plans where the area is located. There are 63 Cities/Regions, or 12.26%, that have been integrated into the GISTARU system, which includes Online Spatial Plans and Interactive Spatial Plans. For the level of spatial plans, there are 51 detailed spatial plans or approximately 10%, 90% spatial structure and 80% spatial pattern plan of cities/regions are available. The cities that have been integrated into GISTARU include Badung-Bali Regency, Yogyakarta City, Sumedang Regency, Bandung City-West Java City, Malang City, East Kutai Regency-East Kalimantan, and Medan-North Sumatra City.

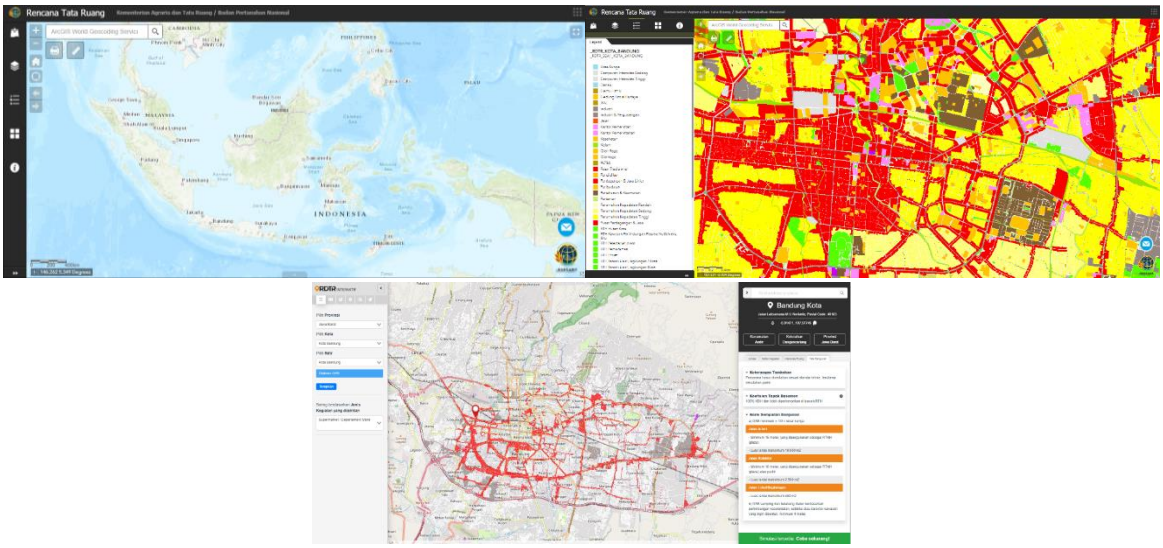


Figure 2. 15 An Example of Dashboard - Geospatial Information Systems and Spatial Planning (GISTARU) in Bandung Basin Area

Source: MoASP

Additionally, embedded within the GISTARU website (https://gistaru.atrbpn.go.id/rdtrinteraktif/), detailed spatial plans (RDTR) of several cities and regencies in 24 provinces are also made available in interactive format. Spatial data provided are referring to the map contained in www.gistaru.atrbpn.go.id/rtronline and complemented with legalized detailed spatial plan with municipal regulation. Without signing up, every website visitor can access the integrated information on spatial plans to be suited, as required by the spatial regulations, prior to develop any building or structure. Visitor can also identify which potential locations suitable for residential, commercial, or other uses. At the micro level, in the housing sector, it has introduced a housing development information system or SIBARU which processes housing assistance proposals from prospective beneficiaries (Local Government, Ministries or institutions, Islamic boarding schools, etc.) to the MoPWH electronically and online. It uses geospatial data to recognize the proposed locations with whether or not there are current programs applied in such locations. SIBARU integrates various forms of housing application system based on the types of houses such as Flats Information System (Sirusun), Specific Housing Information System (Sirusus), Public and Commercial initiated Housing Information System (SiRUK) and Electronic Uninhabitable Housing (E-RTLH).

The Geospatial information system has been implemented at the national level by the MoAASP with the website. BHUMI.atrbpn is a page in the form of an online map to access geospatial data from the MoAASP. The purpose of BHUMI.atrbpn is to provide easy access to authoritative and other spatial data to the public, government and other institutions, to facilitate the disclosure of public information.

For the city/regency level, the following are city/regency that have implemented the digitization of geographic information systems. Cities that have implemented a digital and transparent-based geographic information system include Jakarta (Jakarta Satu One Submission System), Surabaya Smart City, and Panada Lini of Manado city.

2.3.3.3 Strengthen capacities at all levels of government to effectively monitor the implementation of urban development policies

The capacity of governments, especially civil servants to engage in implementation of urban development, especially to monitor the implementation of urban development policies are embedded in the national level efforts to monitor implementation of local development policies. For urban affairs especially at the local level, such capacities are enforced through monitoring and evaluation as a part of program management, by developing performance indicators, and calculating its performance that fit into the authority at the municipalities and provincial level. Many government institutions develop their performance indicators for monitoring and evaluation, but its interpretation at the local level creates other learning processes as these have to be within the authority of each level.

A Local Government Information System (SIPD), initiated by MoHA, is a system that documents, administers data based on the implementation of programs/project by local

governments[3]. This is especially for local, including urban, development policies at the five-year periods. In 2021, SIPD is a digital-based form filled by the local governments to collect targets achieved based on performance indicators developed by local governments. It includes e-database that includes, inventory and processes data on regional conditions based on online, e-planning, an online-based system for formulating regional development planning policies, e-monev (monitoring evaluation) is a system used to assess and measure the performance achievement of online-based regional development implementation and e-reporting.

Figure 2. 16 A Dashboard of Local Government Information System (SIPD)

Source: MoHA

The capacity of local government to implement their programs/activities is measured by local government innovation index which is aimed at in-time execution, following accountability measures and several other generic indicators. Initiated by MoHA, local governments encourage people to fill up the online forms that are aimed at getting into the Innovative Government Award. Since it was initiated in 2015, there are more local governments participating in engaging in innovation as presented by the index. The following is the number of provinces, cities or districts that implement local innovation. Capacity development of local governments' civil servants are also encouraged by several ministries, including Bappenas, who continually train them for monitoring and evaluation of development policies.

[3] Based on Regulation of the Minister of Home Affairs Number 98 of 2018, SIPD is an information system used to manage data and information, prepare, monitor and evaluate regional development plan documents electronically.

Table 2. 10 The Number of Provinces, Municipalities or Regencies That Implement Local Government Innovation 2015-2019

Indicator	Year									
	2015		2016		2017		2018		2019	
	P	M/R	P	M/R	P	M/R	P	M/R	P	M/R
Number of local governments facilitated by MoHA in implementing regional innovation	16	26	17	27	21	52	30	195	34	227
Number of LGs implementing regional innovation	12		3		8		12		12	

Note: P = Provinces, M = Municipalities, R = Regencies

Source: MoHA (2019)

2.3.3.4 Support all levels of governments in the collection, disaggregation, and analysis of data

The quality and availability of data, either in numerical or geospatial, especially to represent the state of public affairs, has received increasing attention from the national government. As experiences show that unrepresentative often contradictory data can mislead the description of the situation or jeopardize public decision making. In-migration to large cities represent the needs of public services such as housing provision for migrants. Presenting real time data is also increasingly assembled, especially to reveal changing landscapes / situations and for assessing before making public decisions, as in the case of disaster management in Indonesia.

At the national level, synchronizing data, either numerical and geospatial become a national program as One Data (Satu Data) governance that assure quality, integration and data sharing through employing digitization efforts[4]. This allows various government agencies to gain access to data from a single source reducing redundancy and uncertainty, at the same time employing standardization of data. The availability of data in digital forms is an entry point towards electronic public services such as e-procurement.

This is not without critiques, as presented, various data produced by various sources may provide insights from different perspectives. Behind these various data is the need of particular approaches employed to gain data. For example, data on clean water consumption can be surveyed as consumed by individuals or by households. Both will lead to different percentages of clean water consumption coverage.

[4] As legalized by Presidential Decree Number 28 of 2019. Data can be accessed in https://data.go.id.

While One Data secretariat in Bappenas acts as data mentor, efforts to create one data is currently developed by data guardians (*wali data*). Data guardians are related to the authority held by government institutions. For example, the Ministry of Labour whose responsibility is on labour data coordinates on standardization of and survey of data at the national and between national and local governments. At the local level, local governments such as those in Gianyar Regency or Banyuasin Regency also coordinate their mismatched data and information to be One Data. At the municipality level, Semarang, Pontianak, Bandung, Surakarta, Pangkal Pinang, and Palembang have shown their effort to follow format One Data.

Since it is government driven, data disaggregation especially between rural and urban areas using One Data, are limited to those only from governments only. This will limit the ability to capture expansion of urban areas, or in /out migration of population. This means Statistics Indonesia continue to play roles in data disaggregation between urban and rural. For geospatial data, several ministries at the national level produce maps, such as Environment and Forest for forestry maps, Agriculture for soil and agriculture maps, Energy and Mining, for mining concession, or National land Cadastre for land ownership map. One Map policy, as a part of Open Data Indonesia movement, is an approach to unify mapping on land administration and reduce conflict on land boundaries as a result of different approaches to mapping. A relatively newly formed Geospatial Information Agency (BIG) is expected to be involved in this as a provider of official geospatial disaggregated data on urban and rural.

The reliance on governments to produce data can potentially reduce participation of non-government institutions such as research entities or private sectors to engage in data production. The movement of open data guides people as well as researchers to use data that is accessible, and visible especially if it represents information that previously has been non-existent or off-limit data.

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3

Follow Up and Review

This reporting comes at the period where the government of Indonesia continue with reorganizing and improving the urban areas and regions to overcome inefficiencies in logistics, trade transaction, reducing the impacts of urbanization through rural oriented development, and to promote equal types of development related to creative and culture-based industries, tourism and other human oriented resource development. At the national level, National Strategic Projects (PSN), relocation of the national capital, agrarian reforms, are amongst the important activities influencing the urban systems. Government regulation of urbanization is being finalized to accommodate the management of unincorporated urban regions. This will allow for participation of various levels of government in managing urban regions. At the local level, mayors and regents attempts to create breakthrough innovation that can serve increasing number of residents without straining the limited resources.

Currently, further steps in housing and settlement innovation related to its provisions are in the reform on access to housing financing, local housing and settlement planning, and housing standard setting. The connection between spatial planning and housing / settlement planning are one of the important aspects on improving access to housing in urban areas in an equal manner. Innovation in land banking, land management, monitoring of real estate market, innovation in local taxes play a part in future efforts toward housing provision.

Reporting on the implementation of New Urban Agenda unveils achievement on urban development, development policies that affect urban areas, urban – rural relations, rural oriented implementation, and its relations to the policy landscapes of the local setting. In detail, implementations instigated by the national government not only consist of transfer of knowledge to the local governments, but also lead to replication at the local level. On the other hands, mayors and regents play important, often formative roles in advancing local innovation and creativity to solve local problems. Many innovations, either replicated from the international experiences or locally invented, have increasingly been applied to support Indonesia's urban development that is not only economically savvy, but also environmentally sustainable, and socially promoting equal access. An example can be found on how slum areas can be managed using several approaches, i.e. as house units, household numbers access to basic services or slum areas. Slum upgrading, are executed using many dimensions of urban settlements. Participation of various agencies, including non governments, play increasing roles in reducing the land sizes of slums in urban areas. The most important playground for slum eradication at this stage is related economic improvement of slum households.

Additionally, Bappenas Ministerial Decree No 67/2021 concerning Formation of National Urban Development Strategic Coordination Team, enacted in June 2021, has stated NUA explicitly in a rather aligned position with SDGs. It means that NUA has been well recognized. Nevertheless, urban development especially aspects on public transportation, energy provision and consumption, air and water pollutions, waste management, ICT and smart cities, have been managed separately in different sectoral ministries. A consolidation, thus a collaboration and commitment among ministries need to be established in order to recognize synergy between efforts from each ministry. For examples Urban Development Strategies currently in place may need consolidation that have been claimed to be existed, i.e. National Urban Policies (*Kebijakan Perkotaan Nasional*), and reporting on implementation of sustainable urban agendas have advanced in order to

ensure that the benefits from investment in urban development expand to the nation as a whole.

Further elaborations of several policies are necessary. Government regulation number 12/2021 which replaced Government regulation number 14/2016 concerning Human Settlement and Housing Delivery have introduced the term of small, medium, and large urban regions. This regulation recognize that urban expansion does not take place in a large city, but also in small and medium cities. This is especially true in practice. Policy implementation, will likely to expand to small and medium cities. Likewise, urban and rural settlement, for example, has no longer necessarily defined from the viewpoint of population density and built-up areas, but it has to recognize the role of capital formation and network and their influence on urban – rural relations. Such practices have brought impacts on how agricultural activities are set up as well as distribution process and how it strengthens urban rural relations. The Law number 1/2011 on Housing and Human Settlement as the legal umbrella, unfortunately, have not indicated in detail the differences between urban and rural settlements. Statistics Indonesia has increasingly recognized the differences by adding more attributes to urban and rural settlements.

For local government associations, funding support from the government has yet been sufficient while considering that ideally, they have leading roles in implementation of SDGs visions in cities. Better partnerships with these associations are also necessary to reach the goals of sustainable urban agendas.

In line with efforts to increase the quantity and quality of human resources including professionals in urban development, professional associations, regulations on professional standards and its relations to higher education has also intensified. Specific regulations, forum, discussions as well as increased participation in science and technology in urban development are increasingly sought after. Discussions on urban development at the local level are also initiated by local associations, higher education and the communities.

Therefore, for a follow up, urban dimension of SDGs or SDGs in Cities need to be promoted at the local level in order to build better quality of cities and be recognized with measurable outputs. For a more global scale, south-south cooperation has been established from the current forms of city-to-city cooperation such as sister cities. City to city cooperation in the South have to be inquired in order to develop knowledge and understanding among countries in the South. Such recognition can also be utilized toward a review of urban patterns in the South, so that information exchange, sustainable cooperation, and innovations can be chosen in to address the unique problems of cities at the global south—problems that relate to high density and urbanization rate, governance response, continuing slum existence, and informality.

For such recommendation, commitments to implementation of sustainable urban development will include recognizing urban dimension of Sendai Framework for disaster risk reduction and Paris Agreement for climate change. it will lead toward the needs for specified road maps, and translated into practice at the city level.

Likewise, this reporting such as the implementation of NUA, will be further disseminated by translated to Bahasa Indonesia. This can be a source of communication to local governments and communities. This report will also be translated into, a compact and easily understandable media such as infographics for the public at large.

Reporting on the implementation of NUA will require routine collection of data, information and evidence. For local government this can also be a source toward evidence-based policy making and policy implementation. However, supports for monitoring and reporting is also required from ministries and data holders. In the future, it is expected that more data will be published openly and disaggregated into urban and rural, i.e., for energy, health, and funding sectors. Finally, it is expected that local governments looking for directives or information on urban development can make use of this report as one of the reference points to provide guidelines in the future.

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Republic of Indonesia

Voluntary National Review
for Implementation of

NEW URBAN AGENDA

Good Practices

2021

GOOD PRACTICES

This additional part to the main body of report serves to illustrate the propositions and commitments contained in the New Urban Agenda with action-oriented policies that have been put into practice. As the report guideline requires, case studies that incorporate systematic empirical evidence and documentation of experiences are presented in this part. While various scales of intervention, ranging from local to national, are prominent and therefore a key consideration in the New Urban Agenda, it is understood that improving the governance of urbanization is more pressing than solely improving different urban sectors. Three principles being laid out in the New Urban Agenda, leave no one behind, ensure sustainable and inclusive urban economies and ensure environmental sustainability, are inherently described within the following cases.

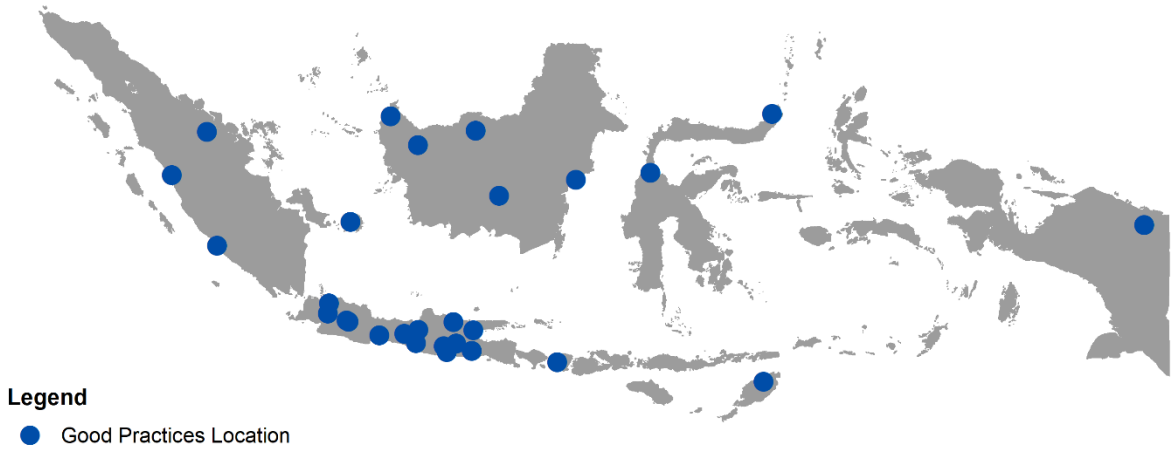


Figure 4: Good Practices Location Distribution Across Indonesia

Source: NUA VNR, 2021

Several notable good practices in the implementation of NUA show that commitment to social inclusion and ending poverty has been taken into actions at the local level. Inclusion in green open space and public space can be found in Wonosobo, the thousand park and disabled-friendly city of Surabaya and Boseh bike sharing in Bandung. Access to affordable and adequate housing as well as basic services have been enjoyed by residents of Kendal, Mataram with slum upgrading program and Malang with drinking water grant program. For waste management, several good practices are found to represent access to basic services as well as promotion of waste reduction, reuse and recycling. These cases are Botak in Bogor, bus in Surabaya, RDF plant in Cilacap and Tuban, and palm oil waste for a power plant in East Belitung .

To ensure sustainable and inclusive urban prosperity and opportunities for all, cities of Kediri, Bandung, and Cimahi provide useful examples on simplification of license and diversification of economy. During pandemic, support to informal economy is showcased in Bengkulu City through the KUPESAN Platform for delivery of agriculture, fishery, and daily goods. For post-disaster of 2018, Palu has provided technical and entrepreneurial skills for MSMEs.

Efforts to create environmentally sustainable and resilient urban development are continually advanced in school-based disaster risk reduction in Sigi, disaster-resilient for Padang city, dengue fever Health Information and Early Warning System in Semarang, and with the revitalization of athlete's village to cope with Covid-19 pandemic in several locations in Indonesia. As a part to the mitigation and adaptation to climate change, efforts to improve food security have been implemented in Palangka Raya and Semarang, while structural mitigation of sea wall took place at the north coast of Java.

For resource conservation, Balikpapan is a prominent example on environmentally sustainable city by promoting the existence of forest and green areas. Traditional markets across Indonesia have been developed as green buildings. Plastic asphalts have also been utilized in road constructions. Environmentally sound management of water resources are accelerated through successful river revitalization with goverment led Citarum Harum program.

For adoption of smart city approach that leverages digitization, Jogja smart services has served as an example on successful development of user-friendly, participatory data and digital platforms through e-governance and citizen-centric digital governance tools with its single ID, single window, single sign on, with a coverage of a total of 176 services.

Commitment to planning and managing urban spatial development is prominent at the borders of Indonesia. It is complemented with the integration of culture where the regency of Siak is one of the successful pioneers. The capital city of Jakarta also leads in the practice of transit-oriented development at Dukuh Atas. For urban financing, Public Private Partnership (PPPs) have been utilized in drinking water provision in Semarang and many other projects are initiated.

Means of implementation are particularly dominated by the utilization of ICT. It has helped in the distribution of subsidized houses in three aspects: updating housing stocks data by developers, providing detailed housing stocks data for buyers, and assuring construction quality of houses. Additionally, GIS has also been very useful for data integration, as showcased by Panada Lini in Manado. It should be noted though, that these cases are merely some of the tipping points of good practices at the local level. Such cases shall be used as a reference to implement NUA in practice and spark ideas on implementation in other places and contexts.

1.1.1.3 Enhance Social Inclusion of Vulnerable Groups

Taman Fatmawati, Wonosobo

The city of Wonosobo has intensively allocated green open spaces as a follow-up to the Green City Development Program (P2KH) with a local program called Wonosobo Green City. Fatmawati Park, as one of the parks in Wonosobo, was built at the end of 2015 as a reward for Wonosobo Regency as the best local government in carrying out the P2KH in the previous year. Fatmawati Park was named after the first lady of Indonesia "Fatmawati" as a form of appreciation for her services for Indonesia. The name also contains a philosophy of social learning to create harmony in social relations for ensuring Indonesia's diversity.

While fundCreating of Fatmawati park came from the National Government, the responsibility for park management was given to the Central Java Provincial Government and the Wonosobo Regency Government. From a total of 3 hectares area provided by the government, only 1 hectare was developed to become Fatmawati park. The park has put forward the principle of green open space for all (social inclusion), by developing special path for the disabilities in the form of a yellow line and ramp as well as a nursing room. It was designed with the concept:

- Active Park, equipped with child and disability-friendly facilities, which accommodate various activities, including recreation, playing, relaxing, exercising, performing arts and culture and social interaction or having an ecological function to absorb pollution and to retain rainwater;
- Productive Park, by building plant nurseries to allow regular change of plant types;
- Independent Park, independent operated with external funding from commercial activities of plant nursery, parking levies, renting venue and facilities for public and commercial events.

Source: http://sim.ciptakarya.pu.go.id/p2kh/knowledge/categories/best-practices/3

1.1.1.3 Enhance social inclusion for vulnerable group

A Thousand Parks and Disabled-Friendly City of Surabaya

Since 2010, the Surabaya city government is continously building and rehabilitating various green open spaces. In 2020, the proportion of green open space in the city of Surabaya has reached 21.99 percent with total 275 hectares from overall city's area, with more than 912 green open spaces. These parks' functions include urban parks, urban forest, urban tourism site, graveyard, agriculture, green line, and yard. The results are shown in the drop of local temperature by about 2 degree Celcius, from originally 30-31 degrees Celsius (Surabaya City Government Public Relations, 2020). The success of the city of Surabaya in increasing the number of green open spaces and adapting to the impact of climate change has earned various awards related to the environment such as the 2013 Asian Townscape Award from the United Nations (UN) as the Best Park 2013, the Environmental Care Award in 2014, Indonesia Green Awards 2014 in the Green City category, as well as the Climate Village Award by the Ministry of Environment and Forestry.

These parks and open spaces in Surabaya have also been equipped with disabled friendly fascilities, such as the use of ramps at the Education Museum, ablution areas in mosques, provision of wheelchairs at Surabaya's Al Akbar Mosque, special sidewalks equipped with guide tiles for the blind and deterrence to motorized vehicle, as well as lifts, special lanes, and parking lots for persons with disabilities in the Surabaya City government building. In collaboration with the private sector whose gain benefits from the existence of pedestraian bridge (JPO) tenants, several JPOs have been renovated and added with elevator facilities to make it accessible for those who use wheelchairs to cross safely.

1) Installation of a speech sensor-based device
   The limited numbers of JPOs makes most people choose to cross on the pedestrian crossing. Unlike the JPO which has an elevator facility added, the Surabaya City Government has added a speech sensor-based device (Pelican Crossing Traffic Light). This sensor will emit a sound that can guide the blind to cross safely.

2) Taman Bicara (Spoken Garden)

In addition to being used as directions, the sound sensor in this garden is used to provide information for persons with disabilities, especially for the blind. Inaugurated in May 2017, Taman Bicara is a park that is equipped with sensor facilities that can make sound when touched or when the sensor detects someone's presence. The sound sensor will provide an explanation about the plants around the sensor for the blind.

Other park equipped with this sound facility is Taman Surya which is located in the courtyard of the Surabaya City Hall. Although the concept of Taman Bicara is very innovative, there are budget constraints on the procurement of sensor equipment. Surabaya City requires a budget of more than IDR 100 million (approximately USD 6,940.23) to procure 14 speech sensors in one green open space.

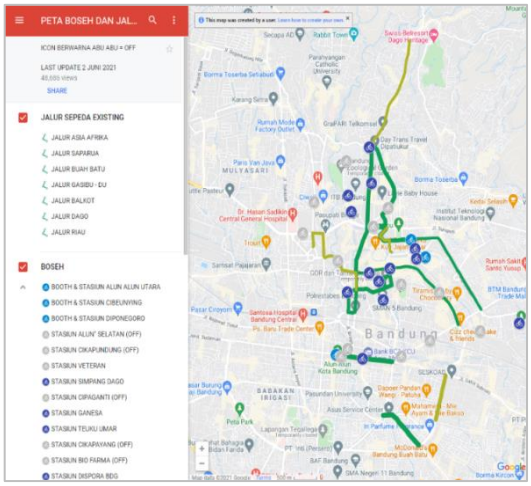
3) Other disabled-friendly facilities

Most of the parks in Surabaya can be accessed by all people, including those with disabilities. The Surabaya City Government has facilitated active parks in the City of Surabaya with a disability-friendly component. This disability-friendly initiative has also brought the city of Surabaya to receive various awards, such as the 2014 International Disability Day Award (HDI), the Inclusive City Award in 2014, the 2020 Human Rights District/City from the Ministry of Law and Human Rights.

Source: Surabaya city's VLR 2021

1.1.1.4 Ensure Equal Access to Public Spaces Including Streets, Sidewalks, and Cycling Lanes

Boseh: Bike Sharing in Bandung City



Bandung city government has built a bicycle path and bike-sharing program. Bike-sharing stations are placed in bulk transportation points such as bus terminals and train stations. BOSEH is abbreviation for "Bike on The Street So Everybody Happy" is the official name for Bandung Bike Sharing System. It began with a donation from Association of ITB Alumni around 2012, with the provision of 150 bicycles that can be rented at the rate of US $ 0.205 per hour in 12 stations in the area of Buah Batu and Dago (UNESCAP, 2018). Early in its implementation, the stations were attended with a staff to assist customers in renting, payment, etc. Around 2015 to 2016, PT. Banopolis Inovasi Kendara (Banopolis) created and developed the modernise version of Bike Sharing system for Bandung. After a long process in mid of July 2017 they put BOSEH Bike on a trial phase and then made some improvement for the e-money payment from previously with Bank BJB to use BRIZZI card of Bank BRI. For security reasons, the bikes are equipped with GPS. Additionally, there are electronic surveillance system to maintain supply and avoid empty stations as well as manual surveillance by the Patrol Team of BOSEH.

Source:

1. *https://www.boseh.bike*
2. *https://bit.ly/stasiunboseh*

1.1.2.1 Ensure access to adequate and affordable housing

Green Urban Resettlement with Corporate Social Responsibility (CSR) in Muara Enim

PT. Bukit Asam, a state-owned coal mining company in Muara Enim, South Sumatra, engage in Corporate Social Responsibility (CSR) which contributes to solving problems in their surrounding communities through resettlement and creating economically, socially and environmentally thriving communities. Residents in Bedeng Obak, Karang Tinah, Atas Dapur and Mutik lived in merely 100 meters away from the mining site of PT. Bukit Asam which made them prone to dust in dry seasons, and to drought due to a lack of cathment area. These conditions, and due to being close in proximity to the mining site, while identified as slum area for the inadequate housing and a lack of access to basic services, it has become necessary to relocate these residents to a new, more habitable and adequate housing.

Before and during the inquiry for CSR process, community members from the settlement were invited to discuss for acceptable solution to overcome the problem and finally agreed to be relocated. CSR Program of PT. Bukit Asam also synergizes with the Regional Development Plan by the Muara Enim Local Government. The process started in 2013 by identifying three slum areas in Muara Enim. In 2014-2015 it has been executed in the First Urban Phase by relocating 965 households and continued in 2016-2017 with the construction of community facilities and infrastructure. In 2018-2019, the community's economic, social, and environmental empowerment was carried out. In 2020-2021 it entered the Second Urban Phase by relocating 188 households. In addition to providing infrastructure for the community, the company has also built pre-schools, a healthcare centers, clean water connections, public street lighting and residential electricity, mosques, guard posts, and public cemeteries. In total, with resettlement of 1,128 households, it allow them to reside in live healthier and more liveable environments.

Other than the resettlement, CSR program conducted by PT. Bukit Asam has included transforming the now vacant area into green open spaces. The 5.32 hectares of green open spaces area where 9,385 trees planted, of 9 animal and 11 plant species conserved, and a jogging track and a Mini Zoo located. Additionally, it created Eco Edu Tourism program as an environmentally friendly tourist destination and expectedly sustainably provides added value for the environment and the surrounding community. In addition, this program also aims to provide economic independence for the relocated community by allowing them to set up local business activities in the areas to supplement their income and currently up to IDR 108 millions generated from such businesses.

Source: MoPWH

1.1.2.1 Ensure Access to Adequate and Affordable Housing

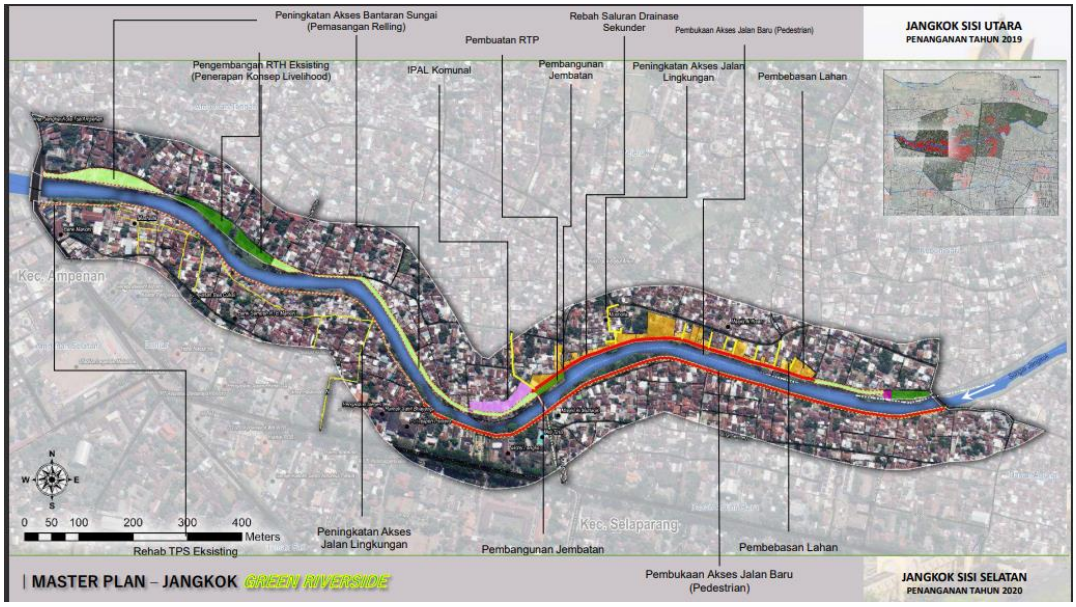
Slum Upgrading Programmes of Jangkok River, Mataram City

Since 2009, slum upgrading in Mataram city has been carried out through collaboration between community sources, local government, and Badan Amil Zakat Nasional (BAZNAS). Through this form of collaboration, inadequate houses can be improved with BAZNAS source of fund, particularly if the government programs, such as Kotaku and BSPS, are inaccessible (MoPWH, 2019).

The Jangkok watershed, covers an area of at least 170km2, is located in Mataram City. While located in Strategic Area of the City in terms of environmental carrying capacity function and the importance of economic growth, 73 hectares of the Jangkok watershed is considered slum area.

The main idea in the revitalization of the Jangkok watershed is to restore the function of the watershed to its original state with the concept of Green Riverside. With this concept, the riverbank becomes an open space for community activities. In addition, the Jangkok watershed area has the potential for economic development from the aspect of eco-tourism, waterfront culinary, freshwater fish rearing with a floating cage system, small and medium-scale home-based businesses (convection businesses, *tempe* and laundry industries). To support the ecological sustainability of this slum upgrading, the Mataram city government has a clean river program in collaboration with BWS Nusa Tenggara 1 through the operational and maintenance fields and involves community organizations known as the River Care Community (KMPS) in each village along the Jangkok watershed.

The design concept for the arrangement of the Jangkok Watershed Area, Pejeruk Village, among others, includes: repair of pedestrian roads, neighbourhood roads, pedestrian drainage, environmental drainage, communal septic tanks, public street lighting, construction of bridges, additional 5 units of boats, installation of railing along 1 km and construction of green open space. A concrete bridge with 13 (eight) meters long and 5 (five) ameters wide was installed to connect traffic that was previously cut off due to Secondary Drainage.



To carry out the Green Riverside Concept, it is necessary to have a Public Open Space equipped with public street lighting. Jangkok watershed area is now transformed into a clean and beautiful area—aligned with the Vision of the City of Mataram "Towards a Liveable, Sustainable and Child Friendly Mataram City ".

Source:

1. *MoPWH (2019a)*
2. *kotaku.pu.go.id*
3. *DPKP Mataram (2019)*

1.1.2.4 Establish Slums Upgrading Programmes

Transformation of Tukad Bindu: From Polluted River Into an Oasis In the Midst of Denpasar City

Tukad Bindu is a river in Denpasar which was once known as a river full of garbage and very dirty since it was a place for household waste disposal for local residents. Initiatives for slum upgrading in Tukad Bindu have been started since 2013, followed by economic development in 2017 to benefit the residents.

To make Tukad Bindu a productive area, the local government has improved border infrastructure along the river banks with hardscaping and building gazebo. The community has then collaborated led by idea given by the Head of Banjar Ujung by building a wooden bridge, forming Komunitas Kali Bersih and a foundation that gathers 4 banjar (neighbourhood unit in Bali), and garden landscaping. In 2019, Tukad Bindu has received a micro hydro to produce electricity, free internet from CNBN Google, and build another access road. Since the environment upgrading, on one of the residents' land parcel, the community has also built 7 culinary stands which occupied by the 4 banjar residents based on 10% profit sharing to the Foundation of Tukad Bindu.

As a result, Tukad Bindu has become a tourist attraction that can be a place of recreation for children, teenagers, parents, and families. Tukad Bindu also provides buoys, tires, and canoes for visitors playing in Tukad Bindu. Tukad Bindu also provides fitness equipments, several children's play facilities and a neatly arranged garden. The free internet access for visitors and halls to relax add to the Tukad Bindu's attraction to people. For the community participation in environmental upgrading in Tukad Bindu, the Denpasar city government received national recognition on Top 45 Public service innovation in 2019.

Source: Bappeda Denpasar city

1.1.3.1 Access to Safe Drinking Water, Sanitation and Solid Waste Disposal

SIMBAH in Malang Regency

The Urban and Rural Drinking Water Grant (DWG or *Hibah Air Minum* (HAM) in Indonesian) Program for Low-Income Communities is a breakthrough step implemented by the MoPWH to accelerate public access to drinking water which has been implemented since 2010. The program is aimed at Regional Water Supply Enterprises, while the Rural Human Rights Program is aimed at the organizers of the Rural Drinking Water Supply System.

From 2010 to 2020, the program has served approximately 8.5 million people with 1.7 million household connections at 357 regencies/cities in 33 provinces in Indonesia. The grant was given based on calculation of two to three million IDR per house connection. The total budget for this program is considerably higher than the average household installation cost because it considers the investment in development of distribution network.

One of the municipalities with a high commitment to implementing the Urban Drinking Water Grant Program is Malang Regency which is proven with its participation in the last 5 years. From 2015 to 2020, Malang Regency has succeeded in installing 32,000 house connections for 128,000 low-income people. The Malang Regency Government is also committed to providing a total capital investment of One hundred fifty-five billion IDR to its drinking water company - Perumdam Tirta Kanjuruhan. The annual equity capital is allocated to the company.

Perumdam Tirta Kanjuruhan uses the capital to increase production capacity, network repair and installation of household connections. This company has also developed a Grant Customer Information System (GCIS or *Sistem Informasi Pelanggan Hibah* (SIMBAH) in Indonesian) application that can monitor the implementation of the Drinking Water Grant Program. The application contains all information regarding the program, namely location coordinates, photos of the condition of the house and pictures of electric-water meter from low-income people as the prospective beneficiaries. The development of this application aims to ensure the reliability of data related to the list of potential beneficiaries. This application also makes it easier for the Malang Regency Drinking Water Company to supervise at every stage of program implementation.

Source: MoPWH (2021)

1.1.3.2 Access to Safe and Efficient Public Transport System Modern Urban Economy

Suroboyo Bus in Surabaya City

Since 2018, the Surabaya city government provided Suroboyo bus, requiring passengers to pay travel fare with used plastic bottles and cups. Such plastic waste can either be paid at stations and terminals, by which passengers receive stickers to be redeemed for tickets, or on board the bus to be traded with tickets. Each bus has been equipped with waste bin and pressing machine. Since its implementation, three waste banks (*Bank Sampah Induk* Surabaya, Bintang Mangrove, and Pitoe) have cooperated in collecting plastic waste from bus stations and terminals before further be processed.

One ticket, for two hours ride, can be paid with 3 options: 3 large bottles with capacity of 1500 ml, 5 medium bottles with capacity of 600 ml, or 10 plastic cups with capacity of 240 ml. It operates from 7 AM to 10 PM within the interval of 15 minutes, the bus has also been connected with intelligent road traffic system, which turns the traffic light green allowing for faster travel. The control centres are in Bratang dan Joyoboyo terminals.

With the capacity of 67 passengers, Suroboyo bus, has also been equipped with different seat colours designated for women, pregnant mothers, and elderly, Additionally, it has 12 CCTV camera in its interior and 3 CCTV cameras on the exterior, automatic sensor on the bus door, as well as emergency button. However, with the expanding network service and boarding passengers, it has now been upgraded to include electrical payment system. Passengers are able to scan QRIS code through their mobile phone and make payment. Mobile application, GOBIS Suroboyo Bus. has also been launched. It allows passengers to get information on the nearest bus location as well as telling bus driver of waiting passengers on each bus stations through QR code scan.

Based on the Public Relations of the Surabaya City Government (2019) data,, 39 tons of plastic bottle waste had been obtained from the Suroboyo Bus until January 2019. The plastic bottle waste that had been collected was then auctioned through the Directorate General of State Wealth, the results of which were designated as state assets. From the results of the auction, plastic bottle waste from Suroboyo Bus has provided additional income for Surabaya of 150 million IDR (Surabaya City Government Public Relations, 2019). This payment policy using plastic bottle waste has received appreciation from the MoEF and the United Nations Environment Program (UNEP).

Source:

1. *https://humas.surabaya.go.id/tag/suroboyo-bus/;*
2. *https://belalangcerewet.com/*

1.1.3.3 Access to Modern Renewable Energy

Waste to Energy in Malang Regency

One of the innovations in exploiting renewable energy at the community level takes place in Malang Regency - East Java through the utilization of methane gas resulting from waste residue in the landfill (TPA) as alternative energy for the adjacent community. Along the road to the landfill location, long pipes connect houses. At least around 250 families benefit from methane gas from the Talangagung Landfill as fuel for household activities. In addition to biogas, the Talangagung Landfill has also been able to process organic waste into fertilizer through composting process and production of organic fertilizer plus the mixing of composting fertilizer with manure. The landfill waste innovation can also generate electricity with a capacity of 500 to 750 watts (MoPWH, 2019).

Since the waste coming into the landfill tend to have been naturally fermented, methane gas can immediately be harvested. The daily waste collected of 150 cubic meter is able to produce 3 cubic meter of gas per hour. There is no retribution required to obtain methane from the landfill, but the community management group charged consumers IDR 6,000 per month for maintenance and further network development.

Source:

1. *MoPWH (2019);*
2. *https://www.terakota.id/menyelamatkan-sungai-brantas/*

1.1.3.3 Access to Modern Renewable Energy

Waste to Refuse Derived Fuel in Cilacap and Tuban

Population growth has an impact on changes in the quantity, composition, and characteristics of increasingly complex waste. In order to reduce the volume of waste in the landfill, the government encourages the processing of waste into Refuse Derived Fuel (RDF) as an alternative to which the cement industry and power plants can utilize. Such technology has been implemented in Jeruk Legi Landfill, Cilacap Regency (Central Java Province).

It was resulted from collaboration between PT Solusi Bangun Indonesia Tbk (SBI), Cilacap District Government, Denmark Government, Ministry of National Development Planning, Ministry of Public Works and Housing (MoPWH), and Ministry of Environment and Forestry (MoEF). Launched in July 2020 with a minimum capacity of 120 tons of waste with bio-drying treatment to generate approximately 60 tonnes of RDF as a substitute to 40 tonnes of fossil fuel per day (Bappenas, 2021; https://cilacapkab.go.id/).

Following Cilacap, RDF plant in Tuban district is a collaboration between SBI, MoPWH, Semen Indonesia Group, and Tuban District Government. Every cement factory under the Semen Indonesia Group is sought to replicate such technology. TPA Gunung Panggung in Semanding District, Tuban Regency, receives 50 tons/day of waste. The composition of the waste received varies between food waste, garden waste, plastic, paper, wood, rubber, leather, metal, and other types of waste.

The process scheme of the RDF system uses a loop system with a capacity of 120 tons/day. The type of waste that enters the RDF has a moisture content of around 55%. Waste input with generation of 30 tons waste/hour placed in the packing bay. Then the waste goes to the shredding process, which previously sorted. Waste in the form of ferrous metal and hazardous waste has separated, while the other waste is then processed by shredding. After the shredding process, the waste is taken to the bay for the bio drying process.

This bio drying process aims to reduce the water content of the waste in order to produce a high heat content. In addition, the process can remove water content by 20% and mass loss of around 52%. In this process there are 9 bays with area of 30 x 10 m and this process takes 21 days. The next process is the refinement process into the final form of RDF. In this process there are 3 types of RDF produced in the form of inert (> 15 mm), product RDF (15-80 mm), reject (> 80 mm). For RDF that is rejected or oversized, it is shredded back to size >15 mm, this is because the size is the RDF specification for the Cement Plant

Source: Bappenas (2021); https://cilacapkab.go.id

1.1.3.3 Access to Modern Renewable Energy

Construction of Renewable Energy Based Power Plant using Palm Oil Waste in East Belitung

Biogas Power Plant of Austindo Aufwind New Energy (AANE) in Jangkang, Belitung is the first Independent Power Producer (IPP) Biogas Power Plant in Indonesia to utilize Palm Oil Mill Effluent (POME) as raw materials. It has also been successfully integrated with PT Perusahaan Listrik Negara (PLN) or State Electricity Company grid.

Methane gas generated POME, —waste water from palm oil mill, are accumulated for operating Biogas Power Plant (PLTBg) with a capacity of 1.8 MW.

AANE Jangkang signed the power purchase agreement with PT PLN formally on November 29, 2012. Established in 2008, PT AANE is a joint venture between PT Austindo Nusantara Jaya (ANJ) Tbk with Aufwind Neue Energien GmbH of Germany, focused on renewable energy. PT AANE was founded to invest, develop, and operate facilities from renewable energy sources, especially biomass of palm oil plantations. Raw material sources in the form of POME are plentiful around Biogas Power Plant of AANE, one of them comes from PT Sahabat Luxury and Makmur (PT SMM).

PT SMM itself located near the location of the power plant. The planted area of oil palm plantations PT SMM per December 2015 covers 14,093 hectares. By the huge area, the need for Palm Oil Mill production capacity of 60 tons per hour can be met, at the same time, ensuring the acquisition of the supply of liquid waste from the palm oil production process can be achieved. In addition to the existing potential, good infrastructure support gives positive value to the business. Fortunately, ease of access has become the commitment of the Local Government of East Belitung.

Electricity yielded is transmitted to the PLN's grid. Raw materials are obtained from palm oil mill has a capacity of 60 tons per hour. The construction of a biogas plant started in 2010 as the implementation of emission reduction projects within the framework of the Clean Development Mechanism (CDM). The development is done in two stages.

First, was a capture and combustion of methane gas. This process was completed in April 2012. The second phase was the utilization of methane gas to generate electricity.

AANE Jangkang Biogas Power Plant has a production capacity of about 5% of the total peak load of the electricity system Belitung Island, which is reached 36 MW in 2016. Production of electricity generated from the plant is capable of supplying electricity to 2,000 houses around the plant site. So, on the average, every connection or a house can be powered by 900-volt amperes electricity. Based on PPA, total electricity from production capacity of 1.8 MW AANE Jangkang will be supplied to the grid. The electricity distribution network is connected from Simpak Pesak, East Belitung, up to Maracas, Tanjungpandan in Belitung. Production target of electricity from biogas power plant of AANE Jangkang reach 12 million kilowatt-hours (kWh) per year.

The AANE Jangkang electricity production not only brings the advantage of lower and more stable price than the diesel-fuel energy, methane gas utilization has also supported government programs to reduce emissions of greenhouse gases. Every year, AANE Biogas Power Plant contributed to declines in emissions of greenhouse gases equivalent to ± 23.000 tons. The total investment for building AANE Jangkang Biogas Power Plant is amounting USD5.4 million. Currently the prevailing purchase price for AANE Jangkang still amounts to IDR 975/kWh. Meanwhile, the Government represented by the MoEMR, has issued a new purchase price adjustment in Ministerial Regulation of MEMR No. 21 of 2016.

Source: Success Profiles of Bioenergy Utilization in Indonesia, MoEMR 2020

1.2.1.2 Support the Informal Economy

Digital-Based Community Economic Empowerment During the Pandemic Period in Bengkulu City through the KUPESAN Platform

Since the COVID-19 pandemic has spread in Indonesia, almost all sectors have been affected, particularly the economic sector. In response, local governments are trying to make policies or innovations to support the economy within their respective regions continuously. Bengkulu Government, in collaboration with the Department of Cooperatives and Micro, Small and Medium Enterprises (DISKOP UMKM) has created an application or platform called KUPESAN.

KUPESAN application formed by PT. Kurnia Persada Agrinusa and PT. Warta Bumi Raflesia through the Department of Cooperatives and Micro, Small and Medium Enterprises in Bengkulu City provides job opportunities for the people of Bengkulu City during this pandemic to continue trading online, both to encourage economic growth from the agricultural, fishery, and other sectors.[2] KUPESAN is a food service and shopping for vegetables, fruits, and basic necessities.[3] By paying attention to health standards during the COVID-19 pandemic, this digital market in Bengkulu is intended as a form of attention from the local government to response complaints from micro-enterprises and cooperatives over the decline in sales turnover and the weakening circulation of money in the community. In addition, the digital market can move the economy of the people in Bengkulu City, as well as increase the income of farmers, market traders, micro-enterprises, and open new jobs, especially for employees who have been laid off affected by the COVID-19 pandemic [4].

In addition, this new digital market innovation can also reduce the potential spread chain of COVID-19 because many shopping activities for daily needs executed digitally and in a distance, without the need to go to places with a high potential to be infection by COVID-19.

Source: https://localisesdgs-indonesia.org/

1.2.1.3 Support Small Medium Sized Enterprise; Develop Technical and Enterpreneural Skills

Supporting Local Business Recovery Post-disaster in Palu

City of Palu experienced a major impact of earthquake disaster from 2018-2019 which has been worsened with the COVID-19 pandemic.

UCLG ASPAC and Cities Unies France (CUF) supported local business recovery in the city of Palu (Sulawesi, Indonesia). The support was delivered through "*Kelompok Usaha Bersama*" (KUBE) or collaborative works programme.

Initially established in 2016, KUBE motivates local people to submit business proposals and to receive support from local government. The goal is to motivate and accelerate establishment of new Micro and Small Medium Enterprises (MSMEs) in Palu, post disaster events, including the COVID-19 recovery efforts, thus supporting local economic development.

Support to Local Businesses, among others, are provided through green circle (*lingkar hijau*) community with reuse, recycle, composting and urban farming, Gawalise printing in design and printing for clothes, banner, and backdrop, and Arsyila bakery in social media marketing and online platform.

Source: UCLG Annual Report, 2020

1.2.1.4 Promote an Enabling, Fair and Responsible Environment for Business and Innovation

Simplification of Licensing Types for the Improvement of Service Quality and Investment Climate in Kediri City

Despite having an integrated one stop service (PTSP), Kediri City still has some licensing services managed by sectoral government offices. Business people or those wanting to run a business often had to go from agency to agency to complete the licensing requirements. On the other hand, some licenses that seemed to be similar but were issued by different government agencies. For example, to open a vocational training institution, a business person or applicant had to apply for two different licenses, vocational training institution license to the Social and Employment Agency, and course and training institution to the Education Agency.

In April 2014, the Capital Investment Board (BPM) and PSTP of Kediri City initiated a mapping on licensing that fell within the authority of Kediri City Government so that there was a clear understanding on the number and types of licenses. The initiative was followed by an innovation to reduce the types of licenses while keeping the existing laws and regulation as references. Thanks to the simplification, the procedures to start a business is automatically shorter and easier.

BPM and PTSP of Kediri City, along with the Legal Division and Organization Division of the City Government, assisted by a third party namely the Association for Small Business Improvement (*Perkumpulan Untuk Peningkatan Usaha Kecil* or PUPUK), established a small team to conduct a licensing mapping for licenses managed by sectoral offices as well as those already managed by BPM and PTSP. The number of types of licenses in Kediri City was reduced from 153 types into 58 types of licenses. The application of simplification on licensing brought positive impact to the city. Kediri City received East Java Investment Award in 2015. In 2016, BPM PTSP of Kediri City received an award from the Indonesian Investment Coordinating Board (*Badan Koordinasi Penanaman Modal* / BKPM) as one of the best providers of integrated one stop service at national level for the category of deregulation or simplification of licensing in a city. With such simplification, in 2017, investments have far exceeded the target by realization as of 224%[1]. Further development with OSS (*online single submission*) was taken in 2018, allowing speedier permit process, monitoring and reporting up to calculation of retribution. It supports transparency of investment in Kediri.

Source:

1. *Association of Indonesian Municipalities (AIM)/APEKSI 2017*

Good Practices

1.2.2.1 Support the Diversification of the Urban Economy and Promote Cultural and Creative Industries

Bandung Creative city

Creative economy in Indonesia is a sector to support enabling fair environment for business and innovation, which is capable of supporting larger financial industries, such as tourism, trades and cooperative and SMEs. It helps cities like Semarang to be known for its culinary tour, Bandung with its independent clothing industry, Jember with its fashion festival, and Denpasar with its craft industry. These cities are connected through the Indonesian Creative Cities Network (ICCN) based on a set of 10 principles to guide the notion of a creative city, inspired in part by the Bandung Declaration. These principles are rooted in support for social life, culture and cultural interaction, sustainable environments, viability and accessibility. Cities were interested in enhancing their positioning nationally and internationally through branding, and as a way to focus state activities and investment. First Pekalongan became a UNESCO city of Crafts and Folk Arts, followed by Bandung as a City of Design. This has led to other cities eager to follow suit. In the meantime, both Solo and Bali had developed local creative city structures with civil society involvement.

Bandung city is one of the four cities of the South East Asian Creative City Network. The influence of the Institute's design faculty, its many high level educational bodies, the growth of the design sector in the city and the growing links of the sector to the city's garment manufacturing sector all played a significant part in why Bandung has become a Unesco City of Design (part of its creative cities program). Bandung is a relatively wealthy city in Indonesia and has a growing middle class. It is from this middle class that majority of the 50 founding members of the Bandung Creative City Forum (BCCF) emanated. Through over 250 projects they invited other citizens from diverse communities to join them in creative interventions to make changes. One of its four main projects was Helarfest, an annual event featuring some 30 projects across the city that spanned a range of arts and design disciplines as well as traditional rituals and performances. The Creative City program has now been shifted from being a totally independent citizen driven project to one that is now also part of the municipality's programs. This gives a significant status, access to resources and an opportunity to influence a range of municipal services.

Source:

1. MoPWH (2017);
2. *https://creativecitysouth.org/*

1.2.2.2 Develop Technical and Entrepreneurial Skills to Thrive in a Modern Urban Economy

Cimahi Technopark

Technopark is one of the priorities of the elected president and vice president for the 2014-2019 period as stated in the Nawacita, people's productivity and competitiveness in the international market. In the 2015-2019 RPJMN, Cimahi City became one of the cities selected in the development of technoparks.

Technopark is a concept as a centre for the implementation of technology. Cimahi City has officially established Cimahi Technopark in 2016 in collaboration with the Agency for the Assessment and Application of Technology (BPPT). Although titled "park", Cimahi Technopark does not literally mean a park where you can sit in the open. The definition of a technopark according to the International Association of Science Park (IASP) is a professionally managed initiatives/organizations that aim to improve the welfare of the community by encouraging a culture of innovation and competitiveness of knowledge-based industries and institutions in it. In other words, Cimahi Technopark is a special space built and fostered by the Cimahi City Government to develop a technology-based economic industry.

The three-story building, plotted on one hectare, of Cimahi technopark has various technology-based creative industry supporting facilities, such as convention hall, tenant rooms, discussion rooms, laboratories, and the Baros Innovation Centre (PIB) to support the development of technology-based innovative businesses. The main focus of Cimahi Techno Park is collaborating with start-up companies and young technopreneurs to advance the IT-based Cimahi economy, especially businesses in the food-beverage, digital creative, handicraft and textile industries. With the guidance and supervision of BPPT, several technopreneurs in Cimahi have started to enter the national, even international market.

Electronic fishery products, for example, facilitates the process of feeding fish so that it can reduce production costs by up to 70 percent or equivalent to IDR 2.5 billion per month for large-scale companies. The e-fishery system has now been applied in West Java and Lampung and abroad, such as Thailand and Bangladesh. In addition to e-fishery, other global works also come from Gerry Nusa Muhammad, who developed a virtual reality system for Hajj rituals. At Cimahi Technopark, young technopreneurs have the opportunity to receive incentives and guidance because the technopark has opened a flagship program

for one year to attract many quality start-ups to then receive guidance, ranging from business incubator programs to improving management and production efficiency.

In 2020, the Cimahi's municipality government received an award with the title of Outstanding Achievement of Public Service Innovation 2020 in the National Scale from the Ministry of Administrative and Bureaucratic Reform, Republic of Indonesia. This award was given for the existence of the Cimahi Technopark Area as an Integrated Service Centre for Cimahi City's Local Economic Development based on Innovation, Science, and Technology through the Quadruple Helix collaboration.

Source: https://www.cimahitechnopark.id/

1.3.1.2 Implement Climate Change Mitigation and Adaptation Actions

Building Community Disaster Preparedness and Resilient through School Based Disaster Risk Reduction (BCDPR SbDRR) in Sigi Regency

The earthquake, tsunami and liquefaction disasters that occurred on September 28, 2018 in Central Sulawesi have resulted in various very detrimental impacts, ranging from around 2.227 people died, 965 people were missing and 2.537 people were injured. Various responses from the government and non-government were immidiately carried out in the emergency response. In the recovery phase, various organizations are still carrying out programs in the community, but it was seemed to be lacking in schools to prepare students to be aware of disasters. Therefore, the Foundation for the Study and Protection of Children (PKPA) iniatiated the program BCDPR SbDRR in the school environment in Sigi Regency.

The implementation of this program is carried out with various approaches, starting from the coordination of 11 schools, village government, sub-district and several stakeholders at the district level. In addition to coordinating, activities such as training, FGD, socialization and procurement of disaster risk reduction facilities in the school environment are also carried out. The program has reached 1.442 beneficiaries consisiting of all students and teachers in 11 schools in 5 villages of Tanambulava sub-district and other representatives.

The implementation of this program began to face challenges when the Covid-19 pandemic occurred, where student activities could not be carried out in large numbers. This program has the potential to inspire various regions in Indonesia that are prone to disasters to do the same thing to increase disasater resilience early on.

Source: Bappenas, 2021

Tunggal Dara dan SICENTIK, Semarang City Mainstay Program in Handling Dengue Fever

The city of Semarang was ranked first in the number of cases of dengue hemorrhagic fever (DHF) highest in Central Java Province for five consecutive years until 2013. As a coastal city that is affected by climate change and has a dense population, Semarang City is vulnerable to infectious diseases. vectors, including dengue fever. World Health Organization stated DHF as a dangerous disease. Dengue causes a wide spectrum of illnesses, ranging from subclinical symptoms that people do not know they are infected to severe flu-like symptoms in those who do. Later, those with severe dengue may develop complications in the form of severe bleeding, organ damage, and/or plasma leakage.

Semarang had 5,556 DHF incidents in 2010 and always had more than 3000 DHF cases until 2014. Initially, an initiative was introduced through the ACTIVED (Actions Changing the Incidence of Vector-Borne Endemic Diseases) project in 2013 to 2016, which is part of the Program ACCCRN (Asian Cities Climate Change Resilience Network). The ACTIVED project is a collaboration between Mercy Corps Indonesia and the Semarang City Health Office, Semarang City Education Office, Semarang Climatology Meteorology and Geophysics Agency (BMKG), sub-district and urban village officials in Semarang City, academics, and health actors in the community. ACTIVED aims to strengthen the capacity of the health system and the resilience of the city of Semarang in dealing with dengue which is exacerbated by climate change. This program also involves key actors such as hospitals, health centers, elementary schools, government at the sub-district and sub-district levels, as well as communities in six urban villages in Semarang City.

ACTIVED applies a variety of methods used in a series of capacity building activities such as educational games, participatory approaches, interactive discussions, workshops, use of modules and teaching aids, meetings to raise stakeholder commitment, education for adults, and mentoring activities that always involve the community. Through this approach, the Semarang City Health Office was able to increase the enthusiasm of the community in participating in various activities ranging from training to practicing the things they learned related to the control and prevention of DHF in their daily lives. In addition to motivating the community, alternative approaches are expected to shape the culture of the community in implementing clean and healthy living behavior (PHBS).

As an effort to support the flow of information regarding the development of dengue cases, ACTIVED also supports the Semarang City Government in developing a Health Information and Early Warning System (HIEWS) so that it can be accessed online. With this information system, the community and schools can report findings of mosquito larvae and cases of DHF in their environment

via SMS to a server managed by the Semarang City Health Office. Puskesmas (public health center) and hospitals in Semarang City also have access to report data related to dengue cases through the HIEWS system.

Another goal of developing this online system is to increase the rapid response of health policy makers in Semarang City, especially the Health Office, to prevent the development of dengue cases. HIEWS is equipped with the ability to predict DHF cases which are influenced by climate parameters with data provided by the Semarang City Meteorology, Climatology and Geophysics Agency (BMKG), so that the Semarang City Health Office can anticipate the development of DHF cases better. For example, patient reports by hospitals can be done online and in real-time. Then, notification of dengue cases to officers and regional stakeholders is carried out through the SMS Gateway system so that officers and regional stakeholders can quickly mobilize the community to anticipate the spread by independently carrying out 3M PSN (Eradication of Mosquito Nest by Draining, Covering, and Burrying).

As of April 2016, the HIEWS system has recorded more than ten thousand data related to dengue fever since the system was established in September 2015. Of these, 7,555 are mosquito larvae monitoring reports from the community with an average of 175 people from six sub-districts reporting each month. All these measures have shown results according to the larva-free index in the six sub-districts, which has increased by about 26.3% from 69.1% to 95.4% within 7 months. The six pilot site areas were reported to be more resilient to dengue cases since intensive capacity building began.

The Semarang City Government continues to develop this online system by combining preventive and curative methods in an effort to improve health services for handling DHF and controlling DHF in the City of Semarang. The government of Semarang City does this by creating an integrated system that allows all sectors to report and receive information related to DHF. This program was then given the name Tunggal Dara (United to Tackle Dengue Fever). Through Tunggal Dara, the synergy of all sectors is expected to increase so that it can reduce the incidence of dengue fever in the city of Semarang. The city of Semarang is known to have decreased the number of dengue cases from 441 cases of dengue fever with 14 deaths in 2019 to 309 cases of dengue fever with 4 deaths in 2020.

In addition to the online system, the ACTIVE project's approach to caring for dengue fever from an early age is also being expanded by the Semarang City Health Office. This approach is carried out by inviting students to monitor larvae at home accompanied by their parents and then reporting the results to teachers at school every Monday. This program is called SICENTIK (Students Search for larvae). The SICENTIK program is a no-budget program that educates and familiarizes students with clean and healthy living behavior (PHBS), especially in the prevention of dengue fever. Thus, children become more familiar with and get used to from an early age to do PSN. In 2021, the Tunggal Dara program was selected as one of the finalists for the IDC Smart City Asia Pacific Awards for the Public Health and Social Services category and other local government finalists from South Korea and China Taiwan, and Singapore.

Source: https://localisesdgs-indonesia.org/

Improving Food Security during Pandemic through Food Garden in Palangka Raya City

Food security is a top priority for every region. However, in the current pandemic, food insecurity can occur due to disruption of the logistics system and food supply chain due to restrictions on working hours and social restrictions. The city of Palangka Raya has an innovation to encourage its citizens to use their yards by growing vegetables hydroponically. The vegetables grown in their respective yards are then consumed to reduce contact with other people when going to the market, in order to break the chain of the spread of COVID-19. Excess vegetable crops can also be traded with local residents.

The Uluh Pangaringan Farmer's Group in Palangka Raya City has developed a hydroponic farm called the Food GardenThe Palangka Raya City Government encourages the expansion of this activity through the Department of Food and Agriculture Security (DKPP) by holding technical training activities on plant cultivation. This is intended to continue to drive the wheels of the economy that have been hampered by the COVID-19 pandemic.[3] Previously, hydroponic vegetable planting activities were also carried out in various schools in the City of Palangka Raya, through the TANI MAS (School Entry Farming) program, students and teachers in the school environment were guided to have knowledge as well as enthusiasm in cultivating agriculture and increasing food access.[4] Utilization of land around the house to be used as a hydroponic garden is expected to increase the supply of diverse, nutritious, balanced and safe family food sources in Palangka Raya City.[5]

Source: https://localisesdgs-indonesia.org

Urban Farming Semarang

The challenges faced by the city of Semarang, especially since the pandemic, are the reduction in agricultural land & agricultural human resources, food loss, declining food quality and food security. Therefore, the City of Semarang made an urban farming action which is part of the mission of the City of Semarang in the context of empowering the local economy to rise from the covid pandemic and for green food security by using vertical spaces, utilizing open spaces, optimizing the space around houses/offices/public facilities. Urban farming aims to maintain ecosystem stability while anticipating the food crisis due to the COVID-19, has a scope of activities in the form of verticulture, hydroponics, aquaponics, animal husbandry, aqua culture, education, utilization of household waste, optimization of farmer group institutions.

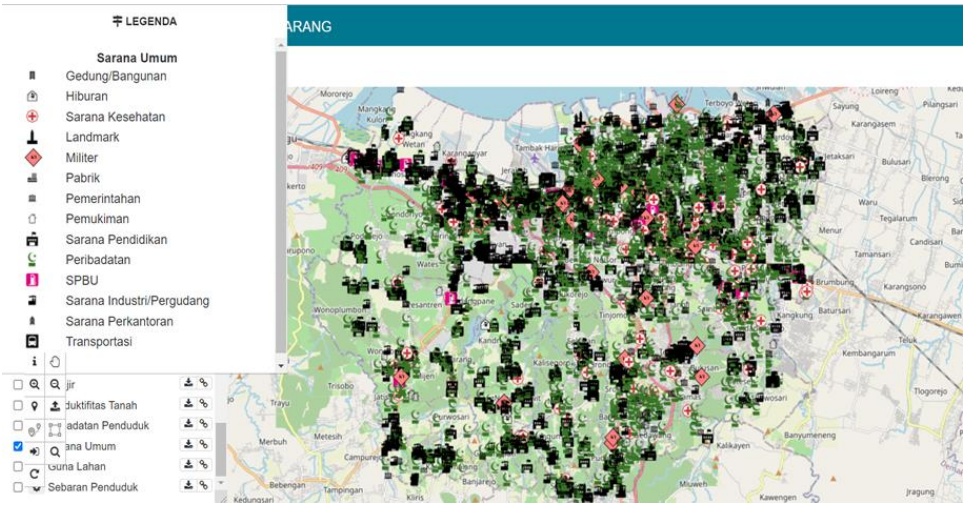
In addition, as the availability, accessibility and utilization of various household foods decreases, the prevalence of stunting increases. The Semarang City Government initiated Urban Farming as a Regional Head Priority Program through the Sustainable Food Yard (P2L), one of the sensitive interventions pushed by the Ministry of Agriculture to accelerate stunting reduction, in accordance with the mandate of Presidential Regulation 72 of 2021, concerning the Acceleration of Stunting Reduction.

The P2L program haims to increase the availability and use of household food, as well as household income, using a sustainable agriculture approach, local wisdom, community service, and market orientation. The P2L has been implemented in 23,158 villages, 384 farmer group by utilizing narrow land in urban areas with the aim of increasing the availability and use of household food, and increasing household income, using a sustainable agriculture approach, local wisdom, community service, and market orientation. P2L involves community groups, namely Tani Taruna, Karang Taruna, Women Farmers Group, mosque youth, and so on in nursery activities, Demontration Plots, planting, post-harvest activities and marketing.

The targets of P2L for food security are fulfilling the need for nutritious food for families, food literacy, education on healthy lifestyles, and commercialization of P2L development. The results of P2L urban farming reach 4,600 quintals of harvest from farming activities in the city of Semarang.

Urban farming activities also pay attention to the function of green open spaces in the city of Semarang in terms of the architectural and aesthetic functions of green open

spaces, utilize green open spaces for economic, socio-cultural and ecological functions, and take advantage of the potential of green open spaces spread across the city of Semarang.



Source:

*Semarang City's Regional Planning Agency (*https://semarangkota.go.id/)

1.3.1.2 Implement Climate Change Mitigation and Adaptation Actions

Padang Disaster Resilient- City

Padang city is the capital city of West Sumatra Province with a population of ± 1,000,000 of which 60% lives in the tsunami red area. The topography of the city of Padang includes an average <10m from the mean sea level, and the position of the highlands is too far from the coast (4 - 6 km). The city of Padang has experienced several earthquakes with the potential for a tsunami causing congested evacuation routes. Potential disasters in Padang City include floods, landslides, tornadoes, earthquake, tsunami, beach abrasion, and fire.

Padang raised the slogan "Padang Disaster Smart City" by implementing programs for families, schools, urban villages, hotels, hospitals, mosques, malls, campuses, markets, and disaster-smart SOEs. In 2020, the Disaster Smart Village activity: Padang Expedition of the Padang Tsunami Village was held. In addition, for the disaster smart school program, education is carried out to students, teachers and educators to be resilient in facing the predicted disaster hazards. The disaster smart family program was carried out to educate the community from the grassroots level so that they have knowledge about Disaster Management during 2017-2021 has been carried out to 43,400 families. The disaster smart market program is carried out by conducting disaster education to all residents of the Raya market and establishing evacuation plans and maps. In addition, for mitigation efforts, the Tsunami Safe Zone is carried out by installing blue lines, establishing evacuation routes, making information and maps of tsunami evacuation instructions, community empowerment around the shelters; make a disaster risk reduction plan related to Shelters with to prioritize the safety of people living in tsunami-prone areas.

Source:

1. *Padang City Regional Disaster Management Agency (2021)*
2. *APEKSI (2021)*

Retrofitting Flats for Covid-19 Emergency Hospitals as a Response to COVID-19 Pandemic

In Indonesia, several buildings have been converted into COVID-19 emergency hospitals because the need for COVID-19 special hospitals has increased. Some of them are the conversion of the (Athlete apartment buildings) Wisma Atlet in Jakarta, Galang Island (former Vietnamese refugee temporary shelter) Covid-19 Emergency Hospital, University of Gajah Mada Academy Hospital (Yogyakarta). Since March 25, 2020 to August 9, 2021, the 8 towers of Wisma Atlet have accommodated 124,265 Covid-19 patients.

All operations are assisted by cross-sector and volunteers, under the command of the Indonesia COVID-19 Task Force. Cross- sectoral and ministerial coordination is carried out for the conversion, preparation and operation of this Athletes Village Emergency Hospital. The Ministry of PWPH the National Disaster Management Authority (BNPB), Indonesia COVID-19 Task Force, the Ministry of SOEs, the Ministry of Health, the Ministry of EMR, State Electricity Enterprise, the Indonesian National Military and the National Police are coordinating for the conversion and provision of emergency hospital facilities and infrastructure. All installation work, including the installation of medical equipment and traffic lanes in the Emergency Hospital, follows the protocol set by the Ministry of Health. Meanwhile, coordination for the provision of paramedics is carried out by the Indonesian National Military, as well as joint paramedics from hospitals managed by SOEs, and the Indonesian Doctors Association (IDI). Since March 2020 the Ministry of SOEs has opened registration for those who are willing to become humanitarian volunteers at the Wisma Atlet Emergency Hospital, Kemayoran. This deployment is carried out to meet the needs of medical and non-medical personnel.

Athletes Village received an appreciation from the Ministry of PAN and RB (Ministry of Administrative Reform and Bureaucratic Reform) as one of the Top 21 Public Service Innovations in handling Covid-19 in Indonesia and fulfills innovation criteria such as being novel, useful, effective, and transferable. So that this can be a learning and exchange of knowledge, both at national and international level. Other than the athlete guesthouses, there are 56 towers of flats in other 27 provinces set to be temporary facilities for isolating COVID-19 patients.

Source: MoPWH (2020a)

1.3.1.4 Build urban resilience through quality infrastructure and spatial planning

Sea Wall at North Coast of Java

The north coast of Java Island have experienced sea intrusion to the coastline in Demak, Pekalongan, and Brebes, with an average of about 2 km of coastline has been lost. Additionally, the coast also experience sea rise levels due to climate change, tidal flooding, and land subsidence. With a sea level rises about 8 millimeters per year, while the land subsides about 10 centimeters per year, tidal inundation in Semarang City have expanded to crated land area of 2,828 Ha.

The concept of handling tidal flooding on the north coast of Java Island including Semarang and Pekalongan, through the Pemali Juana River Basin Centre under MoPWH is to build a barrier embankment between dry and wet areas, closing access to several rivers to the sea, making long storage/temporary storage ponds, increasing river capacity and river cross-section. due to sediment, normalization and manufacture of parapets, optimization of pumps, construction of polders in North Semarang, Banger, Tambak Lorok and coastal safety dikes, utilization of infrastructure in the form of retention ponds Rusunawa and Banjardowo, and Tenggang River estuary gates for tidal flood control in Semarang City, Jetty of Banger River estuary in Pekalongan City, Offshore Breakwater Beach Slamaran Pekalongan City, and Slamaran Beach Revetment Pekalongan City.

The main keys of the development of coastal protection infrastructure is to pay attention to comprehensively in handling coastal problems. A synergy between the centre and the regions in implementing every program is needed to take sides of the community, especially affected by floods and tidal waves, Awareness of community living around the coast not is to discourage them from residing on the beach and providing community education related to mitigation flood and tidal disaster.

1.3.2.2 Promote Resource Conservation and Waste Reduction, Reuse, and Recycling

Environmentally Sustainable Balikpapan

Balikpapan city has recently been awarded ASEAN Environmentally Sustainable City (ESC) 2021 in all three categories of clean land, clean air, and clean water. To clean the land, Balikpapan has implemented policy in waste reduction and management. From a daily total of 481,82 ton, waste is being processed in three facilities: material recovery facilities (MRF), intermediate treatment facility (ITF), and waste bank. The capacity of ITF is 0.65 tons / day and the MRF is 0.14 tons / day. In addition, waste management is carried out at the Manggar Landfill, regarded as the best sanitary landfill in Indonesia. With 43 hectares in size and has been operating since 2002 with an average volume of currently managed waste of 360 tons/day. Operated by the Manggar Landfill Technical Implementation Unit, Manggar Landfill utilizes methane gas from waste as renewable energy Street lighting at the landfill and energy source (cooking) for 200 households. These are made possible with collaboration of CSR of PT. Pertamina Hulu Mahakam and ICLEI. Community based waste management is also carried out through waste reduction. With the mayoral regulation on, no single use plastic bags, straws, and styrofoams being used such waste management has resulted in less than 3 % of unprocessed waste (11,28 ton).

For clean air, Balikpapan has developed greenery and forest management program. The total area of green open space is 35.8% or 18,046.84 ha of the Balikpapan city area, which consists of 3,031 hectare of mangrove forest, 14,781 ha protected forest, 120.84 ha city forest, 0.99 ha cemetery, and 15 ha city parks. The proportion of land within the city of Balikpapan consisted of 52% protected areas and 48% cultivated areas. Despite the study that show more than 60 percent of land in Balikpapan has potentially coal, the city has committed to protect a majority of its land and designated a Coal Mining Free Area.

Regular monitoring is taken at 38 riverbanks or open channel for clean water. Ampal riverbank with 9 kilometres length, for example, has light to medium polluted water quality. In general, water quality in 2020 shows 0.94 percent in good, 56.60 percent lightly polluted, 38.60 percent medium polluted, and 3.77 percent heavily polluted. Balikpapan has also upgraded domestic waste water treatment so that it can reuse black and grey water. Additionally, rainwater harvesting has also been encouraged to reduce water runoff on the surface and prevent flood.

Source: https://kaltimkece.id/

1.3.2.2 Promote Resource Conservation and Waste Reduction, Reuse, and Recycling

BOTAK: Bogor Tanpa Kantong Plastik
(Bogor without Plastic Bags)

The upsurge on the ban of single-use plastics in Indonesia, such as plastic bags, is a proof that Indonesia is capable to overcome its plastic pollution problem. After Dr. Jenna Jambeck's research publication in the journal Science in 2015 which mentions Indonesia as the second largest plastic waste producer (187.2 million tons each year) and the second largest marine plastic polluter in the world, Indonesia has made several assertive initiatives. Following the success of cities of Banjarmasin, Balikpapan dan Badung in the campaign to reduce plastic bags, Bogor city government supports the campaign to reduce plastic bags through the Mayoral Regulation No. 61 Year 2018 on Reduction of Plastic Bags in shopping centers and modern stores. This regulation aims to reduce household plastic waste, which can accumulate to 1.8 tonnes monthly. This policy is called the BOTAK program, a catchy phrase meaning bald head in Indonesian. Since August 2018, Bogor city government has disseminated in 150 venues within 3 months, supported by environmental communities and several CSOs.

The policy was firstly aimed at retail shops, and in August 2019 expanded to modern markets. The outreach to traditional markets began in 2020 to meet the target of zero plastic bags by 2025. Since its implementation, the number of waste in Galuga landfill has reduced by 16% (100 tonnes) a day or from previously 650 tonnes to 550 tonnes. Such waste reduction rate is inseparable from the fact that there are 27 TPS3R and 346 waste banks in Bogor. For this success, the government of Bogor City has received an award at the National Waste Awareness Day 2021 and Local Incentive Fund. Taking the commitment to plastic-free city even further, in cooperation with WWF Indonesia, Bogor has declared to be Plastic Smart Cities as part of WWF's No Plastic in Nature initiative (WWF NPIN) to stop plastics leakage by 2030.

Source:

1. *Bappenas, 2021;*
2. *https://kotabogor.go.id/*

Good Practices

1.3.2.2 Promote Resource Conservation and Waste Reduction, Reuse, and Recycling

Plastic Asphalt as an Innovation in The Utilization of Plastic Waste

Climate change and the increasing risk of disasters in Indonesia is partly contributed by plastic waste. As most plastic waste is not easily biodegradable, plastic Asphalt Technology is a prominent alternative strategy. With such technology, plastic waste can be absorbed in large quantities within a short time as for 1 km length of a 7m wide road, 3 tons of plastic waste can be used. Plastic Asphalt Technology at the Ministry of Public Works and Housing (MoPWH) utilizes Low Density Polyethylene (LDPE) type plastic waste, a type of environmental pollutant that has no economic value and thus not scavenged.

The chopped plastic waste are packaged for one production with a composition of 3.6 kg of chopped plastic for every 1 tonne of mixture. As an additive to the asphalt mixing plant, crushed plastic is added when the aggregate rock has been heatedd prior to hot asphalt liquid. The supply of plastic waste used as asphalt is obtained through collaboration with local governments, the community, especially the environmental work unit and the cleaning service, as well as scavengers associations and waste banks.

Plastic Asphalt Technology, apart from being a solution to save the environment, is also able to provide added value in the form of improved performance/quality compared to conventional asphalt mixtures. Technically, the stability of the mixture can be increased by up to 40%. In addition, the asphalt mixture also have higher resistance to water, deformation, cracking and grain release.

Since its introduction in 2017, Plastic Asphalt Technology has been applied in various areas by the Central Government, Local Government, and the private sector (Universities and Companies). A fairly large application has been carried out in 2018 Asphalt Plastic Technology was applied in 6 areas of the National Tourism Strategic Areas of Indonesia, including: Toba, Borobudur, Bromo, Lombok, Labuan Bajo, and Tanan Toraja; and in 2 (two) roads, namely Gempol-BTS. Bangil and Lawean-Sukapura during 2017-2020

Source: National Road Implementation Center (BBPJN) of East Java-Bali, 2021

1.3.2.2 Promote Resource Conservation and Waste Reduction, Reuse, and Recycling

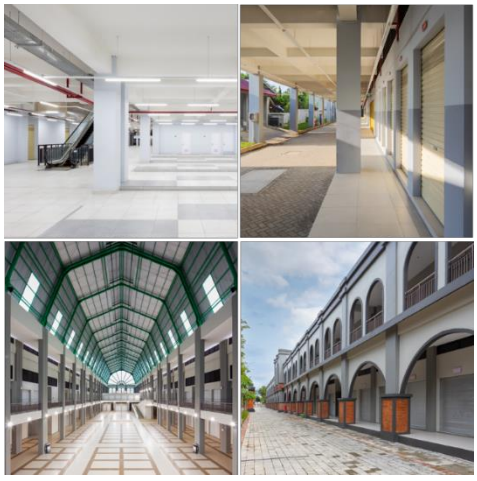
Implementation of Green Building at Legi Ponorogo Market and Pon Trenggalek Market

One of the government policies to develop sustainable and environmentally friendly buildings is the implementation of green buildings through the stipulation of Presidential Regulation 43 of 2019 concerning the development, rehabilitation, or renovation of markets, as the basis for market revitalization by the MoPWH. The policy related to the technical development of green buildings is Government Regulation Number 16 year 2021 and MoPWH Ministerial Decree Number 21 of 2021 concerning Performance Assessment of green buildings

Pon Market, which is located in Trenggalek Regency - East Java with an area of 11,900 m^2, was revitalized into a green building from January 2020 to December 2020. The Pon Market building has a total of 479 kiosks, and 310 dry booths, and a green building planning point of 129 points.

Legi Market in Ponorogo - East Java was revitalized into a green building from January 2020 to February 2021 with an area of 32,175 m^2. Legi market building has 1444 kiosks, 493 wet booths and 560 dry booths and an has 146 points of green building planning points and 77 points of green building implementation

The green building concept is based on reuse, recycle, environmental conservation, waste generation reduction, risk mitigation, and life cycle orientation. Buildings that meet Building Technical Standards and have significantly measurable performance in saving energy, water, and other resources through the application of Green Building principles in accordance with functions and classifications in each stage of implementation. Implementation of green building can be carried out with a more energy efficient vertical transportation system, Utilization of ceramic waste for floor plinth, Provision of bicycle and pedestrian paths, Selection of environmentally friendly materials, Sorting local cultivated vegetation, Energy use efficiency, natural air conditioning in buildings, and segregation of waste by type. The impact of implementing green buildings at Legi Ponorogo Market and Pon Trenggalek Market are more energy efficient andmore environmentally friendly.



1.3.2.3 Implement Environmentally Sound Management of Water Resources and Coastal Areas

Revitalizing- Upper Watershed with Citarum Harum

The Citarum River stretches for 297 km across 13 districts/cities in West Java with a total population of +/- 18 million people around the Citarum watershed. In addition to being a source of raw water in the provinces of West Java and DKI Jakarta, the Citarum River is also a source of irrigation water for hundreds of hectares of rice fields as well as power plants for the islands of Java and Bali. In spite of all these, the Citarum River was named one of the dirtiest rivers in the world by the World Bank in 2015.

The problems in the Citarum watershed are caused by population growth which causes increased exploitation of space and water resources. Pollution in the Citarum watershed is caused by high sediment, pollution from industrial waste, livestock, agriculture, fisheries, domestic wastewater and solid waste. In 2018, the Citarum River came to the attention of the President of the Republic of Indonesia who give directives towards 7 year restoration of the Citarum watershed to be completed.

A Presidential decree Number 15 year 2018 on the acceleration of pollution and degradation control of Citarum Watershed is also incorporated in the RPJMN 2020-2024. The strategies are; 1) Zoning regulation, 2) Water quality monitoring, 3) Wastewater treatment, 4) Garbage dispoal management, 5) Water and land conservation, 6) Flow management. The Citarum Harum program was later translated to 12 action plans, including; 1) handling critical land, 2) handling domestic wastewater, 3) managing waste, 4) handling industrial waste, 5) handling livestock waste, 6) handling floating net cages, 7) managing water resources and tourism, 8) controlling utilization space, 9) law enforcement, 10) education and community empowerment, 11) research and development, 12) data management, information and public relations.

In solving the Citarum river issue, the government collaborated with many parties. In its organization, the Citarum Watershed Task Force consists of a Steering Committee and Field Unit (Satgas). The directors consist of the Coordinating Minister for Maritime affairs as Chair, the Coordinating Minister for Politics, Law and Security as Deputy Chair, the Coordinating Minister for Economic Affairs as Deputy Chair II, the Coordinating Minister for Human Development and Culture as Deputy Chair III and otherr 19 central agencies as members who have duties in accordance with their respective authorities. In addition, in the Presidential Decree Number 15 of 2018 also stated that a Task Force (Satgas) was formed, chaired by the Governor of West Java, involving the Siliwangi Military Command III, the West Java Regional Police and the West Java High Court. The funding for the Citarum

Harum program comes from the State Budget (APBN), Provincial and Regency/City Budget (APBD), CSR and other funding sources.

For the integration of data, a command centre has also been created. Data for real-time Citarum river monitoring instruments are available online at https://satgascitarum.jabarprov.go.id/, including water level, flooded area, precipitation, and waste management. With the various efforts that have been carried out, in 2020, the quality of the Citarum watershed has progressed. The Water Quality Index of the Citarum river reached mildly polluted which was previously declared heavily polluted.

Source:

1. *Presidential decree Number 15 year 2018 on the acceleration of pollution and degradation control of Citarum Watershed*
2. *Idris, A. M. et al. 2019. Citarum Harum Project: A Restoration Model of Citarum River Basin. Ministry of National Development Planning/Bappenas - Indonesia. The Indonesian Journal of Development Planning Volume III No.3 - December 2019.*
3. *Citarum Harum Juara. Www.citarumharum.jabatprov.go.id*

2.2.1 Implement Integrated, and Balanced Territorial Development Policy

Integrated State Border Post of Indonesia

The Integrated State Border Post (PLBN) is a location of inspection and services for entry and exit of people and goods in and out of the territory of the Republic of Indonesia using passports and/or cross-border passes. This PLBN is an increased function of the Cross-border Checkpoint (PPLB) which provided services in the fields of immigration, customs, quarantine, security, and management administration.

The construction of this PLBN is meant to increase national competitiveness and equitable distribution of development results, while reducing disparities, especially in the 3T regions (frontier, outermost and underdeveloped). In addition, it also intended to improve the welfare of the people in the border area by making it a new centre of economic growth. Currently, there are 18 (eighteen) PLBNs spread across Indonesia's border areas. Which include Indonesia-Malaysia, Indonesia-Timor Leste and Indonesia-Papua New Guinea.

The National Border Management Agency (BNPP) is the manager of this border posts. This area is located in a sub-district and this place is an integrated area which consists of a core zone and a support zone. Within the core zone there are, among others; the main building of the Integrated PLBN, the gate of the core zone of the Integrated PLBN, the check point building, the pedestrian corridor, the building and substation for immigration inspection and customs services, the building and substation for immigration inspection and customs services for cargo cars, the integrated inspection building for private and passenger cars. Meanwhile, housing for employees and Wisma Indonesia as guesthouse will be built in the support zone.

Source:

1. *Pos Lintas Batas Negara di Indonesia. https://id.wikipedia.org ;*
2. *ciptakarya.pu.go.id*

2.2.3 Include Culture as a Priority Component of Urban Planning

Conservation of Tangsi Mempura Heritage Building, Siak Regency

Law Number 28/2002 on Buildings states that buildings and their environments designated as cultural reserves must be preserved. Furthermore, Law Number 11/2010 on Cultural Heritage confirms that the state is responsible for the regulation, protection, development and utilization of cultural heritage. In order to provide guidelines for the preservation of the Cultural Heritage Buildings, the MoPWH issued Minister Regulation Number 1/2015 on Preserved Cultural Heritage Buildings. In the same year, the Technical Guidelines for the Preservation of Buildings of Cultural Heritage Buildings were compiled. In order to strengthen the understanding of P3KP members in the technical aspects and philosophy of preservation of Cultural Heritage Buildings, a workshop on preservation of Cultural Heritage Buildings was conducted in 2017 in Siak.

Siak serves as one of the best cases in heritage building conservation. Tangsi site contains a total of 7 buildings, several times undergoing a renovation process. In 1996 the renovation was carried out by the Regional Office of Culture and Tourism. The building was heavily damaged at that time. In 2005 and 2008, the building was restored again by the Office of Tourism, Culture, Youth and Sports of Siak Regency. In 2017, the building which was originally functioned as an arsenal collapsed.

The technical planning process was carried out for 6 months by involving various parties. The research and documentation carried out includes: 3D Laser measurement and material testing by the Office of Jambi Cultural Heritage Conservation; Excavation of the foundation structure by the Medan Archaeology Center; Land testing and drilling to determine the composition of the subsurface, and determine the water level in the soil in order to conclude the treatment of building walls; Documentation and Inventory Damage by experts from the Architectural Documentation Center; Review of architectural history by experts from the Center for Architectural Documentation; and Preservation guide by the Architectural Documentation Center Expert, which contains damage analysis and architectural changes, significance ranking in each building element, and preservation policy recommendations.

Source: MoPWH, 2019

2.3.1.1 Develop financing frameworks for implementing the NUA at all levels of government

Drinking Water Provision System through PPP in Semarang

To fulfill the government's obligations in providing infrastructure to the community, the Semarang City Government has implemented Public-Private Partnership (PPP) in the form of regional assets management through concessions to grant rights, permits, or land by the government to companies, individuals, or legal entities, and another form in profit sharing or compensation of a certain amount.

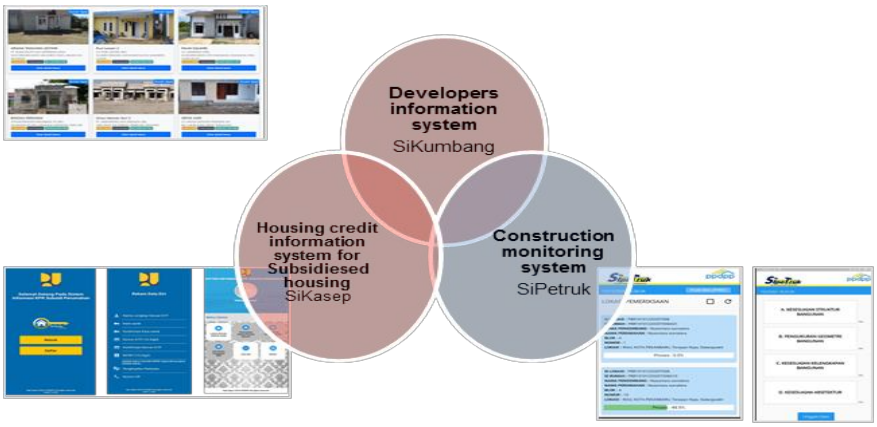
Since 2017, PPP scheme has to overcome the problem of financing infrastructure procurement in Semarang City. The benefits of PPP are shown as on schedule, on budget, and on service in terms of continuity of planning, construction, operation and maintenance. Drinking Water Supply System in West Semarang is an example of successful PPP implementation.

This project is a collaboration between the Semarang City Government through PDAM Tirta Moedal Semarang City, and PT. SMI, Bappenas, KPPIP, PT IIF, PT PB, MoF, MoPWH. the project also involves MOYA and Medco as private partners in a consortium as PT. ASB (Air Semarang Barat). The background of the Drinking Water Supply System project is the upgrade of DWSS with national standards to improve DWSS service standards in Semarang City. In 2018, a Consortium was established, namely PT Aetra Air Jakarta - PT Medco Gas Indonesia. The key success factors in accelerating this project are the full and active support from the mayor of Semarang, the appointment of the right figure for the main director of PDAM Tirta Moedal and the Head of the Auction Team, the support of KPPIP and the PDF MoF in preparing international standard OBC and FBC, good cooperation and constructive engagement between multi-stakeholder stakeholders, optimizing PDF VGF facilitation and guarantees provided by the MoF. As an achievement, the DWSS West Semarang project was chosen to be the PPP project for the showcase of the MoF in the series of 2018 IMF-World Bank Annual Meeting events in Bali.

2.3.3 Information Technology and Innovation

Development of Information Systems to Support the Distribution of Housing Financing Liquidity Facilities for Low-Income Communities

Since 2016, The Ministry of Public Works and Public Housing, through the Housing Financing Fund Management Center (HFMC or Pusat Pengelolaan Dana Pembiayaan Perumahan (PPDPP)), has started to develop information systems to deliver the Housing Financing Liquidity Facility (Fasilitas Likuaditas Pembiayaan Perumahan (FLPP) in Indonesian) for low-income communities. In 2016 PPDPP launched e-FLPP, which change the banks' verification mechanism from conventional to digital and speeding up the distribution of FLPP to prospective debtors. PPDPP has also developed a Developer Registration System (DRS or SIRENG) which ensures that developers who build subsidized houses are registered as members of the housing developer association.



At the end of 2019, PPDPP launched the SiKasep application (Housing Subsidized Mortgage Information System). Through the SiKasep application, the public as users can determine the location, apply for subsidies, and choose the desired bank through smartphones; the government can monitor housing developments; and the banks can verify customers more easily. The SiKasep application is supported by housing stocks data provided by housing developers in SiKumbang Application (Housing Developers Information System) that launched in 2020 to register houses by developers to obtain house identification numbers. By the end of 2020, PPDPP launched the Construction Monitoring System (SiPetruk) application to ensure the quality of housing built by developers complies with the standards set by the government.

By developing these integrated information systems, PPDPP can provide data about residential needs from the community and the availability of housing built by developers. As of August 12, 2021, PPDPP's Management Control has stored 546,137 user data. As for data on accommodation availability, as of August 12, 2021, there are 14,963 registered locations with 1,162,657 total registered landed houses and 3,509 total registered apartment units. The platform developed by PPDPP has successfully facilitated the exchange of information between potential beneficiaries, banks, developers and PPDPP itself to distribute housing subsidies for low-income communities.

The innovations developed by PPDPP have received various awards. Since 2018, PPDPP awarded by The Ministry of State Apparatus Utilization and Bureaucratic Reform for

the e-FLPP innovation as Top 99 Public Services Innovation. PPDPP also received an award from the Realestate Creative Award (RCA) in 2019 for Government Agencies with the title "Housing Credit Innovation for Subsidy Checking". In 2020, PPDPP was awarded the National Top Digital Awards 2020 in three categories: TOP DIGITAL Implementation 2020 on Institute # Level Stars 4; TOP DIGITAL Transformation Readiness 2020; and TOP Leader on Digital Implementation 2020. In the same year, PPDPP also received an award from the Property and Bank Awards 2020 as The Best Leadership in The Distribution of Affordable Housing Subsidies for its President Director and from the Housing Estate Awards 2020 as The most innovative public service agency for affordable housing. In 2021 PPDPP also awarded as the TOP GRV 2021 on Public Service Agency Performance.

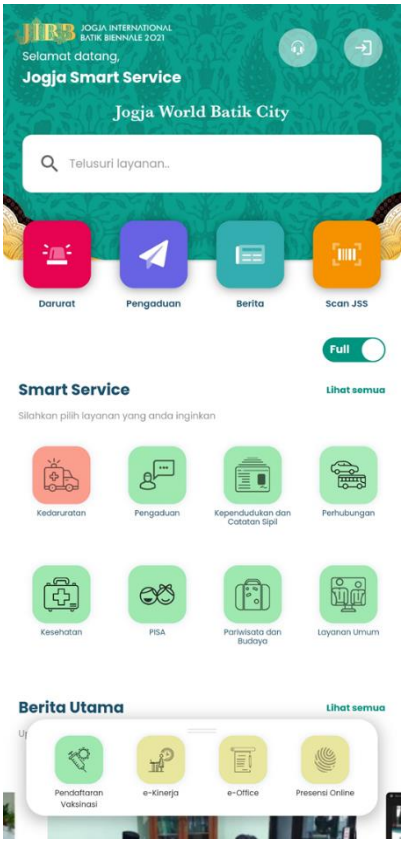
The system that PPDPP has developed has also received recognition from the MoF. The MoF stipulates that all houses with a sale value of less than IDR 5 billion have to be registered in this system for tax relief. The use of the siKumbang platform has also grown. It is used to facilitate the provision of houses for low-income people and all homes whose value is under IDR five billion. PPDPP has also received recognition from the Center for Financial Transaction Reports and Analysis regarding the use of Sikasep data in monitoring financial transaction traffic. In the future, the system developed by PPDPP is expected to become a big data system related to housing development in Indonesia.

Source: (MoPWH, 2020).

2.3.3.1 Development of User-Friendly, Participatory Data and Digital Platforms Through E-Governance and Citizen-Centric Digital Governance Tools

Jogja Smart Services

Jogja Smart Service (JSS) is a Virtual City Hall or a virtual portal for the Yogyakarta City Government in order to provide direct services to all people in the city of Yogyakarta. The integrated information in the Jogja Smart Service is also used as digital information media for Yogyakarta City to guide in public services which was officially launched since June 7, 2018. With total of 176 service modules (and still growing), some of the service modules of JSS include free hotspot, CCTV, KIR Online, Vaccination, Hospital Queue, Spatial Data Map, etc.



JSS is now available on the website and mobile platforms to allow users access JSS without having to install the application first. The target users from the population side of the JSS application are residents and non residents of Yogyakarta City. For the government, the JSS application makes it easier to provide and manage data exchange, interoperability between services, and makes it easier to make evidence based decisions. As for the community, the JSS application provides services with very easy requirement, clear procedures, simple processes and can be monitored in real time.

Several stakeholders involved in Jogjakarta Smart Service include 1) Local government agencies in Yogyakarta City Government as the initiator of service innovations, as well as service providers and managers, 2) local neighbourhood unit officials (RT and RW) for socialization and service provider to residents, and 3) Information dissemination team (TDI) which is a team from Communication and Information Service who is in charge of program socialization, technical guidance and problem solving.

The JSS application as an information provider application for the city of Yogyakarta has several advantages. The first advantage is that the delivery of information is made with the concept of Single ID, single window, and single sign-on (SSO). The concept is very easy because it unifies various public services e-government applications. Second, the JSS application as a platform to empowering economy through digital services for example, through the *Nglarisi* service, which is a service for ordering food for meeting banquets to empower MSME Catering in Jogja, and the *Dodolan* service as a marketplace for residents of the city of Yogyakarta to promote their products. The advantage of this application is that it has become paperless in providing public service information to the wider community. Furthermore, the application can assist the community in accessing various

services, submitting complaints, applying for permits to emergency services. Lastly, the application is able to follow changing behaviour and habits of users' along with the development of technological trends.

For several services on JSS, Yogyakarta City has received several awards such as Smart City Award 2018 from the Ministry of Communication and Informatics, Top 99 Public Service Innovation 2019, and Bhumandala award 2020 from Geospatial Information Agency (BIG). These awards are granted both for JSS and certain service modules which integrated in this application.

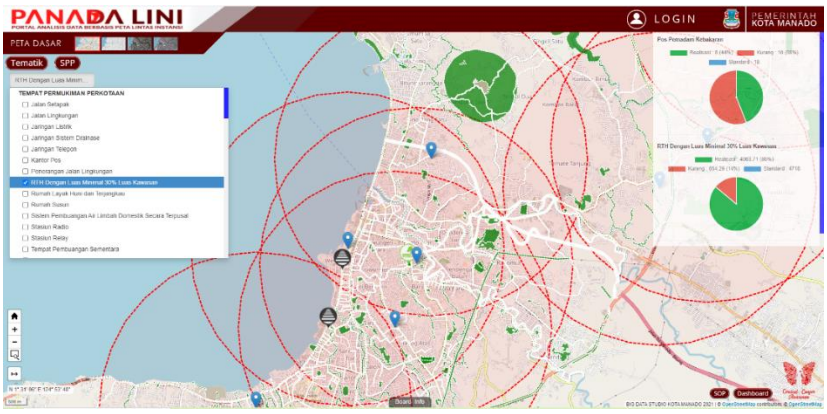
Source:

1. *Office of Communication, Informatics, and Coding, Yogyakarta City*
2. *Gumilar, M. G. (2019). Inovasi Pemerintath Daerah Jogja Samrt Service dalam Menciptakan Smart and Liveable City di Kota Yogyakarta. Universitas Gadjah Mada, Indonesia*

2.3.3.2 Use of Digital Tools, Including Geospatial Information Systems to Improve Urban and Territorial Planning, Land Administration and Access to Urban Services

PANADA LINI: Online Integrated GIS Data of Manado

PANADA LINI, an abbreviation of Portal Analisis Data Berbasis Peta Lintas Instansi (map based data analysis portal-across institutions) consists of data collection in the form of geospatial witihin one map sourced from various sectors in Manado city. Data resulted from cross–sectoral cooperation, for example, can be seen such as on poverty, and school coverage location to support zoning. These updated data on the current development and regulation would be very useful for urban planning and the community. Data can trigger people to be compliant. For example riparian lines, which on the map marked with red line, can be a reference for society who live in the riverbanks to limit their expansion in the future. PANADA can also be a reference for issuing permit, collecting taxes and levies.



In the system, data updating can be done directly by each institution. Data updating is executed at least annually. For sub-district profile, data updating has been done since 2017 involving 504 heads of neighbourhood. Prior to collecting data, they are trained in GIS administration, network design, etc. To ease data input, 87 smartphones were distributed to heads of sub-district in order to recap data collected from the heads of neighbourhoods.

In PANADA platform, Manado city has also provided Sipanse (Sistem Pemantauan Sebaran COVID-19 / Covid-19 coverage monitoring) webpage which contains data on active cases, location of suspect and patients. There are also data on handwashing facilities location which has been mandated for every neighbourhood and sub-district. PANADA has then been annually awarded with Simpul Jaringan (Networks Nodes) from the Geospatial Information Agency (Badan Informasi Geospasial /BIG) .

Source:

1. *https://panada.manadokota.go.id*
2. *https://baktinews.bakti.or.id/*

Good Practices

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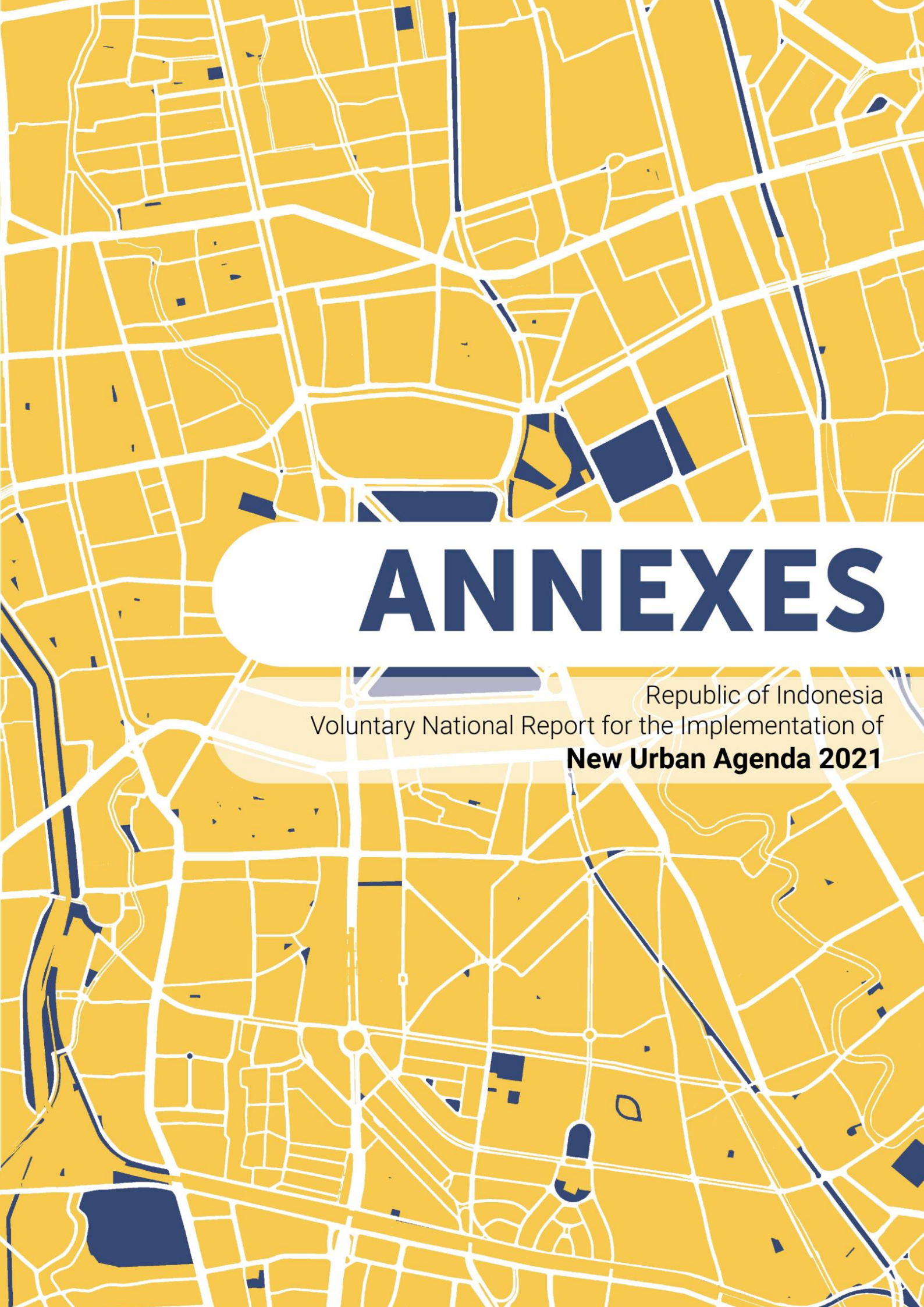

ANNEXES

Republic of Indonesia
Voluntary National Report for the Implementation of
New Urban Agenda 2021

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Transformative Commitments for Sustainable Urban Development

1.1 Sustainable Urban Development for Social Inclusion and Ending Poverty

1.1.1 Social Inclusion and Ending Poverty

1.1.1.1 Eradicate Poverty in All Its Forms

Indicator 1: Proportion of population below the international poverty line, by sex, age at national urban level

Table I. 1: National and Extreme Poverty Rates (%) (PPP $1,9 per day), 2015-2020

	2015	2016	2017	2018	2019	2020
National Poverty Level	11.13	10.7	10.12	9.66	9.22	10.19
Extreme Poverty Level	7.2	6.5	5.7	4.6	3.7	4.2

Source: Bappenas, 2021

Table I. 2 Poverty Level in Urban and Rural Areas (%), 2015-2020

Year	Urban	Rural
2015	8,3	14,2
2016	7,8	14,1
2017	7,7	13,9
2018	7	13,2
2019	6,7	12,8
2020	7,4	12,8

Source: Bappenas, 2021

Table I. 3: Poverty Level by Age, 2015-2020

Year	< 18 Years Old	> 18 Years Old
2015	13,7	10
2016	13,3	9,7
2017	13,2	9,4
2018	12,1	8,8
2019	11,8	8,3
2020	12,2	8,7

Source: Bappenas, 2021

Table I. 4: Changing Numbers of Urban Poor Population Among Provinces in Indonesia (in thousand), September 2019-2020

Province	Changing Numbers of Urban Poor Population Among Provinces in Indonesia, September 2019-2020 (in thousand)
Aceh	18,92
North Sumatera	90,78
West Sumatera	20,73
Riau	8,60
Riau Islands	17,59
Jambi	17,44
South Sumatera	25,58

Province	Changing Numbers of Urban Poor Population Among Provinces in Indonesia, September 2019-2020 (in thousand)
Bengkulu	5,88
Lampung	34,59
Bangka Belitung Islands	3,76
Banten	168,87
DKI Jakarta	134,54
West Java	739,20
Central Java	288,23
DI Yogyakarta	54,47
East Java	381,98
West Kalimantan	6,83
Central Kalimantan	7,34
South Kalimantan	8,98
East Kalimantan	19,95
North Kalimantan	3,10
Bali	34,36
West Nusa Tenggara	24,55
East Nusa Tenggara	10,26
South Sulawesi	32,69
West Sulawesi	-2,69
Central Sulawesi	5,97
South East Sulawesi	0,64
North Sulawesi	6,76
Gorontalo	1,22
Maluku	1,72
North Maluku	2,63
West Papua	4,50
Papua	0,80

Source: Bappenas, 2021

1.1.1.2 Address Inequality in Urban Areas by Promoting Equally Shared Opportunities and Benefits

Indicator 10: Unemployment rate by sex, age, persons with disabilities and by city

Table I. 5: Unemployment rate by sex, 2015-2020

Year	Men	Women	Total
2015	6,18	6,18	6,18
2016	5,61	5,61	5,61
2017	5,5	5,5	5,5
2018	5,3	5,3	5,3
2019	5,23	5,23	5,23
2020	7,07	7,07	7,07

Source: Statistics Indonesia (2019)

Table I. 6: Unemployment rate by urban-rural areas, 2015-2020

Year	Urban	Rural	Total
2015	7,31	4,93	6,18
2016	6,6	4,51	5,61
2017	6,79	4,01	5,5
2018	6,44	3,97	5,3
2019	6,29	3,92	5,23
2020	8,98	4,71	7,07

Source: Bappenas (2021)

Indicator 33: Gini coefficient at national/ city /urban levels;
Data is described on the report.

1.1.1.3 Enhance Social Inclusion of Vulnerable Groups (Women, Youth, Older Persons and Persons with Disabilities and Migrants)

Indicator 4: Women's recognized legal right to property inheritance and ownership

Table I. 7: Percentage of Property Ownership by Sex, 2015-2020

Year	Men	Women
2015	82,32	84,4
2016	82,26	84,4
2017	79,35	81,06
2018	79,74	81,6
2019	79,83	81,38
2020	73,71	81,14

Source: Bappenas, 2021

Indicator 34: Presence of national legislation forbidding discrimination in housing, access to public facilities and social services on the basis of race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status

Table I. 8: Indonesia Democracy Index (IDI) by Aspects and Provinces, 2018-2020

No	Provinces	Civil Liberty Index			Political Rights Index			Democratic Institution Index		
		2018	2019	2020	2018	2019	2020	2018	2019	2020
1	Indonesia	78,46	77,2	79,4	65,79	70,71	67,85	75,25	78,73	75,66
2	Aceh	96,79	93,28	84,49	68,09	65,22	64,94	77,67	79,08	74,91
3	North Sumatra	76,54	72,54	77,33	62,61	61,59	60,27	51,69	71,12	57,52
4	West Sumatra	55,32	56,58	66,59	62,84	61,06	66,8	88,52	92,21	90,91
5	Riau	86,88	85,15	86,08	62,77	61,68	65,4	89,47	84,19	83,46
6	Jambi	72,88	76,67	82,71	62,76	64,63	62,98	72,92	69,21	86,45
7	South Sumatra	83,13	80,54	80,32	73,12	81,95	71,39	76,01	72,23	73,25
8	Bengkulu	78,77	93,98	87,61	62,18	73,17	59,64	74,13	68,63	72,76
9	Lampung	77,29	78,46	68,55	59,53	63,7	71,64	72,35	79,22	79,95
10	Kep. Bangka Belitung	80,95	84,12	79,12	73,56	71,71	66,2	63,76	75,48	92,97

No	Provinces	Civil Liberty Index			Political Rights Index			Democratic Institution Index		
		2018	2019	2020	2018	2019	2020	2018	2019	2020
11	Kep. Riau	91,05	92,66	92,66	77,54	78,3	68,67	66,9	73,1	69,47
12	Dki Jakarta	95,09	91,01	93,27	75,43	83,86	84,95	87,82	91,89	90,86
13	West Java	74,9	65,16	69,57	64,78	71,15	71,64	54,8	70,75	73,01
14	Central Java	76,21	78,43	73,68	66,92	67,91	75,46	75,42	90,5	77,6
15	In Yogyakarta	90,6	92,9	96,46	75,07	72,51	70,54	77,66	78,25	80,43
16	East Java	77,21	72,14	80,51	67,45	80,25	56,43	75,97	80,55	81,09
17	Banten	86,59	83,83	87,42	60,11	60,29	66,18	79,4	78,01	76,55
18	Bali	94,72	90,6	96,86	68,08	68,38	69,07	89,55	90,42	66,9
19	West Nusa Tenggara	78,28	78,36	78,38	62,08	66,14	62,88	86,11	91,16	87,21
20	East Nusa Tenggara	94	93,97	90,59	71,85	78,58	75,61	84,28	68,62	63,23
21	West Kalimantan	93,87	92,59	96,84	64,01	71,45	70,78	73,08	68,74	77,65
22	Central Kalimantan	90,09	86,31	92,6	50,46	78,24	64,98	80,65	79,32	68,44
23	South Kalimantan	69,26	68,01	69,59	83,03	86,52	83,53	88,37	82,67	64,59
24	East Kalimantan	90,99	88,5	96,13	61,38	66,27	74,56	72,22	82,17	76,01
25	North Kalimantan	97,36	96,6	92,08	75,8	74,92	65,99	68,95	80,46	80,28
26	North Sulawesi	88,9	95,19	93,18	69,53	63,54	74,83	76,86	75,82	67,8
27	Central Sulawesi	91,9	96,19	97,93	54,94	53,21	54,46	86,72	91,68	82,04
28	South Sulawesi	72,44	68,32	68,4	64,05	65,61	64,99	79,75	81,34	70,77
29	Southeast Sulawesi	79,77	80,31	84,61	67,59	52,18	53,61	78,16	66,9	68,92
30	Gorontalo	79,33	75,17	86,42	64,95	76,93	75,89	76,26	76,7	90,81
31	West Sulawesi	87,41	81,58	86,38	55,05	70,22	61,09	77,45	83,6	75,45
32	Maluku.	81,38	87,06	85,1	72,86	55,62	66,92	72,32	64,55	68,29
33	North Maluku	78,94	85,61	84,35	62,39	64,86	64,88	78,92	58,11	66,56
34	West Papua	82,11	70,35	86,33	40,11	50,31	47,78	57,21	53,23	53,09
35	Papua	84,36	93,08	89,32	47,9	51,16	51,83	57,05	52,61	53,54

Source: Statistics Indonesia, 2020

Table I. 9: Indonesia Democracy Index (IDI) By Indicators, 2018-2020

No	Democracy Index Indicators	2018	2019	2020
1	Threats/use of violence by government officials that impede freedom of assembly and association	82,35	77,21	86,76
2	Threats/use of violence by the community that hinders freedom of assembly and association	82,35	83,82	86,95
3	Threats/use of violence by government officials that impede freedom of expression	70,22	65,69	58,82
4	Threats/use of violence by the public that impede freedom of expression	45,96	57,35	42,28
5	Written rules limiting freedom to practice religion	80,43	81,71	84,02
6	Actions/statements of officials limiting the freedom to practice religion	84,38	83,73	93,38
7	Threats/use of violence from one group related to religious teachings	91,47	87,79	92,35
8	Discriminatory written rules in terms of gender, ethnicity, group	92,16	92,65	92,65

No	Democracy Index Indicators	2018	2019	2020
9	Discriminatory official actions/statements in terms of gender, ethnicity, group	91,91	88,97	93,84
10	Threat/use of violence by the community for reasons of gender, ethnicity, group	91,18	94,85	86,27
11	The right to vote or be elected is hampered	95,83	94,8	94,8
12	The absence/lack of facilities so that persons with disabilities cannot exercise their right to vote	60	96,53	96,53
13	Quality of Permanent Voters List (DPT)	74,44	73,67	73,67
14	Voters Turnout	75,07	82,54	82,54
15	Percentage of elected women to the total members of the Regional House of Representative	59,61	58,63	59,31
16	Violent demonstrations/strikes	30,37	34,91	35,55
17	Public complaints regarding governance	78,19	78,53	72,44
18	The KPUD's alignment in the implementation of elections	98,93	81,55	81,55
19	Cheating in vote counting	92,03	89,95	89,95
20	Education and health budget allocation	74,02	78,07	85,76
21	Regional regulations that are the initiative of the Regional House of Representative	40,35	46,16	31,7
22	Regional House of Representative recommendations to the Executive	20,8	16,7	18,8
23	The regeneration activities carried out by the parties participating in the election	80,25	78,57	73,11
24	Percentage of female political party administrators	98,76	99,07	98,62
25	Policies of local government officials who are found guilty by the decision of the State Administrative High Court	72,76	73,45	68,81
26	Reports and news on the use of government facilities for the benefit of certain candidates/political parties in the legislative elections 1	-	-	-
27	Efforts to provide Regional Budget information by local governments	41,42	53,43	52,08
28	Reports and news on the involvement of civil servants in the political activities of political parties in the legislative elections 1	-	-	-
29	Controversial judge's decision	92,46	93,2	95,04
30	Controversial cessation of investigation by prosecutors or police	88,97	94,12	85,29

Source: Statistics Indonesia, 2020

Notes:
Starting in 2015, two new indicators were implemented, namely:

- *Indicator 25 which was originally reports and news on the use of government facilities for the benefit of certain candidates/political parties in the legislative elections became the policy of local government officials who were found guilty by the PTUN decision*
- *Indicator 26, which was originally reports and news on the involvement of civil servants in political party-political activities in the legislative elections, became an effort to provide local government with Local Budget information*

Table I. 10: Indonesia Democracy Index (IDI) by Variables, 2018-2020

No	Democracy Index Variables	2018	2019	2020
1	Freedom of Assembly and Association	82,35	78,03	86,79
2	Freedom of Opinion	66,17	64,29	56,06
3	Freedom of Faith	82,86	83,03	86,57
4	Freedom from Discrimination	91,77	92,35	90,88
5	Right to Vote and Be Elected	75,77	79,27	79,41
6	Political Participation in Decision Making and Monitoring	54,28	56,72	54
7	Free and Fair Elections	95,48	85,75	85,75
8	Role of DPRD	58,92	61,74	64,94
9	The Role of Political Parties	82,1	80,62	75,66
10	The Role of Local Government Bureaucracy	55,74	62,58	59,72
11	The Role of an Independent Judiciary	90,72	93,66	90,17

Source: Statistics Indonesia, 2020.

Table I. 11: Indonesia Democracy Index, 2018-2020

	Civil Liberty Index	Political Rights Index	Democratic Institution Index	IDI
2018	78,46	65,79	75,25	72,39
2019	77,2	70,71	78,73	74,92
2020	79,4	67,85	75,66	73,66

Source: Statistics Indonesia, 2020.

Indicator 19: Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities.

Table I. 12: Green Space Addition (Ha) under the Green City Development Program (P2KH), 2012-2018

No.	Year	Green Open Space Addition (Ha)
1	2012	29,41
2	2013	67,23
3	2014	139,23
4	2015	169,83
5	2016	249,83
6	2017	89,56
7	2018	32,19

Source: MoPWH, 2019

1.1.1.4 Ensure Equal Access to Public Spaces Including Streets, Sidewalks, And Cycling Lanes

Indicator 35: Percentage of road length that has dedicated bike lanes (excluding motorways).

Data is limited to description of increasing number of cycling users in Jakarta, total length of cycling lanes in Jakarta, car-free-day program and Bike Sharing (BOSEH) Programmes in Bandung.

Indicator 36: Percentage of road length that has dedicated sidewalks (excluding motorways).

Table I. 13: Sidewalk Length and Areas 2004 –2019

No.	Year	Length (km)	Area (km^2)
1	2004	536	871
2	2005	540	978
3	2006	540	871
4	2007	540	978
5	2008	540	978
6	2009	540	978
7	2010	540	978
8	2011	540	978
9	2012	540	979
10	2013	540	980
11	2014	540	981
12	2015	540	982
13	2016	542	994
14	2017	543	994
15	2018	534	994
16	2019	543	994

Source: Susenas, Statistics Indonesia 2020

1.1.2 Access to Adequate Housing

1.1.2.1 Ensure Access to Adequate and Affordable Housing

Indicator 31: Median amount of money spent on housing and transportation per household as a percentage of the median annual household income of tenants

Table I. 14: Percentage of Monthly Expenditure Average by Group of Goods in Indonesia, 2015-2019

No	Goods	2015	2016	2017	2018	2019
Food						
1	Grains	58.740,00	58.122,00	54.853,48	60.784,98	59.290,54
2	Tubers	3.816,00	4.486,00	5.011,90	4.954,08	5.155,66
3	Fishes	33.358,00	35.799,00	43.206,33	46.753,45	48.782,31
4	Meat	23.563,00	26.902,00	31.053,74	28.297,26	29.670,01
5	Eggs and milk	34.060,00	35.757,00	36.384,77	39.669,92	39.020,97
6	Vegetables	27.450,00	35.213,00	43.178,38	40.521,79	38.315,87
7	Nuts	10.756,00	11.358,00	12.006,93	11.965,84	12.005,99
8	Fruits	24.342,00	23.889,00	27.530,88	34.017,76	31.978,96
9	Oil and fat	12.482,00	12.331,00	13.397,80	13.226,79	13.076,27
10	Drink ingredients	13.957,00	15.709,00	16.773,21	16.620,64	16.380,75
11	Spices	8.266,00	9.245,00	10.051,55	11.250,94	11.146,15

No	Goods	2015	2016	2017	2018	2019
12	Other consumption	9.681,00	10.349,00	11.767,83	10.909,85	10.735,16
13	Prepared food and drink	145.416,00	177.775,00	220.881,60	237.325,83	251.129,02
14	Tobacco and betel	51.425,00	63.696,00	63.984,10	64.663,18	70.444,29
Sub Total		457.312,00	520.631,00	590.082,50	620.962,32	637.131,96
Non-Food						
1	Housing, fuel, lighting, water	316.644,00	334.950,00	332.178,70	367.375,50	378.162,03
2	Various goods and services	89.778,00	94.115,81	88.064,62	100.558,99,	188.138,05
3	Education cost	43.135,00	45.543,75	49.550,31	48.315,37	49.322,68
4	Health cost	27.777,00	29.191,44	34.599,89	36.607,36	36.397,58
5	Clothing, footwear, and headgear	31.004,00	35.207,00	37.472,03	38.645,44	41.644,04
6	Durable goods	60.598,00	56.182,00	67.736,65	69.905,12	71.320,96
7	Usage tax and premium insurance	28.412,00	31.189,00	40.863,35	40.757,06	44.382,68
8	Party and ceremony needs	20.004,00	21.121,00	22.978,08	27.397,26	27.432,08
Sub Total		617.352,00,	647.500,00	673.443,64,	729.562,11	751.079,84
Total		1.074.664,00	1.168.131,00	1.263.526,13	1.350.524,43	1.388.211,80

Source: Susenas, Statistics Indonesia (2020)

Indicator 32: Ratio of the median free-market price of a dwelling unit and the median annual household income [2]

Data is not available.

Indicator 38: Percentage of people living in unaffordable housing

Data is limited on the differences of ownership housing and rental housing, description on program and house construction for low income is in the report.

1.1.2.2 Provide Access to Sustainable Housing Finance Options

Indicator 37: Mortgage debt relative to GDP

Data is described on the report.

1.1.2.3 Establish Security of Tenure

Indicator 2: Proportion of total adult population with secure tenure rights to land with (a) legally recognized documentation; and (b) who perceive their rights to land as secure, by sex and type of tenure

Table I. 15: Proportion of Households to Owned Houses Based on Gender, 2015-2020

Year	Men	Women
2015	82,32	84,4
2016	82,26	84,4
2017	79,35	81,06
2018	79,74	81,6
2019	79,83	81,38
2020	73,71	81,14

Source: Bappenas, 2021

Table I. 16: Proportion of Household to Owned Houses Based on Area, 2015-2020

Year	Urban	Rural
2015	73,87	91,44
2016	73,96	91,64
2017	70,92	89,44
2018	71,96	89,76
2019	71,85	90,53
2020	72,04	90,35

Source: Bappenas, 2021

Indicator 39: Proportion of cities with slum upgrading programmes

Data is not available.

Indicator 40: Number of cities having annual budget allocations addressing any of the 5 slum deprivations and inclusive public spaces in known slum areas.

Data is not available.

Indicator 41: Percentage of cities that have integrated housing policies and regulations in their local development plans [3]

Data is not available.

1.1.2.4 Establish Slum Upgrading Programmes

Indicator 42: Total investment in housing (in both formal and informal sectors in the urban area), as a percentage of gross domestic product. [4]

Table I. 17: Proportion of Household Living in Slums by Area (%), 2018-2020

	2018	2019	2020
Urban	10,24	9,04	8,34
Rural	16,43	14,41	12,19
Urban+Rural	13,04	11,4	10,04

Source: Bappenas, 2021

Table I. 18: Percentage of Households Living in Slums by Province in Indonesia, 2018-2020

Provinces	2018	2019	2020
Aceh	11,75	10,61	7,75
Bali	5,43	3,48	3,87
Banten	14,75	12,96	11,89
Bengkulu	10	10,06	7,94
DI Yogyakarta	3,09	2,66	1,54
DKI Jakarta	24,53	23,59	22,07
Gorontalo	13,71	8,66	8,34
Jambi	7,73	6,54	4,35
West Java	16,55	14,09	12,83
Central Java	9,3	7,63	6,01
East Java	10,17	8,29	7,62
West Kalimantan	8,03	8,34	6,03
South Kalimantan	13,25	11,83	9,4
Central Kalimantan	13,21	11	8,08
West Kalimantan	5,82	4,47	4,75
North Kalimantan	5,25	5,01	3,37
Bangka Belitung Islands	18,47	17,76	17,15
Riau Islands	16,28	12,58	10,54
Lampung	11,86	10,29	8,66
Maluku	16,46	13,98	11,59
North Maluku	12,69	9,33	8,98
West Nusa Tenggara	13,75	12,67	10,72
East Nusa Tenggara	37,18	22,76	31,18
Papua	44,63	43,29	40,27
West Papua	9,87	10,24	7,99
Riau	5,95	7,11	5,39
West Sulawesi	17,25	13,63	12,77
South Sulawesi	10,74	8,48	7,2
Central Sulawesi	13,38	12,92	11,7
South-east Sulawesi	11,72	9,24	7,45
North Sulawesi	9,65	7,51	5,75
West Sumatera	8,23	8,01	5,81
South Sumatera	12,58	12,24	10,59
North Sumatera	10,46	8,7	7,84
Indonesia	13,04	11,4	10,04

Source: Statistics Indonesia, Susenas 2020

Table I. 19: Area of Slums Upgraded, 2015-2019

	2015	2016	2017	2018	2019
Area of Slums Upgraded	3.149,02	2.462,74	5.982	11.842	8.814,92
Accumulation of Area of Slums Upgraded	3.140	5.603	11.565	23.407	32.222

Source: MoPWH, 2020

1.1.2.5 Integrate Housing into Urban Development Plans

Indicator 43: Percentage of government budget dedicated to housing subsidies

Table I. 20: FLPP and Unit Finance Realization

Year	Unit Realization (in Unit)	FLPP Realization (in Million IDR)
2010	7.959	242.657
2011	109.592	3.688.273
2012	64.785	2.587.257
2013	102.714	5.365.161
2014	76.057	4.655.626
2015	76.489	6.055.243
2016	58.469	5.627.539
2017	23.763	2.706.624
2018	57.939	5.898.207
2019	77.835	7.545.288
2020	109.253	11.234.194

Source: MoPWH, 2021

1.1.3 Access to Basic Services

1.1.3.1 Access to Safe Drinking Water, Sanitation and Solid Waste Disposal

Indicator 5: Proportion of population using safely managed drinking water services;

Table I. 21: Households with Proper Drinking Water Resources in Indonesia, 2015-2019

No	Year	Households with Proper Drinking Water Resources
1	2015	84,95%
2	2016	86,44%
3	2017	87,54%
4	2018	87,75%
5	2019	89,27%

Source: Bappenas, 2020

Indicator 6: Proportion of population using safely managed sanitation services;

Table I. 22: Proportion of Population Using Sanitation Services, 2016-2020

No	Year	Basic Access	Safely Managed	Open Defecation
1	2016	71,78	-	11,08
2	2017	73,07	-	10,41
3	2018	74,58	7,42	9,36
4	2019	77,44	7,5	7,16
5	2020	79,535	7,64	6,19

Source: Bappenas, 2021

Indicator 18: Proportion of municipal solid waste collected and managed in controlled facilities out of total Municipal Solid Waste generated by cities;

Table I. 23: Proportion of municipal solid waste collected and managed in controlled facilities out of total Municipal Solid Waste generated by cities, 2020 (1)

Province	Municipalities	Population	Annual Waste Generation (Tons/Year) (A)	Annual Waste Reduction (Tons/Year) (B)	% Waste Reduction (B/A)	Annual Waste Handling (Tons/Year) (C)
Aceh	Banda Aceh	252.899	88.800,12	11.528,58	12,98	73.728,43
	Langsa	185.971	34.737,78	7.957,95	22,91	17.804,34
	Sabang	41.197	9.624,82	-	-	6.380,20
Bangka Belitung Islands	Pangkal Pinang	218.569	55.416,16	14.946,54	26,97	39.172,53
Banten	Serang	692.101	190.440,06	37.235,99	19,55	106.718,70
Banten	South Tangerang	1.354.350	390.753,87	45.280,98	11,59	238.613,28
Central Java	Magelang	121.526	32.709,11	1.823,20	5,57	24.433,84
	Salatiga	192.322	41.620,01	7.286,43	17,51	29.441,27
	Semarang	1.653.524	466.010,79	102.540,50	22,00	350.027,70
Central Kalimantan	Palangkaraya	293.457	52.570,77	9.876,75	18,79	38.635,25
DI Yogyakarta	Yogyakarta	373.859	131.689,26	34.332,48	26,07	96.074,02
DKI Jakarta	West Jakarta	2.434.511	719.768,00	169.213,55	23,51	544.030,50
	Central Jakarta	1.056.896	308.331,29	68.408,86	22,19	234.002,36
	South Jakarta	2.226.812	701.164,63	154.443,96	22,03	530.070,34
	East Jakarta	3.037.139	829.738,03	186.191,42	22,44	626.336,12
	North Jakarta	1.778.981	489.481,03	111.650,62	22,81	373.285,50
East Java	Batu	213.046	35.477,26	62,82	0,18	34.675,00
	Blitar	149.149	27.219,69	2.510,35	9,22	22.558,69
	Kediri	286.796	55.091,09	8.052,46	14,62	45.374,61
	Madiun	195.175	43.133,55	9.750,36	22,61	32.088,98
	Malang	843.810	247.389,19	55.884,17	22,59	185.701,24
	Mojokerto	132.434	22.538,47	3.621,55	16,07	18.250,00
	Pasuruan	208.006	48.394,73	13.161,30	27,20	32.472,21
	Probolinggo	239.649	34.949,48	5.358,33	15,33	24.931,10
	Surabaya	2.874.314	811.255,10	67.855,78	8,36	714.820,50
East Kalimantan	Balikpapan	688.318	175.865,25	39.053,36	22,21	132.695,76
	Bontang	178.917	37.769,85	7.459,39	19,75	29.230,73
	Samarinda	827.944	226.578,93	33.117,64	14,62	166.657,18
Gorontalo	Gorontalo	198.539	51.146,76	1.017,00	1,99	27.010,00
Jambi	Jambi	606.200	156.103,35	2.766,83	1,77	117.442,40
	Sungai Penuh	96.610	17.916,39	-	-	11.862,50
Lampung	Bandar Lampung	1.166.066	276.649,16	8.735,61	3,16	255.500,00
Lampung	Metro	168.676	37.651,79	6.230,90	16,55	24.692,25
Maluku	Ambon	347.288	98.753,56	11.987,31	12,14	59.568,00
North Kalimantan	Tarakan	242.786	63.924,05	8.833,43	13,82	50.870,05
North Maluku	Ternate	205.001	26.384,69	4.424,48	16,77	19.872,42
	Tidore	114.480	16.753,21	1.896,24	11,32	9.194,59

Province	Municipalities	Population	Annual Waste Generation (Tons/Year) (A)	Annual Waste Reduction (Tons/Year) (B)	% Waste Reduction (B/A)	Annual Waste Handling (Tons/Year) (C)
North Sulawesi	Bitung	225.134	49.304,35	8.547,72	17,34	26.040,16
	Kotamobagu	123.722	31.553,74	3.188,91	10,11	22.531,45
	Manado	451.916	121.504,81	3.693,48	3,04	102.200,00
	Tomohon	100.587	25.699,98	3.434,76	13,36	18.980,00
North Sumatra	Medan	2.435.252	622.206,89	65.108,27	10,46	328.500,00
	Pematangsiantar	268.254	84.460,96	4.574,49	5,42	61.685,00
	Sibolga	89.584	26.734,50	5.279,90	19,75	20.529,06
	Tebing Tinggi	172.838	44.726,04	9.589,46	21,44	31.636,08
Riau	Dubai	316.782	58.368,43	98,92	0,17	36.135,00
	Pekanbaru	983.356	400.461,54	92.657,05	23,14	285.149,68
Riau islands	Tanjung Pinang	227.663	54.408,07	10.108,83	18,58	33.737,99
South Kalimantan	Banjarbaru	253.442	53.699,76	10.909,71	20,32	42.481,30
	Banjarmasin	657.663	181.041,17	28.049,90	15,49	129.976,50
South Sulawesi	Makassar	1.423.877	363.800,57	11.481,27	3,16	255.784,71
	Palopo	184.681	38.823,96	2.323,85	5,99	18.487,25
	Parepare	151.454	27.286,67	2.807,78	10,29	20.221,00
South Sumatra	Palembang	1.668.848	426.390,66	84.390,62	19,79	327.019,20
	Prabumulih	193.196	34.479,54	5.937,07	17,22	24.820,00
West Java	Banjar	200.973	30.566,85	5.089,83	16,65	23.440,47
	Bogor	1.043.070	245.922,33	48.632,76	19,78	185.464,50
	Cimahi	568.400	99.782,38	302,59	0,30	83.541,20
	Depok	2.056.335	571.238,57	61.445,97	10,76	377.252,69
	Sukabumi	346.325	65.424,09	14.066,05	21,50	49.021,58
	Tasikmalaya	716.155	106.688,51	11.420,66	10,70	80.869,40
West Kalimantan	Pontianak	658.685	140.823,35	11.683,05	8,30	109.731,73
	Singkawang	235.064	41.331,69	1.434,14	3,47	15.373,43
West Sumatra	Bukittinggi	121.028	45.368,41	1.647,99	3,63	40.716,11
	Padang	909.040	242.947,54	32.608,95	13,42	182.500,00
	Padang Panjang	56.311	17.019,51	2.050,84	12,05	14.859,88
	Payakumbuh	139.576	35.679,04	5.791,70	16,23	28.049,52
	Sawahlunto	65.138	6.852,82	1.472,73	21,49	5.146,50
	Solok	73.438	18.505,87	1.766,47	9,55	16.253,08

Source: MoEF, 2020

Table I. 24: Proportion of municipal solid waste collected and managed in controlled facilities out of total Municipal Solid Waste generated by cities, 2020 (2)

Province	Municipalities	% Trash Handling (C/A)	Annual Junk (Tons/Year) (B + C)	% Garbage Managed (B+C)/A
Aceh	Banda Aceh	83,03	85.257,02	96,01
	Langsa	51,25	25.762,28	74,16
	Sabang	66,29	6.380,20	66,29
Bangka Belitung Islands	Pangkal Pinang	70,69	54.119,07	97,66
Banten	Serang	56,04	143.954,69	75,59
Banten	South Tangerang	61,06	283.894,26	72,65
Central Java	Magelang	74,70	26.257,04	80,27
	Salatiga	70,74	36.727,70	88,25
	Semarang	75,11	452.568,20	97,12
Central Kalimantan	Palangkaraya	73,49	48.512,00	92,28
DI Yogyakarta	Yogyakarta	72,96	130.406,50	99,03
DKI Jakarta	West Jakarta	75,58	713.244,06	99,09
	Central Jakarta	75,89	302.411,22	98,08
	South Jakarta	75,60	684.514,30	97,63
	East Jakarta	75,49	812.527,55	97,93
	North Jakarta	76,26	484.936,13	99,07
East Java	Batu	97,74	34.737,82	97,92
	Blitar	82,88	25.069,04	92,10
	Kediri	82,36	53.427,07	96,98
	Madiun	74,39	41.839,34	97,00
	Malang	75,06	241.585,41	97,65
	Mojokerto	80,97	21.871,55	97,04
	Pasuruan	67,10	45.633,51	94,29
	Probolinggo	71,33	30.289,43	86,67
	Surabaya	88,11	782.676,28	96,48
East Kalimantan	Balikpapan	75,45	171.749,11	97,66
	Bontang	77,39	36.690,12	97,14
	Samarinda	73,55	199.774,81	88,17
Gorontalo	Gorontalo	52,81	28.027,00	54,80
Jambi	Jambi	75,23	120.209,24	77,01
	Sungai Penuh	66,21	11.862,50	66,21
Lampung	Bandar Lampung	92,36	264.235,61	95,51
Lampung	Metro	65,58	30.923,15	82,13
Maluku	Ambon	60,32	71.555,31	72,46
North Kalimantan	Tarakan	79,58	59.703,48	93,40
North Maluku	Ternate	75,32	24.296,91	92,09
	Tidore	54,88	11.090,83	66,20

Province	Municipalities	% Trash Handling (C/A)	Annual Junk (Tons/Year) (B + C)	% Garbage Managed (B+C)/A
North Sulawesi	Bitung	52,82	34.587,87	70,15
	Kotamobagu	71,41	25.720,36	81,51
	Manado	84,11	105.893,48	87,15
	Tomohon	73,85	22.414,76	87,22
North Sumatra	Medan	52,80	393.608,27	63,26
	Pematangsiantar	73,03	66.259,49	78,45
	Sibolga	76,79	25.808,96	96,54
	Tebing Tinggi	70,73	41.225,55	92,17
Riau	Dubai	61,91	36.233,92	62,08
	Pekanbaru	71,21	377.806,73	94,34
Riau islands	Tanjung Pinang	62,01	43.846,82	80,59
South Kalimantan	Banjarbaru	79,11	53.391,01	99,43
	Banjarmasin	71,79	158.026,41	87,29
South Sulawesi	Makassar	70,31	267.265,99	73,46
	Palopo	47,62	20.811,10	53,60
	Parepare	74,11	23.028,78	84,40
South Sumatra	Palembang	76,69	411.409,81	96,49
	Prabumulih	71,98	30.757,07	89,20
West Java	Banjar	76,69	28.530,30	93,34
	Bogor	75,42	234.097,26	95,19
	Cimahi	83,72	83.843,79	84,03
	Depok	66,04	438.698,66	76,80
	Sukabumi	74,93	63.087,63	96,43
	Tasikmalaya	75,80	92.290,06	86,50
West Kalimantan	Pontianak	77,92	121.414,78	86,22
	Singkawang	37,20	16.807,58	40,67
West Sumatra	Bukittinggi	89,75	42.364,11	93,38
	Padang	75,12	215.108,95	88,54
	Padang Panjang	87,31	16.910,72	99,36
	Payakumbuh	78,62	33.841,22	94,85
	Sawahlunto	75,10	6.619,23	96,59
	Solok	87,83	18.019,55	97,37

Source: MoEF, 2021

1.1.3.2 Access to Safe and Efficient Public Transport System

Indicator 44: Percentage of commuters using public transport.

Table I. 25: Bus-Based Transportation in Indonesia

Bus Rapid Transit	City	Amount of Service Corridors
Transjakarta	Jakarta	15
Transpakuan	Bogor	3
Batik Solo Trans	Surakarta	8
Trans Semarang	Semarang	4
Trans Jogja	Yogyakarta	17
Trans Metro Bandung	Bandung	1
Trans Musi	Palembang	8
Trans Padang	Padang	6
Trans Mamminasata	Makassar	11
Trans Bandar Lampung	Bandar Lampung	7
Trans Sarbagita	Denpasar	4
Trans Mebidang	Medan	2
Suroboyo Bus	Surabaya	4
Trans Metro	Pekanbaru	2
Trans Batam	Batam	8
Trans Kawanua	Manado	1
Trans Hulotalangi	Gorontalo	1
Trans Ambon	Ambon	3
Trans Tangerang	Tangerang	3

Source: MoPWH, 2017

Table I. 26: Primary Transportation Used to the Destination Location, 2019 (1)

Distance to Destination (km)	Walking	Bicycle	Motorbike	Online Motorcycle	Car	Online Taxi
< 10	32.072	3.203	590.578	58.547	38.337	285
10 – 19	-	3.737	705.399	43.639	90.425	2.238
20 – 29	-	711	465.138	6.922	71.301	1.006
30 – 39	-	-	178.690	11.576	34.125	-
40 – 49	-	-	63.819	2.176	20.766	988
50 – 59	-	-	30.244	-	16.602	658
60+	-	-	28.678	-	16.554	-
Total	32.072	7.651	2.062.546	122.860	288.110	5.175

Primary Transportation Used to the Destination Location, 2019 (2)

	Pickup Vehicle	Public Transportation	Bus	Train	Trans Jakarta	Others
< 10	15.110	96.763	2.604	4.674	17.596	2.502
10 – 19	12.110	41.400	8.209	36.534	42.267	964
20 – 29	18.954	33.000	18.223	87.729	24.652	-
30 – 39	12.397	8.902	16.579	88.691	11.630	-
40 – 49	6.182	1.800	10.694	43.678	9.775	368
50 – 59	6.034	-	7.606	25.516	2.917	-
60+	3.303	635	8.252	12.012	1.218	-
Total	74.090	182.500	72.167	298.834	110.055	3.834

Source: Jabodetabek Commuters Statistic, 2019

Table I. 27: Primary Transportation Used to the Home, 2019 (1)

No	Distance to Home (km)	Walking	Bycycle	Motorbike	Online Motorcycle	Car	Online Taxi	Pickup Vehicle
1	< 10	3,89	0,37	65,74	8,13	4,30	0,10	1,83
2	10 – 19	-	0,38	70,60	4,53	8,97	0,23	1,32
3	20 – 29	-	0,10	63,54	1,21	9,63	0,35	2,71
4	30 – 39	-	-	49,06	3,19	9,01	-	3,42
5	40 – 49	-	-	39,83	1,36	12,60	0,62	3,86
6	50 – 59	-	-	33,76	-	18,53	0,73	6,74
7	60+	-	-	40,59	-	23,43	1,33	4,68
	Total	1,03	0,23	62,17	3,00	8,64	0,25	2,34

Primary Transportation Used to the Home, 2019 (2)

No	Distance to Home (km)	Public Transportation	Bus	Train	TransJakarta	Others	Total
1	< 10	12,44	0,38	0,54	2,04	0,24	26,45
2	10 – 19	4,75	0,83	3,76	4,54	0,10	30,27
3	20 – 29	4,72	2,29	12,06	3,40	-	22,32
4	30 – 39	2,35	4,90	24,61	3,46	-	11,12
5	40 – 49	1,12	6,67	27,62	6,10	0,23	4,92
6	50 – 59	-	8,49	28,48	3,26	-	2,75
7	60+	#VALUE!	11,68	16,57	1,72	-	2,17
	Total	6,10	2,22	9,21	3,48	0,10	100,00

Source: Jabodetabek Commuters Statistic, 2019

1.1.3.3 Access to 1Modern Renewable Energy

Indicator 7: Renewable energy share in the total final energy consumption.

Table I. 28: Development of Installed Capacity of Renewable Energy Power Plants, 2015-2019 (MegaWatt)

	2015	2016	2017	2018	2019
Hybrid Power Plant	4	4	4	4	4
Solar Power Plant	33	43	51	68	137
Wind Power Plant	2	2	2	144	154
Bioenergy Power Plant	1742	1783	1857	1883	1890
Geothermal Power Plant	1438	1533	1808	1948	2131
Hydro Power Plant	5278	5621	5658	5742	5976

Source: MoEMR, 2020

Table I. 29: National Energy Mix, 2015-2020 (%), 2015-2020

	2015	2016	2017	2018	2019	2020
Petroleum	42,12	44,9	41,42	36,71	35,03	31,6
Coal	30,14	27,84	30,53	33	37,28	38
Gas	22,77	21,12	21,39	19,68	18,51	19,2
Renewable Energy	5,32	4,97	6,66	8,61	9,18	11,2

Source: MoEMR, 2020

1.1.3.4 Access to Information Communication Technology (ICT)

Indicator 25: Fixed Internet broadband subscriptions per 100 inhabitants, by speed;

Table I. 30: Internet Users in Indonesia

Year	Internet Users (APJII)	Costumer Served by Broadband to Total Household (The Ministry of Communication and Informatics)
2010	17,6	-
2011	22,7	-
2012	25,7	-
2013	33	-
2014	34,9	-
2015	43,1	-
2016	51,3	7,84
2017	54,8	9,38
2018	64,8	10,45
2019	73,7	13,59
2020	73,7	14,3

Source: Bappenas, 2019

1.2 Sustainable and Inclusive Urban Prosperity and Opportunities for All

1.2.1 Inclusive Urban Economy

1.2.1.1 Achieve productive employment for all including youth employment

Indicator 11: Proportion of youth (aged 15-24 years) not in education, employment or training

Table I. 31: Percentage of young people (15-24 years) not in Educational, Employment or Training (NEET) in 2010-2020

Year	Young People not Educational, Employment and Training
2010	25,6
2011	25,2
2012	23,2
2013	25,2
2014	23,5
2015	24,77
2016	23,19
2017	21,41
2018	22,15
2019	21,77
2020	24,28

Source: Bappenas, 2021

Indicator 8: Annual growth rate of real GDP per employed person

Table I. 32: GDP Growth Rate Per Employed Person by Province Per Year, 2018-2020

Province	2018	2019	2020
Bali	0,94	8,02	-7,6
Riau Islands	-0,11	-0,55	-6,43
West Papua	1,84	-1,28	-5,66
East Nusa Tenggara	-7,31	5,88	-4,87
Aceh	-0,3	3,54	-4,73
West Sulawesi	-1,35	2,53	-4,23
North Kalimantan	4,57	5,14	-4,22
Lampung	-1,53	4,7	-3,82
Jambi	0,62	6,93	-3,64
South Kalimantan	1,79	3,73	-3,57
Riau	-1,52	0,62	-3,41
Banten	0,36	1,47	-3,38
West Sumatera	-0,6	2,55	-3,18
Maluku	-8,59	3,41	-3,14
Bengkulu	-0,87	3,45	-2,89
West Kalimantan	-2,44	0,25	-2,81

Province	2018	2019	2020
West Nusa Tenggara	-2,52	-6,51	-2,72
South-East Sulawesi	-1,51	5,79	-2,69
West Kalimantan	-0,14	4,17	-2,35
Central Java	3,92	4,27	-2,28
East Java	1,76	4,52	-2,06
South Sumatera	4,34	5,51	-2,03
Bangka Belitung Islands	1,43	1,95	-2,01
Central Kalimantan	-0,85	4,79	-1,33
West Java	3,71	-0,3	-0,69
DI Yogyakarta	1,36	5,44	-0,47
North Sulawesi	-1,01	2,48	0,25
South Sulawesi	-3,85	5,53	0,59
Gorontalo	-1,98	5,8	0,73
Central Sulawesi	11,98	9,86	1,38
North Sumatera	-4,89	5,62	1,39
DKI Jakarta	1,24	3,05	1,7
North Maluku	-3,71	5,26	4,78
Papua	1,26	-15,34	8,39

Source: Statistics Indonesia, Susenas 2020

1.2.1.2 Support the informal economy

Indicator 9: Proportion of informal employment in non-agriculture employment, by sex.

Table I. 33: Proportion of informal work in non-agriculture (services and manufacture sectors) (%), 2018-2020

	Manufacture	Services
2018	41,09	45,69
2019	38,97	46,16
2020	44,31	50,46

Source: (Bappenas, 2021)

Table I. 34: Proportion of informal worker by sex, 2015-2020

	Men	Women	Total
2015	55,11	62,22	57,75
2016	54,95	61,84	57,6
2017	54,34	61,37	57,03
2018	53,9	61,9	56,98
2019	52,81	60,81	55,88
2020	56,29	65,35	60,5

Source: (Bappenas, 2021)

1.2.1.3 Support small and medium-sized enterprises

Indicator 45: Small and medium-sized enterprises percentage share of GDP.

Table I. 35: SMEs Contribution to GDP, 2010-2020 (%)

Year	Contribution to GDP (%)
2010	58,1
2011	57,8
2012	57,6
2013	57,5
2014	57,6
2015	57,8
2016	57,2
2017	57,1
2018	57,8
2019	60,3
2020	37,3

Source: Ministry of Cooperatives and Small and Medium Enterprises, 2021

1.2.1.4 Promote an enabling, fair and responsible environment for business and innovation

Indicator 26: Number of days to register a new business in the country

Data is described on the report.

1.2.2 Sustainable Urban Prosperity

1.2.2.1 Support the diversification of the urban economy and promote cultural and creative industries

Indicator 46: Employment in cultural and creative industries of as proportion of total employment

Table I. 36: Creative Economy Growth by Subsector, 2011-2017

Sub Sectors	2011	2012	2013	2014	2015	2016	2017
Architecture	8,93	6,68	6,07	6,91	6,62	5,73	5,73
Interior Design	7,66	7,4	6,51	5	6,09	4,87	4,87
Visual Communicatio n Design	5,71	4,98	2,71	9,06	10,28	10,51	6,06
Product Design	0,96	2,76	1,94	2,85	2,03	2,78	2,09
Film, Animation & Video	8,36	4,89	3,34	5,31	6,68	4,83	5,54
Photography	4,97	2,95	1,65	4,71	6,13	5,31	4,94
Kriya	5,6	2,67	2,85	3,65	4,51	3,51	4
Culinary	4,64	5,51	5,19	5,04	3,94	4,3	4,83
Music	7,18	8,36	5,02	7,47	7,26	6,84	6,61
Fashion	9,45	5,79	7,99	4,08	2,8	1,52	6,03
Application and Game Developer	6,22	5,69	4,47	5,85	5,04	4,79	5,73

Sub Sectors	2011	2012	2013	2014	2015	2016	2017
Publishing	3,45	5,53	5,11	3,98	4,89	4,99	3,36
Advertising	8,42	4,19	3,93	9,74	6,36	6,96	11,46
Television and Radio	13,44	14,31	11,32	11,67	3,83	8	11,37
Performing Arts	7,32	9,34	6,01	7,55	6,03	5,94	6,84
Art	6,59	5,79	4,29	2,4	5,69	3,4	4,69
Average	6,81	6,05	4,90	5,95	5,51	5,27	5,88

Source: MoTCE, 2020

Indicator 12: Manufacturing employment as a proportion of total employment

Data regarding of manufacturing employment as a proportion of total employment is not available.

Data is limited to creative industry employment, described on the report.

1.2.2.2 Develop technical and entrepreneurial skills to thrive in a modern urban economy

Indicator 47: Annual number of vocational and technical education individuals trained

Data is limited to the proportion of youth with information and communication technology skills, and Work Training Centre (BLK) by the Ministry of Labour, data is described on the report.

Table I. 37: Gross Enrolment Ratio (GER) in Tertiary Education, 2015-2020

	Urban Areas	Indonesia
2015	35,23	26,26
2016	36,77	27,98
2017	39,86	29,93
2018	40,39	30,19
2019	39,75	30,28
2020	38,58	30,58

Source: Bappenas, 2021

1.2.2.3 Strengthen urban-rural linkages to maximize productivity

Indicator 20: Does your country have a National Urban Policy or Regional Development Plan that (a) responds to population dynamics, (b) ensures balanced territorial development, and (c) increase in local fiscal space.

Table I. 38: Distribution of Metropolitan in Indonesia

No	Metropolitan Area	Main City	Population (million)
1	Jabodetabekpunjur	DKI Jakarta	28,6
2	Bodebekkapur	Bogor	14,3
3	Malang Raya	Malang	10
4	Bandung Raya	Bandung	9,9
5	Gerbangkertasusila	Surabaya	9,1
6	Kedung Sepur	Semarang	6,1
7	Solo Raya	Surakarta	5,4
8	Mebidangro	Medan	4,4
9	Mataram Raya	Mataram	3,6
10	Patungraya Agung	Palembang	3,6
11	Maminasata	Makassar	2,4
12	Cirebon Raya	Cirebon	2,3
13	Kartamantul	Yogyakarta	2,3
14	Pekansikawan	Pekanbaru	2,3
15	Banjar Bakula	Banjarmasin	1,9
16	Serbagita	Denpasar	1,8
17	Bonsamtebajam	Balikpapan	1,7
18	Bregasmalang	Tegal	1,3
19	Palapa	Padang	1,3
20	Bandar Lampung Raya	Bandar Lampung	1,1
21	Bimindo	Manado	1

Source: MoPWH, 2019

1.3 Environmentally Sustainable and Resilient Urban Development

1.3.1 Resilience, Mitigation, and Adaption of Cities and Human Settlements

1.3.1.1 Address urban sprawl and loss of biodiversity

Indicator 15: Ratio of land consumption rate to population growth rate.

Table I. 39: Ratio of Land Consumption Rate to Population Growth Rate in Selected Cities in Indonesia (2000-2015)

No.	Municipality	2000-2005	2005-2010	2010-2015
		LCR/PGR (Annual)	LCR/PGR (Annual)	LCR/PGR (Annual)
1	Banda Aceh	-0,479	0,176	0,056
2	Sabang	1,266	4,104	1,669
3	Langsa	-	3,403	1,871
4	Lhokseumawe	-	1,008	0,618
5	Subulussalam	-	-	1,774
6	Sibolga	0,484	-0,380	0,561
7	Tanjungbalai	1,215	8,812	0,803
8	Pematangsiantar	-1,735	4,152	2,172
9	Tebing Tinggi	3,591	1,741	2,025
10	Medan	0,916	1,132	0,915
11	Binjai	2,347	5,856	2,889
12	Padang Sidempuan	-	2,398	0,886
13	Gunungsitoli	-	-	1,270
14	Padang	1,348	3,318	1,927
15	Solok	1,766	2,929	1,444
16	Sawahlunto	5,544	1,466	0,658
17	Padang Panjang	2,137	5,208	1,423
18	Bukittinggi	0,979	0,368	0,191
19	Payakumbuh	8,708	2,447	1,880
20	Pariaman		1,399	3,010
21	Pekanbaru	1,986	1,029	0,869
22	Dumai	1,555	1,021	1,255
23	Jambi	6,119	0,884	1,752
24	Sungai Penuh	-	-	5,083
25	Palembang	-2,647	1,035	1,045
26	Prabumulih	-	1,088	1,805
27	Pagar Alam	-	4,861	5,211
28	Lubuklinggau	-	1,148	1,746
29	Bengkulu	307,144	1,499	2,435
30	Bandar Lampung	2,136	0,551	0,470
31	Metro	7,205	0,746	0,580
32	Pangkal Pinang	3,339	2,368	1,876
33	Batam	1,126	0,320	0,298
34	Tanjung Pinang	-	3,598	4,216
35	DKI Jakarta (5 Administrative Cities)	0,090	0,012	0,002
36	Bogor	1,038	1,158	0,452
37	Sukabumi	1,757	4,058	1,977

No.	Municipality	2000-2005	2005-2010	2010-2015
		LCR/PGR (Annual)	LCR/PGR (Annual)	LCR/PGR (Annual)
38	Bandung	0,449	0,179	0,152
39	Cirebon	0,395	-0,848	1,177
40	Bekasi	0,314	0,119	0,006
41	Depok	1,017	0,161	0,077
42	Cimahi	0,059	-0,675	0,166
43	Tasikmalaya	1,495	2,261	3,516
44	Banjar	2,671	4,764	9,118
45	Magelang	0,381	-0,310	0,212
46	Surakarta	0,419	-0,015	0,013
47	Salatiga	2,162	3,458	1,405
48	Semarang	1,093	0,436	0,389
49	Pekalongan	7,285	0,176	0,052
50	Tegal	6,391	1,977	1,613
51	Yogyakarta	-0,000	-0,000	0,000
52	Kediri	9,283	0,497	0,625
53	Blitar	3,931	0,705	0,768
54	Malang	1,961	1,087	0,773
55	Probolinggo	2,553	2,480	0,873
56	Pasuruan	6,893	0,605	0,832
57	Mojokerto	7,869	0,338	0,142
58	Madiun	1,865	-13,034	0,611
59	Surabaya	3,439	0,068	0,111
60	Batu	-	0,527	0,658
61	Tangerang	0,003	0,001	0,002
62	Cilegon	0,308	0,014	0,076
63	Serang	-	-	0,077
64	South Tangerang	-	-	0,007
65	Denpasar	0,715	0,060	0,160
66	Mataram	1,629	0,483	0,831
67	Bima	-	0,526	0,408
68	Kupang	0,806	0,196	0,148
69	Pontianak	3,402	1,550	1,531
70	Singkawang	-	2,013	1,411
71	Palangka raya	3,718	1,253	1,828
72	Banjarmasin	1,785	1,352	1,370
73	Banjar Baru	3,165	1,453	1,609
74	Balikpapan	2,008	0,563	1,087
75	Samarinda	2,786	1,447	2,603
76	Bontang	1,078	0,651	0,424
77	Tarakan	1,884	0,719	0,486
78	Manado	1,734	13,707	3,063
79	Bitung	1,843	0,902	1,381
80	Tomohon	-	0,890	1,016
81	Kotamobagu	-	-	1,810
82	Palu	9,315	1,017	1,817
83	Makassar	0,201	0,028	0,015
84	Parepare	6,175	0,625	1,402

No.	Municipality	2000-2005	2005-2010	2010-2015
		LCR/PGR (Annual)	LCR/PGR (Annual)	LCR/PGR (Annual)
85	Palopo	-	1,956	1,095
86	Kendari	1,942	0,964	1,508
87	Bau-Bau	-	0,861	3,029
88	Gorontalo	0,161	0,065	0,053
89	Ambon	1,939	0,523	0,588
90	Tual	-	-	0,554
91	Ternate	1,457	1,150	0,691
92	Tidore Islands	-	1,116	3,243
93	Sorong	1,751	1,027	0,864
94	Jayapura	6,979	0,820	1,380
	AVERAGE	**6,634**	**1,354**	**1,276**

Source:

- *The population of 2000 and 2010 was obtained from the results of the population census obtained from various sources of BPS and BPS publications, by comparison with citypopulation.de data for some exceptions*
- *The 2005 and 2015 population were obtained from the processed results of residential survey data between census (Supas) provided by the Citypopulation.de website*
- *The area of city administration and the vast area of the 'urban character' in each city obtained from the results of spatial data processing with an online device from the Trends.Earth website (Conservation International, 2021)*
- *Website Source:*
    - *https://trends.earth/docs/en/background/understanding_indicators11.html.*
    - *https://trends.earth/docs/en/training/tutorial_compute_urban_indicator.html.*

Description

- *Municipality Population Growth Rate (PGR) - Speed of population growth per year in the relevant period.*
- *Land Consumption Rate (LCR) - The growth speed of the region's area that is 'urban character' in a city in the relevant period, which is interpreted as the level of land consumption in the city*
- *LCR / PGR - Comparison of land consumption levels and velocity of population growth in an area within the same period.*
    - *LCR / PGR <1 means the level of land consumption is lower than the population growth.*
    - *LCR / PGR = 1 means the level of land consumption is equivalent to the population growth.*
    - *LCR / PGR> 1 means the level of land consumption is higher than the population growth.*

Indicator 48: Proportion of Land Under Protected Natural Areas.

Table I. 40: Area of Conservation Area According to Its Function in Indonesia (2019)

No.	Function of conservation area	Units	Area (Million Hectares)
1	Nature preserve	212	4.179.453,69
2	WIldlife reserve	79	4.988.843,13
3	National Parks	54	16.224.801,17
4	Nature Park	133	825.526,10
5	Great Forest Park	34	371.124,39
6	Hunting Park	11	171.250,00
7	KSA/KPA	31	373.396,31
	Total	554	27.134.394,79

Source: Ministry of Environmental and Forestry, 2019

Table I. 41: Conservation Area in Indonesia (2015 – 2019)

No.	Year	Conservation Area
1	2015	27,5
2	2016	27,26
3	2017	27,14
4	2018	27,13
5	2019	27,13

Source: Ministry of Environmental and Forestry, 2019

1.3.1.2 Climate change mitigation and adaptation actions

Indicator 49: Percentage of local governments that adopt and implement local disaster risk reduction strategies in line with national strategies.

Data is not available

Indicator 50: Percentage subnational/local government with budgets dedicated to climate change mitigation and adaptation actions.

Table I. 42 Budget Allocation for Climate Change in State Budget (APBN) 2016-2018

Year	Budget for climate change mitigation (IDR Trillion)	Budget for climate change adaptation (IDR Trillion)	Budget Portion of climate change mitigation in the State Budget
2016*	72,4	NA	3,6%
2017*	95,6	NA	4,7%
2018	83,4	33,25	5.30%
2019	46,46	33,39	3.24%
2020	41,65	33,30	2.73%

Source: Ministry of Finance, 2019-2021

Table I. 43: Budget on Climate Change Adaptation and Mitigation (in Billion) 2017-2020

Year	Mitigation	Adaptation
2017	1,338	1,683
2018	1,327	2,49
2019	1,269	1,929
2020	8,14	1,196

Source: Ministry of Finance, 2021

Table I. 44: Budget on Climate Change Adaptation and Mitigation (in Billion) in Selected Regions in Indonesia (2017-2020)

Region	2017		2018	
	Mitigation	Adaptation	Mitigation	Adaptation
Gorontalo Regency	20.944	56.549	20.731	59.347
Siak Regency	12.167	123	21.448	52.872
Sumedang Regency	5.415	166.011	4.594	74.845
Pekanbaru City	121.133	25.687	208.992	68.148
Aceh Province	140.497	695.046	216.863	1.499.449
Gorontalo Province	15.097	75.438	37.893	77.407
West Java Province	690.402	-	434.613	-
North Kalimantan Province	-	-	148.599	125.135
Papua Province	200.930	163.911	78.722	187.128
West Papua Province	47.567	229.601	53.231	194.904
Riau Province	83.868	269.924	101.711	150.786
Total	1.338.020	1.683.290	1.327.037	2.490.021

Source: Ministry of Finance, 2021

Table I. 45: Budget on Climate Change Adaptation and Mitigation (in Billion) in Selected Regions in Indonesia (2017-2020

Region	2019		2020	
	Mitigation	Adaptation	Mitigation	Adaptation
Gorontalo Regency	18.336	43.983	18.800	39.004
Siak Regency	28.624	60.270	27.714	63.120
Sumedang Regency	8.349	63.866	-	10.330
Pekanbaru City	192.853	38.789	153.852	47.428
Aceh Province	152.912	906.579	240.814	556.544
Gorontalo Province	31.941	90.199	25.287	85.558
West Java Province	355.028	-	-	-
North Kalimantan Province	256.550	91.177	89.920	69.323
Papua Province	89.665	156.646	95.022	82.690
West Papua Province	67.807	181.492	57.906	204.179
Riau Province	67.316	196.435	104.274	37.772
Total	1.269.381	1.929.436	813.589	1.195.648

Source: Ministry of Finance, 2021

Indicator 51: Percentage of cities with multi-hazard mapping

Data is not available

Indicator 30: Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)

Table I. 46: Indonesia's Air Quality Index (2016 – 2020)

No.	Provinces	Air Quality Index				
		2016	2017	2018	2019	2020
1	Aceh	86,3	89,84	88,33	90,71	89,51
2	North Sumatra	79,2	87,32	85,72	86,58	89,22
3	West Sumatra	82,9	89,87	88,37	89,45	90,39
4	Riau	72,4	90,9	89,91	90,2	90,42
5	Jambi	88,1	89,39	88,04	87,25	85,65
6	South Sumatra	81,6	88,88	85,32	87,13	86,57
7	Bengkulu	85,4	92,55	91,63	92,69	90,52
8	Lampung	77,5	85,02	82,98	86,62	85,45
9	Bangka Belitung	80,4	94,97	89,09	91,94	91,03
10	Riau islands	78,6	95,47	90,83	90,63	90,8
11	DKI Jakarta	56,4	53,5	66,57	67,97	66,69
12	West Java	78,6	77,85	72,8	75,1	78,46
13	Central Java	77,3	83,91	82,97	84,81	84,73
14	In Yogyakarta	87,6	88,08	84,25	85,19	89,55
15	East Java	83,2	85,49	81,8	83,06	84,06
16	Banten	58,8	75,36	71,63	74,98	72,83
17	Bali	88,3	91,4	88,97	89,85	88,34
18	West Nusa Tenggara	81,2	88,02	87,17	87,51	88,63
19	East Nusa Tenggara	82,7	91,18	86,83	88,18	89,8
20	West Kalimantan	81,5	89,12	88,68	90,04	88,88
21	Central Kalimantan	83,8	92,25	87,07	88,82	89,84
22	South Kalimantan	85,6	89,02	87,75	88,78	88,93
23	East Kalimantan	80,2	88,87	83,36	90,02	89,02
24	North Kalimantan	89,1	95,83	90,95	93,79	94,23
25	North Sulawesi	86,7	94,32	91,07	92,41	90,53
26	Central Sulawesi	87,9	94,38	93,56	92,98	91,8
27	South Sulawesi	85,8	88,66	89,09	89,6	88,73
28	Southeast Sulawesi	83,5	91,04	89,85	90,01	91,21
29	Gorontalo	88,3	94,79	92,17	86,88	93,89
30	West Sulawesi	86,4	91,45	89,26	89,97	89,72
31	Maluku.	87,3	85,64	84,99	88,72	90,41
32	North Maluku	86,2	96	90,77	92,38	92,1
33	West Papua	93,4	95,63	90,41	92,64	94,83
34	Papua	89,6	90,01	89,89	92,56	94,57
Indonesia Air Quality Index		**81,78**	**87,03**	**84,74**	**86,56**	**87,21**

Source: Water, Air and Land Cover Quality Statistics. Ministry of Environmental and Forestry, 2020

Table I. 47: Air Quality Index and National's Target

No.	Year	Air Quality Index	Target
1	2016	81,78	81,78
2	2017	87,03	82
3	2018	84,74	83
4	2019	86,56	84
5	2020	87,21	84,1

Source: Water, Air and Land Cover Quality Statistics. Ministry of Environmental and Forestry, 2020

Table I. 48: Number of Days Based on Air Pollutant Standard Index (2019)

No.	Municipality	Number of Good Days				
		Very Healthy	Healthy	Unhealthy	Very Unhealthy	Hazardous
1	Jambi	219	105	27	5	3
2	Palembang	222	85	30	2	2
3	Palangkaraya	266	34	27	7	19
4	Padang	253	16	0	0	0
5	Pekanbaru	163	85	28	13	5
6	Pontianak	199	49	22	1	1
7	Banjarmasin	233	47	0	0	0
8	Aceh	335	9	4	0	0
9	Batam	190	101	23	0	0
10	Mataram	308	36	0	0	0
11	Makassar	246	11	0	0	0
12	Manado	188	125	0	0	0
13	Jakarta	150	212	3	0	0

Source: Ministry of Environmental and Forestry, 2020

Table I. 49: Average PM2.5 and PM10 Concentrations in 2019

No.	Station (Municipality)	(1)	(2)	(3)	(4)
1	Jambi	45,07	45,84	18,52	19,17
2	Palembang	42,70	45,94	14,95	16,48
3	Palangkaraya	54,00	73,92	14,69	23,36
4	Banjarmasin	22,24	29,15	12,37	18,44
5	Padang	17,27	20,89	13,00	15,60
6	Pekanbaru	48,71	57,14	23,64	33,81
7	Pontianak	32,64	42,30	15,91	20,85
8	GBK Jakarta	37,66	39,31	37,66	39,31
9	Aceh	13,52	15,45	12,43	14,53
10	Batam	22,38	22,71	17,90	19,46
11	Makassar	12,99	14,23	12,99	14,23
12	Manado	15,44	16,82	15,44	16,82
13	Mataram	18,75	20,86	18,75	20,86
	Average	29,49	34,20	17,56	20,99

Source: Ministry of Environmental and Forestry, 2020

Note:
(1) Annual Average PM2.5 Concentration (µgram/m3)
(2) Annual Average PM10 Concentration (µgram/m3)
(3) Annual Average PM2.5 Concentration (µgram/m3) excluding data affected by forest fires
(4) Annual Average PM10 Concentration (µgram/m3) excluding data affected by forest fires

Indicator 3: Mortality rate attributed to household and ambient air pollution

Data is limited to ARI Cases Rate (2018) and Toddlers with Penumonia (2019-2020).

Table I. 50: ARI Cases Rate in Indonesia (All Ages), 2018

No	Provinces	ARI Cases in Indonesia (All Ages)	
		%	Total
1	Aceh	9,40%	4.448
2	North Sumatra	6,80%	10.064
3	West Sumatra	9,50%	5.258
4	Riau	7,10%	4.611
5	Jambi	5,50%	1.952
6	South Sumatra	6,90%	5.843
7	Bengkulu	11,80%	2.373
8	Lampung	7,40%	6.666
9	Bangka Belitung Islands	6,90%	1.004
10	Riau islands	6,50%	1.342
11	Jakarta	8,50%	8.978
12	West Java	11,20%	5.4067
13	Central Java	8,50%	31.039
14	DI Yogyakarta	6,90%	2.531
15	East Java	9,50%	38.632
16	Banten	11,90%	14.166
17	Bali	9,70%	4.188
18	West Nusa Tenggara	11,70%	6.225
19	East Nusa Tenggara	15,40%	8.201
20	West Kalimantan	8,40%	4.548
21	Central Kalimantan	8,90%	2.376
22	South Kalimantan	7,10%	2.892
23	East Kalimantan	8,10%	3.050
24	North Kalimantan	6,80%	477
25	North Sulawesi	6,20%	1.626
26	Central Sulawesi	9,40%	2.807
27	South Sulawesi	8,30%	7.531
28	Southeast Sulawesi	8,10%	2.126
29	Gorontalo	9,50%	1.113
30	West Sulawesi	6,90%	979
31	Maluku	8,50%	1.303
32	North Maluku	5,70%	731
33	West Papua	12,30%	1.395
34	Papua	13,10%	5.638
	Indonesia	8,78%	250.180

Source: Ministry of Health, 2019

Table I. 51: Toddlers with Pneumonia, 2019-2020

No	Provinsi	2019				2020			
		Toddlers with Pneumonia (2019)		Mortality due to Pneumonia (2019)		Toddlers with Pneumonia (2020)		Mortality due to Pneumonia (2020)	
		Total	%	Total	CFR (%)	Total	%	Total	CFR (%)
1	Aceh	3265	15	15	0,46	1956	8,5	19	0,97
2	North Sumatra	6625	15,8	9	0,14	2508	5,9	36	1,44
3	West Sumatra	10206	49,1	2	0,02	4471	22,2	4	0,09
4	Riau	4272	24,2	0	0	2179	11,9	10	0,46
5	Jambi	3525	31,1	2	0,06	1812	15,7	0	0
6	South Sumatra	10682	33,8	3	0,03	5928	18,8	1	0,02
7	Bengkulu	550	12,8	2	0,36	291	6,8	3	0,96
8	Lampung	9539	51,3	5	0,05	7531	39,8	5	0,07
9	Kep. Bangka Belitung	4125	49,7	0	0	2147	25,5	2	0,09
10	Riau islands	2012	36,8	1	0,05	826	14,9	5	0,61
11	DKI Jakarta	46354	104,5	1	0	23516	53	0	0
12	West Java	104866	47,2	24	0,02	70508	31,2	68	0,1
13	Central Java	50263	52,5	0	0	41049	42,9	115	0,28
14	DI Yogyakarta	6912	56,6	15	0,22	2335	22,3	24	1,03
15	East Java	89361	51,1	35	0,04	76929	44,3	28	0,04
16	Banten	35151	72,3	17	0,05	23174	46	21	0,09
17	Bali	5096	58,1	23	0,45	2944	34,6	0	0
18	West Nusa Tenggara	21408	66,5	9	0,04	11735	35,8	2	0,02
19	East Nusa Tenggara	6620	28,8	22	0,33	2764	12,1	3	0,11
20	West Kalimantan	1709	17,2	0	0	1165	11,7	16	1,37
21	Central Kalimantan	1133	9,6	3	0,26	515	4,2	12	2,33
22	South Kalimantan	12276	53,6	1	0,01	6454	28,1	3	0,05
23	East Kalimantan	5140	48,4	2	0,04	2167	20,5	4	0,18
24	North Kalimantan	1387	67,9	0	0	322	16,2	20	6,21
25	North Sulawesi	752	11,8	0	0	274	4,3	6	2,19
26	Central Sulawesi	8430	67,4	10	0,12	5724	37,2	12	0,21
27	South Sulawesi	5108	18,8	15	0,29	3027	9,1	7	0,23
28	Southeast Sulawesi	3648	35,5	22	0,6	1283	12,1	12	0,94
29	Gorontalo	3013	52,2	1	0,03	1514	26,1	29	1,92
30	West Sulawesi	1484	23,1	6	0,4	565	8,6	2	0,35
31	Maluku.	1105	19,3	260	23,53	561	8,5	27	4,81
32	North Maluku	834	30,7	4	0,48	373	13,2	1	0,27
33	West Papua	1304	129,1	42	3,22	1291	45,7	1	0,08
34	Papua	17	0,2	0	0	0	-	0	-
	Indonesia	468.172	52,9	551	0,12	309.838	34,80	498	0,16

Source: Ministry of Health (2019-2020)

1.3.1.3 Develop systems to reduce the impact of natural and human-made disasters

Indicator 52: Does the country have a multi-hazard monitoring and forecasting system?

Data is described on the report.

Indicator 53: The number of cities that have / percentage of urban population that is covered by multi-hazard early warning systems.

Data is limited to public's participation in Natural Disaster Training

Table I. 52: Public Participation in Natural Disaster Training (2014, 2017)

Participate in Natural Disaster Training	Percentage of Households Participating in Natural Disaster Simulation and Rescue Training (Percent)	
	2014	2017
Yes, Attended	1.20	2.39
No, Didn't Attend	98.80	97.61

Source: Statistics Indonesia, 2018

1.3.1.4 Build urban resilience through quality infrastructure and spatial planning

Indicator 51: Percentage of cities with multi-hazard mapping

Data is described on the report.

1.3.2 Sustainable Management and use of natural resources

1.3.2.1 Strengthen the sustainable management of natural resources in urban areas

Indicator 21: Material footprint, material footprint per capita, and material footprint per GDP.

Table I. 53: Materials Footprint per Capita, 2005 – 2017

No.	Year	Materials Footprint Tons per Capita
1	2005	4,6
2	2006	4,7
3	2007	4,9
4	2008	5
5	2009	5,1
6	2010	5,6
7	2011	5,9
8	2012	6,1
9	2013	6,3
10	2014	5,9
11	2015	6
12	2016	6,1
13	2017	6,2

Source: Statistics Indonesia, 2018

Indicator 22: Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP.

Data is not available.

Indicator 27: Green Area per capita

Table I. 54: Green Area per Capita in Selected Cities in Indonesia

No	Province	Municipalities	City Area (km2/A)	Area of Green Space (km2)(B)	Population	Green Space per Capita (m2)	% of Green Space (A/B)
1	Jakarta	West Jakarta	124,40	0,05	2.434.511	0,02	0,04
2	Jakarta	Central Jakarta	48,13	0,79	1.056.896	0,75	1,65
3	Jakarta	East Jakarta	182,70	5,00	2.226.812	2,24	2,73
4	Jakarta	North Jakarta	140,00	4,91	1.778.981	2,76	3,51
5	Maluku	Ambon	45,47	1,67	347.288	4,82	3,68
6	East Kalimantan	Balikpapan	503,30	187,08	688.318	271,79	37,170
7	Aceh	Kinabalu	59,02	7,08	252.899	27,99	11,99
8	West Java	Banjar	132,00	36,62	200.973	182,19	27,74
9	South Kalimantan	Banjarbaru	371,38	52,15	253.442	205,78	14,04
10	South Kalimantan	Banjarmasin	98,46	1,21	657.663	1,85	1,23
11	Riau Islands	Batam	1.595,00	2,12	1.196.396	1,77	0,13
12	East Java	Batu	199,09	0,98	213.046	4,62	0,49
13	East Java	Blitar	32,58	2,29	149.149	15,36	7,03
14	West Java	Bogor	11.850,00	1,84	1.043.070	1,76	0,02
15	East Kalimantan	Bontang	161,88	55,58	178.917	310,63	34,33
16	West Sumatra	Bukittinggi	25,24	0,06	121.028	0,49	0,24
17	West Java	Cimahi	42,73	0,37	568.400	0,65	0,87
18	West Java	Depok	200,29	0,65	2.056.335	0,31	0,32
19	Gorontalo	Gorontalo	64,79	0,02	198.539	0,10	0,03
20	Jambi	Jambi	205,38	1,04	606.200	1,72	0,51
21	East Java	Kediri	63,40	0,16	286.796	0,55	0,25
22	North Sulawesi	Kotamobagu	108,89	18,52	123.722	149,71	17,01
23	East Java	Madiun	33,23	2,56	195.175	13,09	7,69
24	Central Java	Magelang	18,54	1,89	121.526	15,53	10,18
25	South Sulawesi	Makassar	175,77	4,42	1.423.877	3,11	2,52
26	East Java	Malang	110,06	1,55	843.810	1,84	1,41
27	West Nusa Tenggara	Mataram	61,30	0,06	429.651	0,14	0,10
28	North Sumatra	Medan	265,10	1,28	2.435.252	0,53	0,48
29	Lampung	Metro	68,74	0,29	168.676	1,71	0,42
30	East Java	Mojokerto	20,00	0,00	132.434	0,00	0,00
31	West Sumatra	Padang	694,96	0,35	909.040	0,38	0,05
32	West Sumatra	Padang Panjang	23,00	1,13	56.311	20,12	4,93
33	Central Kalimantan	Palangkaraya	2.853,52	91,58	293.457	312,09	3,21
34	South Sumatra	Palembang	400,61	43,57	1.668.848	26,11	10,88

No	Province	Municipalities	City Area (km2/A)	Area of Green Space (km2)(B)	Population	Green Space per Capita (m2)	% of Green Space (A/B)
35	South Sulawesi	Palopo	247,50	2,51	184.681	13,60	1,01
36	South Sulawesi	Kota	99,33	20,58	151.454	135,87	20,72
37	West Sumatra	Payakumbuh	80,43	4,00	139.576	28,65	4,97
38	Riau	Pekanbaru	632,30	2,00	983.356	2,03	0,32
39	North Sumatra	Pematangsiantar	79,97	0,07	268.254	0,26	0,09
40	West Kalimantan	Pontianak	107,80	0,03	658.685	0,04	0,02
41	South Sumatra	Prabumulih	434,46	4,54	193.196	23,49	1,04
42	East Java	Probolinggo	56,67	0,08	239.649	0,32	0,14
43	Aceh	Sabang	122,13	0,01	41.197	0,18	0,01
44	Central Java	Salatiga	56,78	0,45	192.322	2,33	0,79
45	East Kalimantan	Samarinda	718,00	3,62	827.944	4,37	0,50
46	West Sumatra	Sawahlunto	273,45	0,11	65.138	1,69	0,04
47	Central Java	Semarang	373,70	109,35	1.653.524	66,13	29,26
48	Banten	Tanjungbalai	266,74	0,17	692.101	0,25	0,06
49	West Sumatra	Solok	57,64	11,45	73.438	155,88	19,86
50	West Java	Sukabumi	48,20	2,67	346.325	7,72	5,54
51	East Java	Surabaya	334,51	73,58	2.874.314	25,60	22,00
52	Banten	Tangerang	164,55	0,62	1.895.486	0,33	0,38
53	Banten	South Tangerang	147,19	0,27	1.354.350	0,20	0,19
54	Riau Islands	Kota	144,56	4,32	227.663	18,98	2,99
55	North Kalimantan	Tarakan	250,80	98,61	242.786	406,15	39,32
56	North Sumatra	Kota	38,44	12,65	172.838	73,17	32,90
57	Central Java	Tegal	39,68	2,06	273.825	7,53	5,19
58	North Maluku	Ternate	579,54	0,03	205.001	0,13	0,0
59	North Maluku	Tidore	2.875,09	15,34	114.480	134,02	0,53
60	North Sulawesi	Tomohon	34,08	0,29	100.587	2,84	0,84
61	Special Region of Yogyakarta	Yogyakarta	32,50	2,62	373.859	7,00	8,05

Source: Ministry of Environmental and Forestry, 2021; Statistics Indonesia, 2021

Note:

Small City	<100.000
Medium City	100.000-500.000
Big City	500.000-1.000.000
Metropolitan	>1.000.000

1.3.2.2 Promote resource conservation and waste reduction, reuse, and recycling

Indicator 23: Recycling rate, tons of material recycled.

Table I. 55: Recycling Rate, Tons of Materials Recycled in Indonesia, 2020

Province	Municipalities	Annual Waste Recycling (Tons/Year) (D)	Annual Garbage Raw Material (Tons/Year) (E)	Recycling Rate (D+E)/A
DKI Jakarta	West Jakarta	11.340,87		12,77
DKI Jakarta	Central Jakarta	1.514,50	284,34	5,18
DKI Jakarta	South Jakarta			-
DKI Jakarta	East Jakarta	5.923,37	847,53	12,22
DKI Jakarta	North Jakarta	3.074,83		1,61
Maluku	Ambon	45.048,84	14.335,38	15,20
East Kalimantan	Balikpapan	1.823,20	404,79	6,81
Aceh	Banda Aceh	7.286,43	135,42	17,83
Lampung	Bandar Lampung	21.272,02	876,00	4,75
West Java	Banjar	9.876,75	18,25	18,82
South Kalimantan	Banjarbaru	13.618,55	327,60	10,59
South Kalimantan	Banjarmasin	56.013,74	298,53	7,82
East Java	Batu	37.761,34	15.009,66	17,12
North Sulawesi	Bitung	72.110,91	196,92	10,31
East Java	Blitar	181.833,48		21,91
West Java	Bogor	26.067,26		5,33
East Kalimantan	Bontang	33,07		0,09
West Sumatra	Bukittinggi	2.498,29	1.886,18	16,11
West Java	Cimahi	1.921,13	1.574,61	6,35
West Java	Depok	4.088,99	299,30	10,17
Riau	Dubai	55.793,67	5.591,99	24,81
Gorontalo	Gorontalo	1.220,11	73,00	5,74
Jambi	Jambi	13.161,30	-	27,20
East Java	Kediri	2.463,82	193,96	7,60
North Sulawesi	Kotamobagu	3.123,15	110.899,87	14,06
Aceh	Langsa	28.207,40	514,65	16,33
East Java	Madiun	6.506,75	91,25	17,47
Central Java	Magelang	26.403,24	666,13	11,95
South Sulawesi	Makassar	1.017,00		1,99
East Java	Malang	2.766,83		1,77
North Sulawesi	Manado	-		-
North Sumatra	Medan	86,55		0,03
Lampung	Metro	5.815,65		15,45
East Java	Mojokerto	1.171,94		1,19
West Sumatra	Padang	2.372,42	500,05	4,49

Province	Municipalities	Annual Waste Recycling (Tons/Year) (D)	Annual Garbage Raw Material (Tons/Year) (E)	Recycling Rate (D+E)/A
West Sumatra	Padang Panjang	971,32	450,78	5,39
Central Kalimantan	Palangkaraya	1.785,00	138,94	11,48
South Sumatra	Palembang	-	22,96	0,05
South Sulawesi	Palopo	1.277,03	193,45	4,66
Bangka Belitung Islands	Pangkal Pinang	0,12		-
South Sulawesi	Parepare			-
East Java	Pasuruan	65.096,27		10,46
West Sumatra	Payakumbuh	94,43		0,11
Riau	Pekanbaru	506,62	89,06	2,23
North Sumatra	Pematangsiantar	9.589,46	308,92	22,13
West Kalimantan	Pontianak	98,92		0,17
South Sumatra	Prabumulih	34.398,09	2.409,73	9,19
East Java	Probolinggo	3.039,70	126,97	5,82
Aceh	Sabang	7.964,91	141,30	15,10
Central Java	Salatiga	1.387,37		0,77
East Kalimantan	Samarinda	9.616,12		2,64
West Sumatra	Sawahlunto	483,96	237,25	1,86
Central Java	Semarang			-
Banten	Serang	62.078,43	565,75	14,69
North Sumatra	Sibolga	5.723,46		16,60
West Kalimantan	Singkawang	4.154,92	827,99	16,30
West Sumatra	Solok	664,46	3.025,33	1,50
West Java	Sukabumi			-
Jambi	Sungai Penuh	53.519,13	25.721,19	13,87
East Java	Surabaya	5.242,71	9,38	8,03
Banten	South Tangerang	11.420,66		10,70
Riau islands	Tanjung Pinang	11.010,46	231,73	7,98
North Kalimantan	Tarakan	1.434,14		3,47
West Java	Tasikmalaya	1.087,05	292,00	3,04
North Sumatra	Tebing Tinggi	11.009,17	-	4,53
North Maluku	Ternate	365,60	73,00	2,58
North Maluku	Tidore	5.111,56	218,27	14,94
North Sulawesi	Tomohon	971,10	36,50	14,70
DI Yogyakarta	Yogyakarta	1.509,23	17,89	8,25

Source: Ministry of Environmental and Forestry, Republic of Indonesia. 2020.

1.3.2.3 Implement environmentally sound management of water resources and coastal areas

Indicator 54: Existence of an enforced coastal and/or land management plan in the country.

Data of the existence of an enforced coastal and/or land management plan in the country is not available. Yet, the number of water conservation area is available from year 2015-2017 which is hopefully be representative of the coastal management plan in Indonesia.

Table I. 56: Number of Water Conservation Area (Hectares), 2015-2017

No.	Water Conservation	Area (Ha)		
		2015	2016	2017
1	Water Conversion Area	9.107.724	7.941.085	7.265.777
2	Waters Tourism Park	1.541.040	1.541.040	1.541.040
3	Aquatic Sanctuary	445.630	445.630	445.630
4	Water Parks	3.355.354	3.355.353	3.355.353
5	Sea Reserve	154.480	154.480	154.480
6	Marine Wildlife Sanctuary	5.678	5.678	5.678
7	Sea Tourism Park	431.248	431.248	431.248
8	Marine National Park	4.043.541	4.043.541	4.043.541

Source: Susenas, Statistics Indonesia, 2018

1.3.2.4 Adopt a smart-city approach that leverages digitization, clean energy and technologies

Indicator 55: Percentage reduction in annual final energy consumption in homes using smart monitoring systems.

Data is not available.

Indicator 56: Share of street junction with traffic lights connected to traffic management systems

Data regarding of the share of street junction with traffic lights connected to traffic management systems is not available. Yet, there are a number of cities and regencies implementing the Area Traffic Control System (ATCS) into their development programmes.

Table I. 57: Cities/Regencies with Area Traffic Control System (ATCS) Development Program

No.	Year	Cities/Regencies with Area Traffic Control System (ATCS) Development Program	Number of Cities
1	2007	Batam, Tegal	2
2	2008	Bukit Tinggi, Manado, Balikpapan, Pontianak	4
3	2009	Sragen Regency	2
4	2010	Surakarta, Bogor	8
5	2011	Samarinda Regency, Denpasar, Badung Regency, Gianyar Regency, Tabanan Regency, Samarinda, Bandung, Surakarta	6
6	2012	Medan, Bandung, Surakarta, Samarinda, Denpasar, Yogyakarta	6

No.	Year	Cities/Regencies with Area Traffic Control System (ATCS) Development Program	Number of Cities
7	2013	Medan, Bandung, Samarinda, Yogyakarta, Padang, Denpasar, Badung Regency, Gianyar Regency, Tabanan Regency	9
8	2014	Medan, Batam, Padang, Bandar Lampung, Bandung, Pekalongan, Yogyakarta	7
9	2015	Medan, Batam, Padang, Pangkal Pinang, Palembang, Bandung, Yogyakarta, Pekalongan, Kediri, Sidoarjo, Palu, Depok, Purwokerto, Tasikmalaya	14
10	2016	Yogyakarta, Kediri	2
11	2017	-	0
12	2018	Batam, Tegal, Bukit Tinggi, Manado, Balik Papan, Pontianak, Sragen Regency, Surakarta, Bogor, Samarinda, Denpasar, Badung Regency, Gianyar Regency, Tabanan Regency Medan, Bandung, Yogyakarta, Padang, Bandar Lampung, Pekalongan, Pangkal Pinang, Palembang, Kediri, Sidoarjo, Palu, Depok, Purwokerto, Tasikmalaya, Pekanbaru, Tanjung Pinang, Jambi, Mataram, Palangkaraya, Kendiri, Bengkulu, Jayapura, Mamuju, Salatiga, Ungaran Regency, Kupang	41
13	2019	Aceh, Padang, Bukit Tinggi, Pekanbaru, Tanjung Pinang, Jambi Regency, Bengkulu, Salatiga, Semarang Regency, Banyumas, Situbondo, Kupang, Palangka Raya, Kendari, Mamuju, Makassar, Palu, Jayapura	19

Source: Ministry of Transportation, 2020

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2

Effective Implementation

2.1 Building Governance Structure: Establishing a supportive Framework

2.1.1 Decentralization to enable subnational and local governments undertake their assigned responsibilities

Indicator 57: Is supervision of local authorities exercised in accordance with such procedures and in such cases as provided for by the constitution or by law?

Data is described on the report.

Indicator 58: Percentage of the total budget that the local / sub-national government have discretion over to decide on priorities (financial autonomy)

Data is not available.

Indicator 59: Percentage of the local / sub-national government's financial resources generated from endogenous (internal) sources of revenue

Table II. 1: Percentage of Locally-Generated Revenue by Provinces

No.	Provinces	Regional Income	Locally-Generated Revenue	Percentage of Locally-Generated Revenue
1	Aceh	IDR 14.183.394.212.942,00	IDR 2.401.682.455.965,00	17%
2	Sumatera Utara	IDR 13.517.499.451.958,00	IDR 5.991.151.365.658,00	44%
3	Sumatera Barat	IDR 6.580.124.354.738,00	IDR 2.333.922.757.251,00	35%
4	Riau	IDR 9.032.748.802.329,00	IDR 4.045.832.280.228,00	45%
5	Kepulauan Riau	IDR 3.701.942.728.300,00	IDR 1.352.645.560.200,00	37%
6	Jambi	IDR 4.294.675.328.808,00	IDR 1.507.203.796.320,00	35%
7	Bengkulu	IDR 3.062.274.137.387,00	IDR 948.694.012.387,00	31%
8	Sumatera Selatan	IDR 10.205.021.421.649,00	IDR 4.371.615.899.269,00	43%
9	Kepulauan Bangka Belitung	IDR 568.266.259.035,00	IDR 749.455.044.035,00	29%
10	Lampung	IDR 593.705.281.643,00	IDR 3.337.313.053.908,00	44%
11	Dki Jakarta	IDR 72.187.510.759.990,00	Rp51.891.120.970.162,00	72%
12	Jawa Barat	IDR 41.471.996.756.123,00	Rp25.066.632.128.677,00	60%
13	Banten	IDR 11.633.131.940.619,00	IDR 7.246.729.223.619,00	62%
14	Jawa Tengah	IDR 26.840.833.343.000,00	Rp14.975.030.288.000,00	56%
15	D.IYogyakarta	IDR 5.727.769.666.875,00	Rp1.849.837.899.685,00	32%
16	Jawa Timur	IDR 31.210.455.987.784,00	Rp16.277.054.124.784,00	52%
17	Kalimantan Barat	IDR 6.680.492.541.090,00	IDR 2.865.959.496.090,00	43%
18	Kalimantan Tengah	IDR 4.752.781.571.687,00	IDR 1.682.688.187.687,00	35%
19	Kalimantan Selatan	IDR 5.426.165.272.537,00	IDR 3.568.765.858.037,00	66%
20	Kalimantan Timur	IDR 9.590.400.000.000,00	IDR 5.396.942.567.871,00	56%
21	Kalimantan Utara	IDR 2.210.056.627.000,00	IDR 675.442.500.000,00	31%
22	Sulawesi Barat	IDR 2.047.743.141.042,00	IDR 386.506.904.336,00	19%
23	Sulawesi Utara	IDR 4.072.305.545.344,00	IDR 1.413.292.261.344,00	35%
24	Gorontalo	IDR 1.914.589.120.419,00	IDR 405.055.721.419,00	21%

No.	Provinces	Regional Income	Locally-Generated Revenue	Percentage of Locally-Generated Revenue
25	Sulawesi Tengah	IDR 4.146.970.203.091,00	IDR 1.102.852.985.718,00	27%
26	Sulawesi Selatan	IDR 10.780.830.352.338,00	IDR 4.872.694.076.981,00	45%
27	Sulawesi Tenggara	IDR 4.158.361.809.779,00	IDR 1.156.648.858.419,00	28%
28	Bali	IDR 6.035.277.798.137,00	IDR 3.176.436.045.037,00	53%
29	Nusa Tenggara Barat	IDR 5.473.931.855.427,00	IDR 1.954.341.221.233,00	36%
30	Nusa Tenggara Timur	IDR 6.283.641.817.542,00	IDR 2.033.518.433.142,00	32%
31	Maluku	IDR 3.328.147.510.231,00	IDR 533.392.345.865,00	16%
32	Maluku Utara	IDR 2.849.037.035.754,00	IDR 563.920.161.754,00	20%
33	Papua	IDR 14.763.746.028.757,00	IDR 1.765.651.609.757,00	12%
34	Papua Barat	IDR 6.711.780.735.373,00	IDR 412.577.256.373,00	6%
	Total	IDR 365.037.609.398.728,00	IDR 178.312.607.351.211	49%

Source: Ministry of Home Affairs, 2021

2.1.2 Linking urban policies to finance mechanisms and budgets

Indicator 59: Percentage of the local / sub-national government's financial resources generated from endogenous (internal) sources of revenue

Table II. 2: Proportion of Domestic Budget by Domestic Taxes

Indicator	2016	2017	2018	2019	2020
Proportion of domestic budget financed by domestic taxes (%)*	67.02	64.98	67.01	65.18	62.60
Total Spending**	1864.3	2007.4	2213.1	2309.3	2739.1
+ Central Government**	710.3	742.0	757.8	813.0	763.9
+ Transfer to Sub-national Governments**	1154.0	1265.4	1455.3	1496.3	1975.2
Domestic Revenue**	1546.9	1645.7	1928.1	1955.1	1698.6
+ Tax**	1285.0	1343.5	1518.8	1546.1	1404.5
+ Non-Tax**	262.0	311.2	409.3	409.0	294.1

Source: Bappenas, 2021

Table II. 3 Government Revenue and Tax

No.	Year	Tax to GDP	Total Government Revenue as a Proportion of GDP
1	2010	10,54	14,5
2	2011	11,16	15,46
3	2012	11,38	15,53
4	2013	11,29	15,07
5	2014	10,85	14,67
6	2015	10,76	13,08
7	2016	10,36	12,55
8	2017	9,39	12,26
9	2018	10,24	13,09
10	2019	9,76	12,38
11	2020	8,31	10,58

Source: Bappenas, 2021

Table II. 4: Percentage of Locally-Generated Revenue by Provinces, 2020

No.	Provinces	Regional Income	Locally-Generated Revenue	Percentage of Locally-Generated Revenue
1	Aceh	IDR 14.183.394.212.942,00	IDR 2.401.682.455.965,00	17%
2	Sumatera Utara	IDR 13.517.499.451.958,00	IDR 5.991.151.365.658,00	44%
3	Sumatera Barat	IDR 6.580.124.354.738,00	IDR 2.333.922.757.251,00	35%
4	Riau	IDR 9.032.748.802.329,00	IDR 4.045.832.280.228,00	45%
5	Kepulauan Riau	IDR 3.701.942.728.300,00	IDR 1.352.645.560.200,00	37%
6	Jambi	IDR 4.294.675.328.808,00	IDR 1.507.203.796.320,00	35%
7	Bengkulu	IDR 3.062.274.137.387,00	IDR 948.694.012.387,00	31%
8	Sumatera Selatan	IDR 10.205.021.421.649,00	IDR 4.371.615.899.269,00	43%
9	Kepulauan Bangka Belitung	IDR 568.266.259.035,00	IDR 749.455.044.035,00	29%
10	Lampung	IDR 593.705.281.643,00	IDR 3.337.313.053.908,00	44%
11	Dki Jakarta	IDR 72.187.510.759.990,00	Rp51.891.120.970.162,00	72%
12	Jawa Barat	IDR 41.471.996.756.123,00	Rp25.066.632.128.677,00	60%
13	Banten	IDR 11.633.131.940.619,00	IDR 7.246.729.223.619,00	62%
14	Jawa Tengah	IDR 26.840.833.343.000,00	Rp14.975.030.288.000,00	56%
15	D.IYogyakarta	IDR 5.727.769.666.875,00	Rp1.849.837.899.685,00	32%
16	Jawa Timur	IDR 31.210.455.987.784,00	Rp16.277.054.124.784,00	52%
17	Kalimantan Barat	IDR 6.680.492.541.090,00	IDR 2.865.959.496.090,00	43%
18	Kalimantan Tengah	IDR 4.752.781.571.687,00	IDR 1.682.688.187.687,00	35%
19	Kalimantan Selatan	IDR 5.426.165.272.537,00	IDR 3.568.765.858.037,00	66%
20	Kalimantan Timur	IDR 9.590.400.000.000,00	IDR 5.396.942.567.871,00	56%
21	Kalimantan Utara	IDR 2.210.056.627.000,00	IDR 675.442.500.000,00	31%
22	Sulawesi Barat	IDR 2.047.743.141.042,00	IDR 386.506.904.336,00	19%
23	Sulawesi Utara	IDR 4.072.305.545.344,00	IDR 1.413.292.261.344,00	35%
24	Gorontalo	IDR 1.914.589.120.419,00	IDR 405.055.721.419,00	21%
25	Sulawesi Tengah	IDR 4.146.970.203.091,00	IDR 1.102.852.985.718,00	27%
26	Sulawesi Selatan	IDR 10.780.830.352.338,00	IDR 4.872.694.076.981,00	45%
27	Sulawesi Tenggara	IDR 4.158.361.809.779,00	IDR 1.156.648.858.419,00	28%
28	Bali	IDR 6.035.277.798.137,00	IDR 3.176.436.045.037,00	53%
29	Nusa Tenggara Barat	IDR 5.473.931.855.427,00	IDR 1.954.341.221.233,00	36%
30	Nusa Tenggara Timur	IDR 6.283.641.817.542,00	IDR 2.033.518.433.142,00	32%
31	Maluku	IDR 3.328.147.510.231,00	IDR 533.392.345.865,00	16%
32	Maluku Utara	IDR 2.849.037.035.754,00	IDR 563.920.161.754,00	20%
33	Papua	IDR 14.763.746.028.757,00	IDR 1.765.651.609.757,00	12%
34	Papua Barat	IDR 6.711.780.735.373,00	IDR 412.577.256.373,00	6%
	Total	IDR 365.037.609.398.728,00	IDR 178.312.607.351.211	49%

Sumber: Ministry of Home Affairs, 2021

2.1.3 Legal and policy frameworks to enhance the ability of governments to implement urban policies

Indicator 60: Quality of law

Data is not available.

2.1.4 Strengthen the capacity of local and subnational governments to implement local and metropolitan multilevel governance

Indicator 61: Published performance delivery standards at the sub-national level

Data is not available.

2.1.5 Promote participatory, age- and gender-responsive approaches to urban policy and planning

Indicator 16: Proportion of cities with a direct participation structure of civil society engagement in urban planning and management, which are regular and democratic.

Table II. 5: Number of Men and Women Participated in TPS-3R and Sanimas Programs

	Number of Location	Men	Women	Total
TPS-3R				
2019	6	782	289	1,071
2020	139	10,835	2,745	13,580
TOTAL	145	11,617	3,034	14,651
SANIMAS				
2019	41	7,628	3,779	11,407
2020	225	16,581	5,363	21,944
TOTAL	261	24,209	9,142	33,351

Source: Ministry of Public Works and Housings, 2021

2.1.6 Promote women's full participation in all fields and all levels of decision-making

Indicator 24: Proportions of positions (by sex, age, persons with disabilities and population groups) in public institutions (national and local legislatures, public service, and judiciary) compared to national distributions

Table II. 6: Proportion of National and Regional Legislative Seats Held by Women, 2009, 2014 and 2019

Legislative	Year (%)		
	2009	2014	2019
The House of Representatives (DPR)	17,86	17,32	20,52
The Regional Representative Council (DPD)	26,57	25,76	30,88
The Provincial House of Representatives (DPRD Provinsi)	15,50	15,92	17,53
The District House of Representatives (DPRD Kabupaten/Kota)		14,24	15,30

Source: Bappenas, 2021

Table II. 7: Proportion of Women in Managerial Positions by Province, 2020

No.	Provinces	Women Proportion in Managerial Positions
1	Southeast Sulawesi	21,54
2	Papua	22,38
3	Bangka Belitung Islands	23,19
4	Riau Islands	23,63
5	West Kalimantan	24,37
6	Bengkulu	24,67
7	North Kalimantan	26,27
8	South Sulawesi	26,42
9	Maluku	26,47
10	Lampung	26,64
11	North Sumatra	26,92
12	South Kalimantan	29,27
13	Central Kalimantan	29,69
14	North Maluku	29,75
15	West Nusa Tenggara	29,82
16	South Sumatra	30,5
17	East Kalimantan	30,62
18	West Java	31,44
19	West Sulawesi	31,49
20	West Nusa Tenggara	32,45
21	Riau	32,46
22	Aceh	32,61
23	West Papua	33,4
24	Central Java	33,43
25	Banten	33,89
26	Jakarta	34,19
27	Jambi	35,29
28	Bali	36,38
29	Central Sulawesi	37,01
30	West Sumatra	38,48
31	East Java	39,99
32	Special Region of Yogyakarta	40,54
33	North Sulawesi	47,93
34	Gorontalo	50,40

Source: VNR SDGs, 2021

2.2 Planning and Managing Urban Spatial Development

2.2.1 Integrated and balanced territorial development policies

Indicator 20: Does the country have a National Urban Policy or Regional Development Plan that (a) responds to population dynamics, (b) ensures balanced territorial development, and (c) increase in local fiscal space.[1]

Data is described on the report.

Indicator 62: Number of countries, regional governments, and cities in which plans and designs are publicly accessible to residents (on-line) and can be consulted at all times

Data is described on the report.

2.2.2 Integrate housing into urban development plans

Indicator 13: Proportion of urban population living in slums, informal settlements or inadequate housing

Table II. 8: Proportion of Households Living in Slums by Area (%), 2018 – 2020

	2018	2019	2020
Urban	10,24	9,04	8,34
Rural	16,43	14,41	12,19
Urban+Rural	13,04	11,4	10,04

Source: Statistics Indonesia, 2020

Table II. 9: Households Living in Slums by Province in Indonesia, 2018-2020

Provinces	2018	2019	2020
Aceh	11,75	10,61	7,75
Bali	5,43	3,48	3,87
Banten	14,75	12,96	11,89
Bengkulu	10	10,06	7,94
DI Yogyakarta	3,09	2,66	1,54
DKI Jakarta	24,53	23,59	22,07
Gorontalo	13,71	8,66	8,34
Jambi	7,73	6,54	4,35
West Java	16,55	14,09	12,83
Central Java	9,3	7,63	6,01
East Java	10,17	8,29	7,62
West Kalimantan	8,03	8,34	6,03
South Kalimantan	13,25	11,83	9,4
Central Kalimantan	13,21	11	8,08
West Kalimantan	5,82	4,47	4,75
North Kalimantan	5,25	5,01	3,37
Bangka Belitung Islands	18,47	17,76	17,15
Riau Islands	16,28	12,58	10,54
Lampung	11,86	10,29	8,66
Maluku	16,46	13,98	11,59
North Maluku	12,69	9,33	8,98
West Nusa Tenggara	13,75	12,67	10,72

Provinces	2018	2019	2020
East Nusa Tenggara	37,18	22,76	31,18
Papua	44,63	43,29	40,27
West Papua	9,87	10,24	7,99
Riau	5,95	7,11	5,39
West Sulawesi	17,25	13,63	12,77
South Sulawesi	10,74	8,48	7,2
Central Sulawesi	13,38	12,92	11,7
South-east Sulawesi	11,72	9,24	7,45
North Sulawesi	9,65	7,51	5,75
West Sumatera	8,23	8,01	5,81
South Sumatera	12,58	12,24	10,59
North Sumatera	10,46	8,7	7,84
Indonesia	13,04	11,4	10,04

Source: Statistics Indonesia, Susenas 2020

2.2.3 Inclusion of culture as a priority component of urban planning

Indicator 17: Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage, level of government, type of expenditure and type of private funding

Data is limited to number of cultural heritage in Indonesia (units), 2015-2019.

Table II. 10: Number of Cultural Heritage in Indonesia (Units), 2015-2019

No	Year	Number of Cultural Heritage
1	2015	979
2	2016	998
3	2017	2117
4	2018	2319
5	2019	2907

Source: Cultural Heritage Potrait of 2020, The Ministry of Education and Culture

2.2.4 Planned urban extensions and infill, urban renewal and regeneration of urban areas

Indicator 28: Population Density

Table II. 11: Percentage of the Population of Urban Areas in Indonesia, 2010-2035

No.	Year	Population Density
1	2010	49,8
2	2015	53,5
3	2020	56,7
4	2025	60
5	2030	63,4
6	2035	66,6

Source: Statistics Indonesia, 2020

Indicator 29: Land-use mix

Data is described on the report.

Indicator 63: Number and percent of new population "accommodated" in a plan or city extension

Data is not available.

2.2.5 Improved capacity for urban planning and design, and training for urban planners at all levels of government

Indicator 64: Number of urban planners per 100,000 persons

Table II. 12: Number of Planners per 100.000 of Persons in Indonesia, 2016

No.	Country	Number of Planners	Population	GDP per Capita	Rasio of Planners per 100k planners
1	Australia	4.700	22.684.000	67.556	4.826
2	Hong Kong	1.000	715.500	36.796	7.154
3	Indonesia	3.100	246.864.000	3.557	79.634
4	Japan	--	27.561.000	46.720	-
5	Malaysia	1.700	292.340.000	10.432	17.176
6	Singapore	1.000	5.312.000	51.709	5.312
7	Thailand	--	66.785.000	5.480	-

Source: IAP (2016)

2.2.6 Strengthening the role of small and intermediate cities and towns

Indicator 20: Does your country have a National Urban Policy or Regional Development Plan that (a) responds topopulation dynamics, (b) ensures balanced territorial development, and (c) increase in local fiscal space.

Table II. 13: Village Development Index, 2019-2020

No.	Village Development Stages	2019	2020
1	Independent Village	831	1.741
2	Developed Village	6.634	11.912
3	Developing Village	38.463	40.029
4	Underdeveloped Village	20.368	15.394
5	Very Underdeveloped Village	6.652	5.332

Source: MoVDDRT, 2020

2.2.7 Promote sustainable multimodal public transport systems including non-motorized options

Indicator 14: Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities

Data is described on the report.

Indicator 35: Percentage of road length that has dedicated bike lanes (excluding motorways).

Data is not available.

Indicator 36: Percentage of road length that has dedicated sidewalks (excluding motorways).

See part 1.1.1.4.

2.3 Means of Implementation

2.3.1 Mobilization of Financial Resources

2.3.1.1 Develop financing frameworks for implementing the NUA at all levels of government

Indicator 65: Existence of national structure or office or committee for implementing the New Urban Agenda

Data is described on the report.

2.3.1.2 Mobilize endogenous (internal) sources of finance and expand the revenue base of subnational and local governments

Indicator 58: Percentage of the total budget that the local / sub-national government have discretion over to decide on priorities (financial autonomy)

Table II. 14: Percentage of Realization of Balance Fund in Local Budget

Balance Fund	Percentage	Amount (Trillion IDR)
Revenue Sharing Fund (DBH)	13.99%	92.67
General Allocation Fund (DAU)	60.67%	402.32
Special Allocation Fund (DAK)	25.34%	168.03

Source: MoF, 2018

Indicator 59: Percentage of the local / sub-national government's financial resources generated from endogenous (internal) sources of revenue

Table II. 15: Indonesia Local Government Revenue and Expenditure Realization (in Trillion), 2006 – 2016

No	Year	Revenue	Financing Receipt	Expenditure	Financing Expenditure
1	2006	69,37	14,68	64,78	19,27
2	2007	77,93	17,28	75,94	19,28
3	2008	96,69	16,63	88,61	24,72
4	2009	98,9	22,29	101,8	20
5	2010	116,8	16,67	112,1	21,31
6	2011	140	20,5	132,2	28,28
7	2012	186	26,44	179,4	33
8	2013	205,7	31,5	203,7	33,58
9	2014	233,2	28,43	219,3	42,37
10	2015	242,7	34,88	247	30,55
11	2016	279,3	23,44	288,7	14,03

Source: Susenas Statistics Indonesia, 2020

Table II. 16: Proportion of Domestic Budget Financed by Domestic Taxes (%)

Indicator	2016	2017	2018	2019	2020
Proportion of domestic budget financed by domestic taxes (%)*	67.02	64.98	67.01	65.18	62.60
Total Spending**	1864.3	2007.4	2213.1	2309.3	2739.1
+ Central Government**	710.3	742.0	757.8	813.0	763.9
+ Transfer to Sub-national Governments**	1154.0	1265.4	1455.3	1496.3	1975.2
Domestic Revenue**	1546.9	1645.7	1928.1	1955.1	1698.6
+ Tax**	1285.0	1343.5	1518.8	1546.1	1404.5
+ Non-Tax**	262.0	311.2	409.3	409.0	294.1

Source: Bappenas, 2021

Table II. 17: Government Revenue and Tax

No.	Year	Tax to GDP	Total Government Revenue as a Propotion of GDP
1	2010	10,54	14,5
2	2011	11,16	15,46
3	2012	11,38	15,53
4	2013	11,29	15,07
5	2014	10,85	14,67
6	2015	10,76	13,08
7	2016	10,36	12,55
8	2017	9,39	12,26
9	2018	10,24	13,09
10	2019	9,76	12,38
11	2020	8,31	10,58

Source: Bappenas, 2021

2.3.1.3 Promote sound systems of financial transfers from national to subnational and local governments based on needs, priorities and functions

Indicator 66: Stable existence of “transfer formula” in the last 5 years, without major changes, meaning reductions of more than 10%.

Table II. 18: Transfer Allocation Details to Regions and Village Funds

No.	Transfer Allocation Details to Regions and Village Funds	Amount (IDR Trillion)			
		2018	2019	2020	2021
1	Revenue Sharing Fund (DBH)	89,2	106,35	117,58	101,96
2	General Allocation Fund (DAU)	401,5	417,87	427,09	390,29
3	Physical Special Allocation Fund (DAK Fisik)	62,4	69,33	72,25	65,25
4	Non-physical Special Allocation Fund (DAK Non Fisik)	123,5	131,04	130,28	131,18
5	Special Autonomy Fund	21,1	22,18	22,75	21,3
6	Local Incentive Fund (DID)	8,5	10	15	13,5
7	Village Fund	60	70	72	72
	Total	766,2	826,77	856,95	795,48

Source: MoF, 2018-2021

2.3.1.4 Mobilize and establish financial intermediaries (multilateral institutions, regional development banks, subnational and local development funds; pooled financing mechanisms etc.) for urban financing

Indicator 67: Existence of at least one finance or infrastructure fund available for local / sub-national governments.

Data is described on the report.

Indicator 68: Percentage of the local / sub-national government's financial resources generated from financial intermediaries such as multilateral institutions, regional development banks, subnational and local development funds, or pooled financing mechanisms.

Data is described on the report.

2.3.2 Capacity Development

2.3.2.1 Expand opportunities for city-to-city cooperation and fostering exchanges of urban solutions and mutual learning

Indicator 69: Number of cities participating in city-to-city partnership programmes

Data is described on the report.

Indicator 70: Number of public water and sanitation utilities participating in institutional capacity development programmes

Data is not available.

2.3.2.2 Promote the capacity development as a multifaceted approach to formulate, implement, manage, monitor and evaluate urban development policies

Indicator 71: Percentage of cities and subnational governments with staff trained in formulation, implementation, managing, monitoring and evaluation of urban development policies.

Data is not available.

2.3.2.3 Strengthen the capacity of all levels of government to work with vulnerable groups to participate effectively in decision-making about urban and territorial development.

Indicator 16: Proportion of cities with a direct participation structure of civil society engagement in urban planning and management, which are regular and democratic.

Data is limited to musrenbang activities & good practices of *Sistem Pantau dan Kontrol Penataan ruang* (PATROL TARU / Spatial Planning and Control System).

2.3.2.4 Support local government associations as promoters and providers of capacity development

Indicator 72: Size of budget of local government associations

Data is described on the report.

2.3.2.5 Promote capacity development programmes on the use of legal land-based revenue and financing tools

Indicator 73: Number of people who have been trained in the use of land-based revenue and financing tools by UN-Habitat or other institutions

Data is limited to the application of property taxes and the function of properties for commercial and industrial purposes. The number of people who have been trained in the use of land-based revenue and financing tools have not been calculated.

2.3.2.6 Promote capacity development programmes of subnational and local governments in financial planning and management

Indicator 74: Percentage of cities/subnational staff trained in financial planning and management

Data is not available.

2.3.3 Information Technology and Innovation

2.3.3.1 Development of user-friendly, participatory data and digital platforms through e-governance and citizen-centric digital governance tools

Indicator 75: Percentage of cities utilizing e-governance and citizen-centric digital governance tools

Data is limited to innovation of the use of e-governments.

2.3.3.2 Use of digital tools, including geospatial information systems to improve urban and territorial planning, land administration and access to urban services

Indicator 76: Percentage of cities utilizing geospatial information systems

Table II. 19: List of Cities & Regencies That Uses Geospatial Information Systems

Province	Cities/Regencies
Bali	Badung Regency
Banten	Serang
Yogykarta Special Region	Bantul Regency
	Sleman Regency
	Gunungkidul Regency
	Yogyakarta
Jambi	Sungai Penuh
West Java	Sumedang Regency
	Bandung
	Bekasi
	Depok
	Tasikmalaya
Central Java	Banyumas Regency
	Cilacap Regency
	Sukoharjo Regency
	Batang Regency
East Java	Tulungagung Regency

Province	Cities/Regencies
	Banyuwangi Regency
	Lamongan Regency
	Mojokerto Regency
	Sumenep Regency
	Kediri
	Malang
West Kalimantan	Sambas Regency
	Sanggau Regency
	Ketapang Regency
	Sintang Regency
	Landak Regency
Central Kalimantan	Gunung Mas Regency
East Kalimantan	Kutai Timur Regency
	Bontang
Bangka Belitung Islands	Bangka Regency
	Bangka Tengah Regency
Riau Islands	Tanjung Pinang
Maluku	Ambon
Utara Maluku	Halmahera Selatan Regency
West Nusa Tenggara	Sumbawa Barat Regency
	Lombok Utara Regency
East Nusa Tenggara	Alor Regency
	Ende Regency
	Nagekeo Regency
	Sumba Timur Regency
Papua	Merauke Regency
	Jayapura Regency
West Papua	Fakfak Regency
	Teluk Wondama Regency
Riau	Dumai
South Sulawesi	Barru Regency
	Soppeng Regency
	Luwu Regency
	North Luwu Regency
	Pinrang Regency
	Toraja Regency
	Toraja Utara Regency
Central Sulawesi	Poso Regency
	Parigi Moutong Regency
	Banggai Laut Regency
West Sumatera	Sijunjung Regency
	Payakumbuh
South Sumatera	Palembang
North Sumatera	Tapanuli Selatan Regency

Province	Cities/Regencies
	Batu Bara Regency
	Medan
Total	63 Cities/Regions

Source: GISTARU Interaktif

2.3.3.3 Strengthen capacities at all levels of government to effectively monitor the implementation of urban development policies

Indicator 77: Number of countries that have participated in capacity building workshops on New Urban Agenda indicators

Data is limited to the number of provinces, municipalities or regencies that implement local government innovation 2015-2019.

Table II. 20: The Number of Provinces, Municipalities or Regencies That Implement Local Government Innovation 2015-2019

Indicator	Year									
	2015		2016		2017		2018		2019	
	P	M/R	P	M/R	P	M/R	P	M/R	P	M/R
Number of local governments facilitated by MoHA in implementing regional innovation	16	26	17	27	21	52	30	195	34	227
Number of LGs implementing regional innovation	12	-	3	-	8	-	12	-	12	-

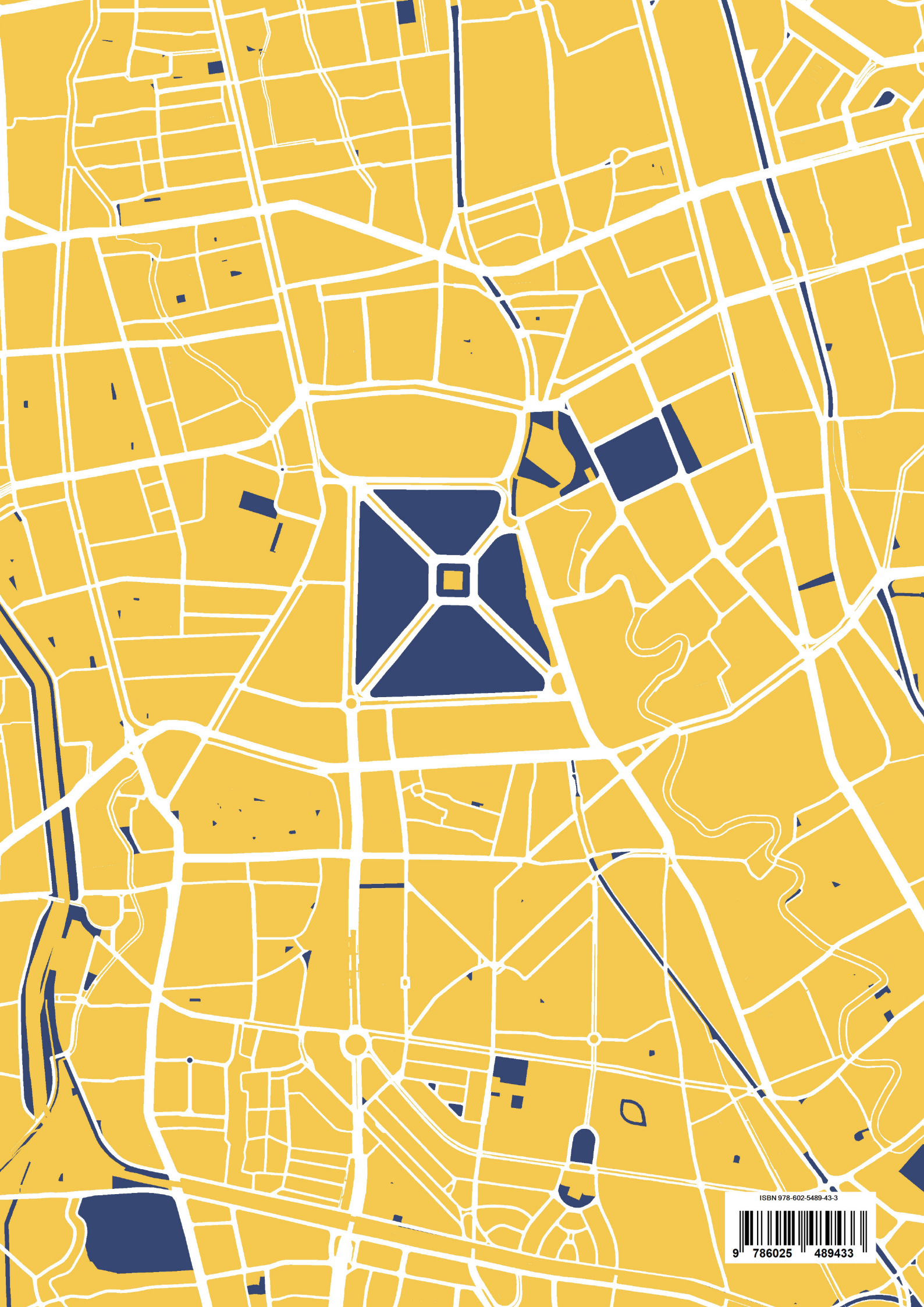
Note: P = Provinces, M = Municipalities, R = Regencies

Source: MoHA Research and Development Agency Performance Report 2019

2.3.3.4 Support all levels of governments in the collection, disaggregation, and analysis of data

Indicator 77: Number of countries that have participated in capacity building workshops on New Urban Agenda indicators

Data is limited to description of the National One Data program.



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