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CITIES  
Accelerating SDG Implementation  
by Urbanice Malaysia

# Alor Gajah

## SDG Voluntary Local Review 2022

Implementing the 2030 Agenda  
in the City of **Alor Gajah**



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## ALOR GAJAH VOLUNTARY LOCAL REVIEW 2022

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This Voluntary Local Review is part of the Malaysia SDG Cities Roadmap process. This report is prepared by Urbanice Malaysia in collaboration with and for Alor Gajah City Council, with the involvement of various technical departments, civil society organizations, private sector and the academia. The involvement of the stakeholders includes various consultation sessions, validations and verification of data, and of inputs and information.

### Disclaimer

The publication of results are based on inputs and data obtained via the many engagement and consultation sessions as well provision of information by the City Council and all its related publications. Urbanice maintains a position of neutrality at all times and any conclusions reached in this publication are those of the authors and not attributed to directions, functions or to Urbanice itself.

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# Frontrunning the Sustainable Agenda

## Preface

**The 17 Sustainable Development Goals (SDGs) and 169 targets of the 2030 Agenda aim to address social, economic, and environmental challenges in order to create sustainable, diverse, and inclusive societies. These goals must be achieved at the global, national, and local levels. “Localisation” refers to how the SDGs can guide local development policies and how local and regional governments can contribute to achieving the SDGs through grassroots actions. City mayors, community leaders, and other stakeholders play a crucial role in city planning to improve the lives of people living and working in cities. The SDGs offer opportunities for cities to address issues like poverty, violence, social inequality, environmental destruction, climate change, and food security. They also provide a framework for connecting different policy areas, enabling cities to develop and implement new complementary policies and measures.**



Globally, Voluntary Local Reviews (VLRs) have become the primary tool for local and regional governments to report on their progress towards achieving the Sustainable Development Goals (SDGs). However, VLRs have a much broader potential beyond their reporting function. They are a powerful instrument for localizing the SDGs, supporting national development frameworks, and driving innovation within cities to advance progress on their specific local priorities.

The formulation of VLRs can be a game changer, not only for assessing progress but also for promoting the localization of the SDGs. They provide an opportunity for cities to reevaluate their planning processes and actively engage local communities in understanding their needs. This involvement is essential for meaningful participation in recovery strategies and long-term development efforts.



In Malaysia, support for VLRs is incorporated within Malaysia SDGs Cities, a collaborative initiative led by Urbanice Malaysia and the Ministry of Local Government Development. This initiative has been working for many years to provide cities with an overall strategy and guiding frameworks for implementing the SDGs within their territories. Currently, Alor Gajah is actively participating in the VLR process and has made significant progress in formulating its VLR report.

Alor Gajah's VLR is developed through thorough data analysis using a set of indicators tailored to their local context, which are derived from both national and global indicators for each SDG. The city has also implemented participatory processes involving key members from city councils,

community leaders, and local stakeholders in the development of the VLR. This inclusive approach is particularly important as it raises awareness about sustainability and the SDGs, brings communities and minorities closer to decision-making processes, identifies key local issues directly raised by the local communities, and fosters shared responsibility in achieving the sustainable agenda.

Alor Gajah's role is critical in the implementation of the 2030 Agenda, as much of the necessary action will take place at the local level. The Malaysia SDG Cities initiative encourages all Malaysian cities to create their own sustainable development roadmap and action plans that cater to their specific local needs and challenges.



## Foreword by the Mayor of Alor Gajah

I am delighted to present to you our first Voluntary Local Review, documenting our journey in implementing the Sustainable Development Goals (SDGs) within the Alor Gajah community. This report serves as a testament to our progress and unwavering commitment towards achieving a sustainable and inclusive future for all.

Throughout this journey, we have prioritized seven key SDGs that align with the specific needs and aspirations of our community. These SDGs encompass a wide range of areas, including quality education, clean energy, sustainable cities and communities, responsible consumption and production, climate action, life on land, and partnerships for the goals.

I would like to extend my deepest gratitude to URBANiCE Malaysia for their exceptional support and facilitation throughout this entire process. Their expertise and collaborative efforts have been invaluable in helping us navigate the complexities of the SDGs and drive meaningful change within our municipality.

This report provides a comprehensive overview of our achievements, challenges, and future aspirations. It highlights the progress we have made in improving education accessibility, promoting renewable energy, enhancing urban planning and infrastructure, adopting sustainable consumption practices, mitigating climate change impacts, preserving our natural resources, and fostering meaningful partnerships.



However, our work is far from complete. We recognize that sustainable development requires continuous effort and collective action. As we move forward, we remain steadfast in our commitment to addressing the remaining challenges and unlocking new opportunities for the betterment of our community.

I urge all residents, businesses, and organizations to embrace the SDGs as a framework for guiding our actions and decisions. Together, we can contribute to a more sustainable, equitable, and resilient Alor Gajah. Let us seize this opportunity to create lasting positive change and leave a legacy that future generations can be proud of.

Thank you once again to URBANiCE Malaysia for their unwavering support, and to all our dedicated partners and stakeholders for their invaluable contributions. I encourage everyone to delve into this report, reflect on our progress, and join us in shaping a brighter future for Alor Gajah.

**Tuan TPr. Saifuddin bin Abdul Karim**  
*Chairman of Alor Gajah Municipal Council*





## INTRODUCTION

**Alor Gajah Mayor emphasizes the importance of approaching sustainable in an integrated manner and empowering the communities.**

Photo: Pengkalan Balak







## 1.1 SUMMARY HIGHLIGHTS

This report signifies Alor Gajah's first Voluntary Local Review (Review), conducted by the local council together with URBANICE Malaysia, to evaluate the municipality's progress towards the United Nations Sustainable Development Goals. It provides an opportunity for all residents of Alor Gajah to assess the current situation, examine actions, and gauge their effectiveness in working towards a better future for every individual in the community.

Alor Gajah Municipal Council is deeply committed to utilizing the Goals as a guiding framework to ensure that the initiatives contribute to comprehensive and sustainable development. MPAG acknowledges the importance of collaborating with various stakeholders to address the challenges the city collectively faces, ensuring that no one is left behind.

The data and insights presented in this Review will inform the council's decision-making process during the annual planning and budgeting, guiding MPAG to prioritize efforts effectively. MPAG will also regularly monitor the progress through an annual performance scorecard and make necessary adjustments to our work program to continually improve our performance over time.

### The 17 Sustainable Development Goals





## Overview by Goal



- + The state government and other government agencies in Alor Gajah have implemented comprehensive assistance programs to combat poverty and uplift the economically disadvantaged population, ensuring they receive the necessary support and resources.

- The number of Head of Households registered with eKasih in Alor Gajah has significantly increased by 1685.9% as a result of the COVID-19 pandemic. This surge in registrations indicates a higher demand for social assistance and welfare support, highlighting the economic hardships faced by households in Alor Gajah due to the pandemic's impact.

- + Despite a decrease in crop production at the state level, Alor Gajah has experienced an increase in the production of main vegetables, rising from 3,182.9 metric tonnes in 2019 to 3,472.2 metric tonnes in 2022. This positive trend can be attributed to the initiatives and growing awareness among local communities regarding community farming practices.

- High obesity rate among adults (Second highest NCD in Malaysia) due to unhealthy lifestyle and eating habits.

- + Due to the availability of accessible health facilities, the Average Life Expectancy Rate in Alor Gajah has shown an increase. For males, it has risen from 71 to 77 years old, while for females, it has remained steady at 77 years old.

- In Alor Gajah, two leading causes of death are cerebrovascular diseases and transport accidents. This can be attributed, in part, to some residents lacking knowledge about adopting healthy lifestyles and consuming nutritious foods.

- + Significant improvements were observed in Alor Gajah, with an increased percentage of schools equipped with adaptive facilities for disabled students (22.7% in 2021), higher proficiency in reading among UPSR students (98.5% for females and 96% for males), improved reading proficiency among students in lower secondary education (93% for females and 81.9% for males), and an increased percentage of adults with the ability to write a computer program using specialized programming language (15% in urban areas and 10.5% in rural areas).

- There is a prevailing trend, both at the state and countrywide level, where students are leaving schools and universities to assist their families in maintaining their livelihood. Furthermore, it has been reported anecdotally during engagements that after two years of remote learning (PDPR), some students have lost interest in continuing their education, although there is no available data to support this claim.



## 10 REDUCED INEQUALITIES



**+** Efforts have been made to enhance access to quality education, healthcare, and basic services for all residents of Alor Gajah, irrespective of their socioeconomic backgrounds. Additionally, programs promoting economic opportunities and skills development have been implemented such as community markets and business areas to empower marginalized communities and reduce inequalities in income and wealth distribution.

- The Gini coefficient for Alor Gajah has seen an increase, rising from 0.334 in 2016 to 0.356 in 2022. This indicates a slight increase in income inequality within the region during that period.
- In certain instances, disparities may exist in terms of the accessibility and quality of public transportation, healthcare facilities, and educational institutions across various areas of Alor Gajah. These discrepancies can result in unequal opportunities and impede social mobility, thereby perpetuating inequality, although these cases are relatively limited in scope.

## 11 SUSTAINABLE CITIES AND COMMUNITIES



**+** Positive progress has been made in the affordability of housing in the district of Alor Gajah. In 2021, the total number of affordable housing units reached 11,411, indicating an increase of 1,379 units compared to the count in 2010, which stood at 10,032 units. This represents a growth rate of 13.75% over a period of nearly 10 years.

**-** Compared to the overall population of Melaka, private car ownership and usage in Alor Gajah, as a district in Melaka, are significantly high. However, the existing bus route network has not been able to adequately cater to the transportation needs of certain large communities. Additionally, Alor Gajah faces a shortage of public open spaces, with a ratio of only 1.74 hectares per 1,000 inhabitants, which falls below the recommended guidelines and indicators (2 hectares per 1,000 people) for Open

## 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



**+** Although the amount of recycled waste in Alor Gajah has increased from 60.51 tonnes in 2017 to 96 tonnes in 2020, it is important to note that this increase does not necessarily reflect an improved recycling rate. The rise in recycled waste can be attributed to both improvements in recycling efforts and an overall increase in the quantity of waste generated during this period.

**-** The amount of waste produced in Alor Gajah has been consistently rising each year between 2016 and 2020. Notably, there was a significant increase of nearly 80% in 2020 compared to the previous year, 2019.

## 13 CLIMATE ACTION



**+** Measures include the establishment of flood detention ponds, installation of flood warning sirens, deployment of rainfall monitoring stations, and the establishment of water level measurement stations. These initiatives aim to mitigate the impact of floods and improve preparedness in the face of such environmental challenges.

**-** Floods are the most frequent natural disasters in Alor Gajah. According to the Annual Flood Report of Melaka State from 2016 to 2019, the number of flood locations varied each year: one (1) in 2016, twenty-two (22) in 2017, seven (7) in 2018, and thirty-four (34) in 2019. The depth of the floods ranged from 0.15 meters to 1 meter. Thirteen (13) rivers and two (2) drains were identified as the sources of these floods during the 2016-2019 period.



**5** GENDER EQUALITY



- +** Women-led programs at the community level have been initiated, focusing on various areas such as education, vocational training, and entrepreneurship. These programs aim to enhance women's access to quality education and skill development opportunities, improving their economic prospects and enabling active participation in leadership roles.

**6** CLEAN WATER AND SANITATION



- +** Alor Gajah achieves full coverage of piped water supply to all residents, while maintaining a non-revenue water rate of 26.9%, which is below the national average.

**7** AFFORDABLE AND CLEAN ENERGY



- +** Alor Gajah enjoys complete electricity coverage, providing access to electricity for its entire population of 215,100, with an electricity usage of 111.43 MVA

**8** DECENT WORK AND ECONOMIC GROWTH



- +** The State's GDP Per Capita Income witnessed a significant rise, reaching RM42,716. Moreover, the Alor Gajah labour force expanded by 8.84% to reach 100,900 individuals, while employment grew by 7.74% to reach 98.1. Furthermore, the total investment in manufacturing experienced a remarkable surge, reaching RM433,340 Million.

**9** INDUSTRY, INNOVATION AND INFRASTRUCTURE



- +** In 2022, the telecommunication network in Alor Gajah underwent an upgrade to 4G, resulting in a coverage of 97.66%, a significant improvement from the previous 2G network. Furthermore, the industrial and manufacturing sector in Alor Gajah experienced expansion, with the industrial land area increasing from 561.13 hectares in 2015 to 915.63 hectares in 2020, accounting for approximately 1.44% of the total land area in Alor Gajah.

Gender knowledge and awareness within the community of Alor Gajah requires further improvement, as the concept is relatively unfamiliar and has not yet been widely implemented.

Since 2011, several rivers including Sg Melaka, Sg Rembia, Sg Linggi, and Sg Durian Tinggal have consistently exhibited a low water quality index below 80 (Moderately Polluted).

There is a significant potential for the expansion of renewable energy uptake in Alor Gajah, as the current capacity is relatively low at 6.5929 MW (Total of Current Feed-In Tariff, 2021).

The COVID-19 pandemic caused challenges for businesses, leading to temporary closures and reduced operations. This resulted in a rise in the district's unemployment rate to 2.8% in 2020.

During the stakeholders' engagement, it was also noted that the existing road network around Kuala Linggi International Port area is still unsatisfactory. Therefore, there is a pressing need to improve the road connectivity in that vicinity to address the current challenges. Additionally, a well-planned road network is crucial to ensure seamless and extensive logistics connectivity to industrial centers, urban centers, and major national highways.

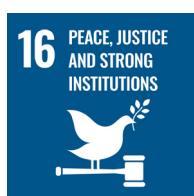
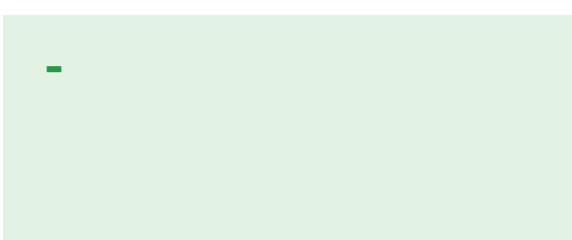


- +** The establishment of marine protected areas and the promotion of sustainable fishing practices, leading to an increase in the total amount of fish landing to 557.63 metric tons in 2022.

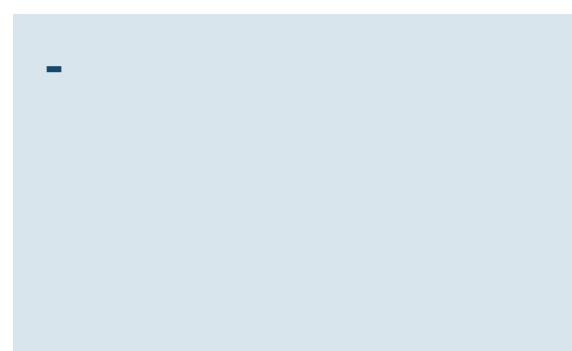
- The habitat of marine creatures, such as turtles, has been affected by human activities. Land reclamation and certain tourist-related activities have led to a decrease in the number of turtle hatchings in 2019. Additionally, direct waste discharged into the sea from tourism-related sources can harm marine ecosystems



- +** A significant portion (43.2%) of the forest area in MPAG has been designated as Permanent Forest Reserve (HSK), managed by the Department of Forestry, Melaka State, ensuring its protection as a no-logging zone.



- +** The crime index in Alor Gajah has witnessed a notable decline of 22.3% between 2019 and 2021, which can be attributed to the presence of a District Police Headquarters responsible for overseeing the operations of 12 police stations and 7 police posts within the MPAG administrative area. The MPAG area benefits from the services of 512 security personnel dedicated to maintaining security and safety.



- +** The partnership for Sustainable Development Goals (SDGs) in Alor Gajah is gaining momentum, as numerous local and international partners are committed to supporting projects and programs. This growing collaboration holds a promising future for Alor Gajah in its journey towards sustainability.



For the initial Voluntary Local Review of Alor Gajah, 7 SDGs have been prioritized. This selection has been supported by 4 core processes, including engaging with city stakeholders, aligning policies with SDGs, integrating SDGs into the roles of internal departments within MPAG, and implementing relevant projects. These 7 SDGs will be the primary focus, and in the subsequent Voluntary Local Review, MPAG aims to provide additional reports on a wider range of SDGs and their respective progress.

- |        |  |
|--------|--|
| SDG 7  | : AFFORDABLE AND CLEAN ENERGY            |
| SDG 8  | : DECENT ECONOMIC GROWTH                 |
| SDG11  | : SUSTAINABLE CITIES AND COMMUNITIES     |
| SDG 12 | : RESPONSIBLE CONSUMPTION AND PRODUCTION |
| SDG 13 | : CLIMATE ACTION                         |
| SDG 15 | : LIFE ON LAND                           |
| SDG16  | : PEACE, JUSTICE AND STRONG INSTITUTIONS |



## 1.2 The 2030 Agenda and Malaysia SDG Cities

The 2030 Agenda, which includes the Global Sustainable Development Goals (SDGs), was adopted by the United Nations General Assembly in 2015. The agenda is a universal reference framework for all UN member states, regardless of location or economic status. The SDGs consist of 17 primary goals and 169 targets that aim to address environmental, social, and economic issues such as reducing socioeconomic inequalities, mitigating climate change, and supporting quality education and decent work. However, the UN Global Sustainable Development Report (2019) highlights that urgent action is required to achieve these goals by 2030. As a result, the United Nations General Assembly has declared the present decade (2020-2030) as the Decade of Action.

The 2030 Agenda primarily targets nation-states, with the exception of SDG 11, which focuses on Sustainable Cities and Communities at the subnational level. The indicators and targets are based on country-level metrics, and national governments are expected to report regularly on the progress of their implementation through Voluntary National Reviews (VNRs). These VNRs are presented every year at the UN High-Level Political Forum on Sustainable Development (UN HLPF), which serves as the primary platform for the follow-up and review of the 2030 Agenda. Nevertheless, experts and scholars widely agree that the participation of subnational levels is crucial to achieving the SDGs.

The successful achievement of the SDGs heavily depends on the actions taken at the local implementation level. As all SDGs have targets directly related to the responsibilities of local governments, the 2030 Agenda highlights the crucial role of municipal authorities (UN, 2015, paragraph 45). Local governments are responsible for customising the global goals



and targets to their specific local context (SDG localization) and making their unique contribution to achieving the SDGs.

The Malaysia SDG Cities, an initiative was introduced in 2020, aimed at promoting sustainable urban development and Malaysia and supporting the local government's efforts to achieve the United Nations Sustainable Development Goals (SDGs). It seeks to support local governments and stakeholders in implementing the SDGs at the local level and building partnerships for sustainable development. The Malaysia SDG Cities city now has grown into a network of SDG cities with common goals and targets.

### Malaysia SDG Cities

Urbanice Malaysia has introduced a framework aimed at promoting a bottom-up approach to developing local action plans that can accelerate the achievement of the 17 Sustainable Development Goals (SDGs) and 169 associated targets of the 2030 Sustainable Agenda in Malaysia. Given the importance of localizing global goals in cities and urban areas, particularly in an urban nation such as Malaysia, the Malaysia SDG Cities initiative seeks to ensure that national and state policies are aligned with the SDGs through vertical integration, thereby realizing the aspirations of the SDGs and ensuring effective implementation at the local level.

The City Sustainable Development Goals Framework, developed by Urbanice Malaysia, is a distinctive framework that provides a lens for understanding the dimensions of the city system and SDGs that contribute to these dimensions. By examining these dimensions, Alor Gajah can evaluate the extent of its sustainability pathways, identify critical areas of weakness, and develop programs and actions to enhance the city's sustainability.





# 1.3 Alor Gajah City Profile / Challenges

## Background

Alor Gajah is a town and district located in the state of Malacca, Malaysia. The district covers an area of 660 square kilometers and has a population of around 215,100 people as of 2020 with a growth rate of 2.18 percent (2010 -2020). Alor Gajah is located about 24 kilometers north-west of Malacca City, the state capital. The district is surrounded by other districts of Malacca, as well as the state of Negeri Sembilan to the north.

## History

Alor Gajah has a rich history and cultural heritage. The town was a center of the Malay Sultanate of Malacca, which was a major regional power in the 15th century. The district is home to several historical sites, including the Alor Gajah Fort, which was built by the Portuguese in the early 16th century. According to historical accounts, the origin of the name "Alor Gajah" is attributed to a group of wild elephants, supposedly led by a white elephant, that used to roam in herds along the river. This event led the local inhabitants to name the town as Alor Gajah, and the name has remained to this day.

Additionally, there is another version of the story suggesting that the town's name derived from the Dutch word "Alligeah," which means "loyalty" or "allegiance" in English. This version relates to an incident where a Dutch soldier was killed during a battle with a local hero in the Alor Gajah forest. It is said that the soldier's horse and dog remained faithfully by his side for several days until they passed away. To commemorate this loyalty, the remains of the horse and dog were buried alongside the soldier's grave. As a tribute to the animals' loyalty to their master, the place came to be known as "Alligeah," which eventually transformed into Alor Gajah over time.

Total Area of MPAG

**66,000.00 hectare (660 km<sup>2</sup>)**

State

**Malacca**

Alor Gajah Total Population 2020

**215,100**

Population Density

**3.26 person/hectare**

In terms of its economy, Alor Gajah is mainly driven by agriculture, particularly oil palm and rubber plantations. The district is also home to several manufacturing industries, including electronics and automotive manufacturing. Tourism is also an important industry in the district, with several attractions such as the A'Famosa Resort, a popular tourist destination.

In recent years, Alor Gajah has been focusing on developing sustainable tourism, as well as promoting entrepreneurship and innovation. The district has implemented several initiatives to promote sustainable tourism, including developing eco-tourism attractions and promoting community-based tourism. The local government has also established several programs to encourage entrepreneurship and innovation, such as providing training and support for small and medium-sized enterprises (SMEs). Alor Gajah is a vibrant and growing district with a rich history and cultural heritage, as well as a diverse and expanding economy. The district is committed to promoting sustainable development and innovation, and is well-positioned to continue its



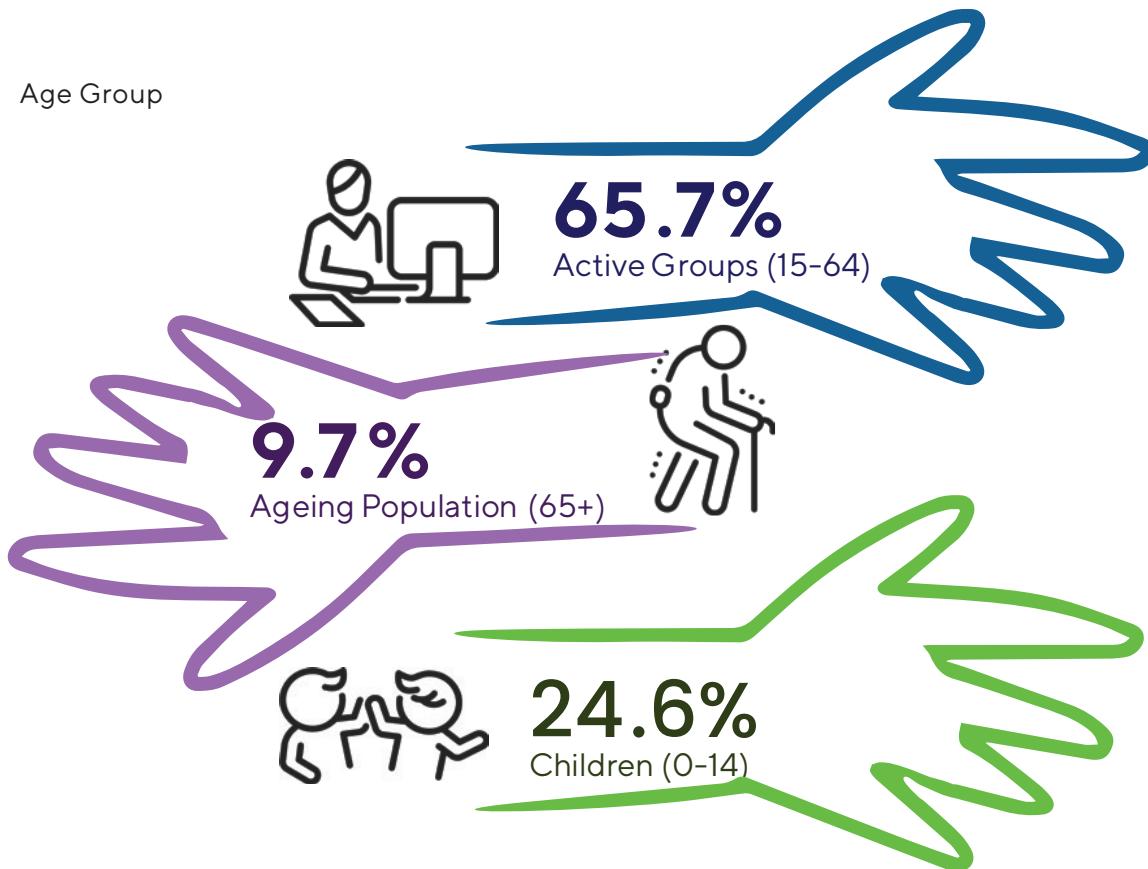
## People

In 2020, the population of Alor Gajah District was 215,100, which increased from 183,300 in 2010, reflecting an annual growth rate of 1.62%. This growth rate was slightly higher than the overall growth rate of Melaka state, which stood at 1.55% during the same period. The population of Alor Gajah District accounted for 22.4% of the total population of Melaka state in 2020.

### Gender Distribution

The population in Alor Gajah is almost evenly distributed by gender, with males accounting for 50.7% and females accounting for 49.3%. This indicates a relatively balanced gender ratio within the district.

### Age Group





## Economy

The current economic drivers in the district of Alor Gajah consist of the industrial, maritime, and tourism sectors. The industrial sector is led by the automotive industry in Pegoh, the production of solar and electric energy in Rembia and Telok Gong, as well as other industrial activities in Alor Gajah, Masjid Tanah, Taboh Naning, and Pulau Sebang. The tourism sector also contributes significantly to the district's economic development, with Simpang Ampat and Pengkalan Balak being the main tourist areas. Another contributor to the district's economy is the Kuala Linggi International Port, which serves as a floating transshipment port. These sectors will continue to drive the district's economic development in the future, alongside the agricultural sector, as recommended in the Melaka State Structure Plan 2035. An emphasis should be placed on the education sector in the future, as it also makes a substantial contribution to the district's current economic development.

Additionally, the economy of Alor Gajah relies on agriculture, particularly the cultivation of oil palm and rubber, as well as fishing and small-scale manufacturing. The district is home to various industrial parks, such as the Alor Gajah Industrial Estate and the Cheng Industrial Estate, which serve as hubs for small and medium enterprises (SMEs) in the manufacturing sector.

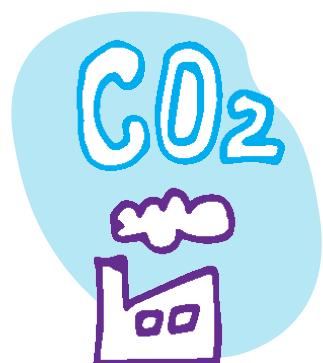
Furthermore, tourism plays a significant role in the economy of Alor Gajah, with notable attractions such as the A'Famosa Resort, a theme park and resort, and the Alor Gajah Square, a popular destination for shopping and dining. In recent years, efforts have been made to develop the district's tourism potential by promoting its cultural and historical heritage, including attractions such as the Malacca Sultanate Palace Museum and the Bukit China Chinese cemetery.

## Urban Environment

Alor Gajah's urban environment is characterized by a mix of urban and rural landscapes, with several traditional Malay kampungs (villages) located within the city limits. The city's development has been driven by agriculture, tourism, and industrialization. The city is surrounded by vast agricultural land, which includes rubber and oil palm plantations, as well as paddy fields.

While the city has seen significant development and modernization in recent years, there are also areas where the urban environment could be improved. For example, some areas lack proper waste management and sanitation facilities, which can lead to environmental and health problems. The city also faces issues with flooding, particularly in low-lying areas, which can damage infrastructure and property.

In recent years, the city has taken steps to improve its urban environment. For example, the local government has implemented programs to promote recycling and waste reduction, and has worked to improve drainage systems to mitigate flooding. The city has also invested in upgrading infrastructure and public spaces, such as parks and public transportation.





## Governance and Urban Finance

Alor Gajah is governed by the Alor Gajah City Council (Majlis Perbandaran Alor Gajah or MPAG) which is responsible for providing basic amenities and services to the local residents such as waste management, maintenance of public infrastructure, and environmental preservation. The MPAG is led by a President who is appointed by the State Government, and council members who are elected by the people.

The MPAG operates under the jurisdiction of the Melaka State Government, which provides funding and guidance for the council's activities. The State Government also has the authority to set policies and regulations that affect the council's operations.

The MPAG's activities and decision-making processes are guided by the Local Government Act 1976 and the Local Government Rules 1996. These laws stipulate the roles and responsibilities of the council and its members, the procedures for meetings and decision-making, and the financial management of the council's resources.

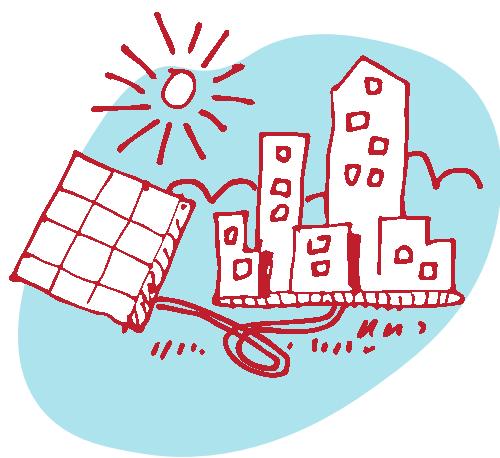
In addition to the MPAG, there are also various government agencies and departments that operate within the district to provide services and support for the local community. These include the police department, fire department, health department, and education department, among others.

MPAG implements various financial mechanisms to fund its development projects and programs. One of the main sources of revenue for the local authority is through local taxes and fees such as assessment tax, licence fees, and permit fees. Additionally, MPAG also receives funding from the state and federal government for specific programs

and projects, such as the implementation of the Sustainable Development Goals (SDGs) and disaster relief efforts.

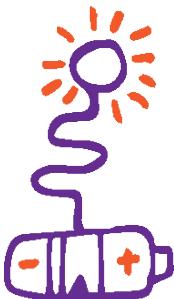
To further support its financial sustainability, MPAG also explores alternative sources of funding, such as public-private partnerships (PPP), community development programs, and grants. For example, MPAG collaborated with private companies to finance specific infrastructure projects or implement joint initiatives for the benefit of the community. Grants may also be sought from international organisations, non-governmental organisations (NGOs), and other sources to support specific development programs or projects.

In terms of financial management, MPAG follows established financial and accounting procedures to ensure transparency and accountability in its financial transactions. The local authority is also audited regularly to ensure compliance with financial regulations and to identify areas for improvement. By adopting sound financial management practices, MPAG aims to ensure the effective and efficient use of resources to benefit the local community.





**ALOR GAJAH**  
SDG Voluntary Local Review



## Vision

**Alor Gajah as a Sustainable and Liveable City by 2035**



## Mission

**Providing Efficient Governance, Quality Municipal Services and Balanced Development for the Well-being of the Community in Alor Gajah**



## Slogan

**Alor Gajah - Prosperous, Advanced and Dynamic**



Alor Gajah envisions itself as a Sustainable and Liveable City by 2035, with a high-level aspiration to create an environment that fosters the well-being and quality of life for its residents. This vision is driven by a deep commitment to sustainable development, ensuring that economic growth is balanced with social progress and environmental conservation.

As a sustainable and liveable city, Alor Gajah aims to create a harmonious and inclusive community where people can thrive and enjoy a high quality of life. The city strives to provide equitable access to essential services, such as healthcare, education, and housing, ensuring that all residents, regardless of their backgrounds or circumstances, have equal opportunities for growth and development.

Environmental sustainability is a key pillar of Alor Gajah's vision. The city aims to protect and preserve its natural resources, promote clean and renewable energy sources, and implement sustainable waste management practices. By doing so, Alor Gajah seeks to mitigate the impact of climate change, reduce pollution, and create a healthier and greener living environment for its residents.



## 1.4 Sustainability Journey

Alor Gajah, a district in Malaysia, has embarked on a remarkable sustainability journey that encompasses both long-term vision and concrete action. This journey began with the development of a comprehensive local plan that laid the foundation for sustainable growth and environmental stewardship. Subsequently, a range of projects and initiatives were implemented to promote sustainability in various aspects of the district's development.

The first crucial step in Alor Gajah's sustainability journey was the formulation of Alor Gajah Draft Local Plan 2035 that incorporated sustainable development goals. The plan aimed to strike a balance between economic progress, social well-being, and environmental conservation. It involved extensive consultations with stakeholders, including residents, local businesses, and environmental experts, to ensure a holistic and inclusive approach.



### 16 KOMPONEN SDGs DALAM RTMPAG 2035 (PENGANTIAN)

**6**  
SDGs

TERAS 1 - Pengurusan Alam Sekitar Berdaya Tahan



**13**  
SDGs

TERAS 2 - Pembangunan Ekonomi Galakan Perkasaan Komuniti



**9**  
SDGs

TERAS 3 - Persekutuan Fizikal Berdaya Huni Komuniti Sejahtera





To ensure the development of the Alor Gajah district aligns with the state-level planning, reference is made to the Melaka State Structure Plan 2035, particularly in achieving the City State status. In this regard, the preparation of the Local Plan takes into account the framework of the Alor Gajah District Local Plan 2035 (Replacement), which also considers the translation of Sustainable Development Goals (SDGs), the Malaysian Smart City Framework, and Low Carbon City.

The draft Local Plan for Alor Gajah 2035 incorporates the vision and objectives set out in the Melaka State Structure Plan 2035. It focuses on transforming Alor Gajah into a developed and sustainable city that offers a high quality of life for its residents. The plan emphasizes the integration of economic growth, social well-being, and environmental conservation.

In line with the SDGs, the Local Plan aims to address various aspects of sustainable development, including poverty eradication, access to quality education and healthcare, sustainable economic growth, environmental conservation, and social inclusion. It recognizes the importance of balancing economic progress with environmental responsibility and promoting social equity.

By integrating the state vision, SDGs, Smart City Framework, and Low Carbon City principles, the draft Local Plan for Alor Gajah 2035 envisions a future where the district achieves sustainable development, economic prosperity, and a high quality of life for its residents. It serves as a roadmap for guiding decision-making, promoting





## SDG JOURNEY AND SHAPING THE VLR

**Alor Gajah Mayor emphasizes the importance of approaching sustainable in an integrated manner and empowering the communities.**

Photo: Dataran Keris Alor Gajah







## 2.1 Shaping the Voluntary Local Review for Alor Gajah

Majlis Perbandaran Alor Gajah prioritised collaboration and engagement with citizens in developing their strategy and Voluntary Local Review. Their goal is to encourage active participation from citizens, empower self-organised groups, and support new collective actions to address public issues by each SDGs. It's crucial to have continuous involvement from diverse stakeholders throughout the development of each phase of the city's SDG roadmap



Majlis Perbandaran Alor Gajah held a few SDG Workshops, which brought together representatives from various internal departments of MPAG, council members, and technical agencies to assess Alor Gajah's SDGs and establish the agenda for the next phase of the city council's SDG journey.

The Stakeholders Engagement Workshop is a component of the Malaysia SDG Cities framework, which aims to encourage cities to undertake SDG localization. This workshop aimed to consolidate existing efforts in Alor Gajah and establish the groundwork for the city's SDG progress and reporting.

During Phase 1 of the strategy development process in Alor Gajah, MPAG aimed to:

1. Comprehend the city's strengths, significant threats, and key challenges based on SDG
2. Understand the ongoing efforts to enhance sustainability, and
3. Consolidate these discoveries into pressing sustainability challenges to prioritise as focus areas for the strategy.



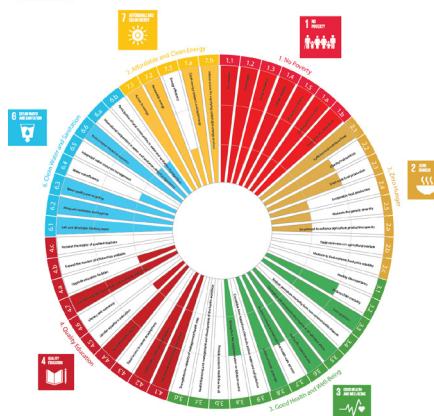
## 2.2 People's Perception on SDGs for Alor Gajah

Participants were requested to rank each SDG and its associated targets by using the traffic light system (green, yellow, and red). This interactive activity was aimed at comprehending the participants' perspectives on the current ecosystem and the performance of the SDGs in the city's specific context.

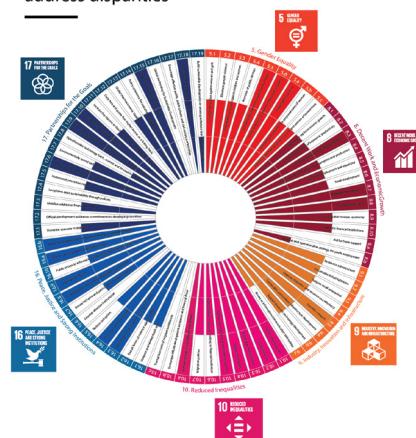
The findings from the workshop reveal that participants' perceptions of the SDGs varied. The SDGs that need improvement are SDG 2, 5, 8, 9, 11, 13, 14, 15, and 17. On the other hand, the people feel that SDGs 1, 4, 6, 7, 10, and 16 are already good.

This suggests that while there are areas that require more attention and improvement, there are also areas where progress has been made. Further analysis can be done to understand the reasons behind these perceptions and identify potential strategies to enhance the performance of the SDGs that need improvement. Additionally, it is important to ensure that efforts to improve the SDGs do not compromise the progress made in areas that are already perceived as good.

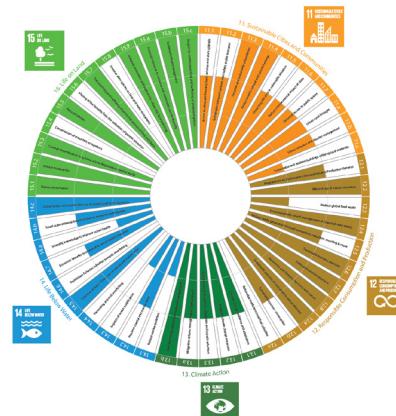
Ensure inclusive growth and development for all



Enhance access to quality services to address disparities



Promote environmental sustainability to mitigate climate change





## MPAG Internal Department Alignment to SDGs

The alignment between the SDGs and the internal department roles and functions of the MPAG was meticulously carried out across its five units and thirteen departments, with the most aligned SDGs being SDG 8 (Decent Work and Economic Growth), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 16 (Peace, Justice, and Strong Institutions), and SDG 17 (Partnerships for the Goals). Additionally, there are other SDGs that are aligned, including SDG 14 (Life Below Water), SDG 9 (Industry, Innovation, and Infrastructure), SDG 13 (Climate Action), and SDG 15 (Life on Land).

This process aimed to integrate the principles and objectives of the SDGs into the core activities and operations of the organization, fostering a holistic approach towards sustainable development.

To ensure effective alignment, MPAG initiated a comprehensive review and analysis of the SDGs and their corresponding targets. The organization recognized the importance of addressing the interconnected nature of the goals and sought to identify areas where its departments could contribute to achieving the SDGs in a coordinated and impactful manner.

Each unit and department then conducted an in-depth assessment of their roles, functions, and ongoing projects, mapping them against the SDGs and relevant targets. This exercise allowed MPAG to identify areas of synergy and potential gaps, ensuring that every department's efforts were aligned with the broader SDG framework.





## Department

## Roles and Functions

### Unit Undang-Undang (The Legal Unit)



The unit's responsibility to provide legal advice, draft and amend By-Laws, review legal documents and agreements, and enforce the law aligns closely with SDG 16

### Unit Audit Dalam (Internal Audit)



The role mentioned involves ensuring compliance with policies, laws, regulations, and directives, conducting audits to monitor compliance, and reporting the results to the appropriate authority. This demonstrates a commitment to accountability, transparency, and good governance, which are key elements of SDG 16.

### Unit Pusat Setempat (OSC)



The role mentioned involves coordinating and monitoring development plan applications and other applications through an online system. This indicates a commitment to managing urban development and ensuring that it aligns with sustainable practices.



## Department

### Unit Kutipan Tunggakan (The Arrears Collection Unit)



## Roles and Functions

Efficient collection of arrears can contribute to SDG 1 by ensuring that resources are mobilized and utilized to address poverty-related issues. The funds collected through the Arrears Collection Unit can be directed towards poverty reduction programs, social welfare initiatives, and socioeconomic development projects.

Effective revenue collection supports SDG 11 by providing local governments with the necessary financial resources to invest in infrastructure development, urban planning, and the provision of essential services. By collecting arrears, the unit indirectly contributes to creating sustainable and resilient cities and communities.

The Arrears Collection Unit contributes to SDG 16 by enforcing compliance with tax and revenue regulations, ensuring that arrears are collected effectively and efficiently. By collecting Assessment Tax Arrears and Miscellaneous Revenue Arrears Claims, the unit promotes transparency, accountability, and good governance in financial management.

The involvement of the Arrears Collection Unit in presenting the Collection Report in committee meetings highlights the importance of collaboration and partnerships. SDG 17 emphasizes the need for multi-stakeholder partnerships to achieve sustainable development. Through engagement with the MPAG Revenue Collection Committee and the MPAG Finance and Socioeconomic Development Committee, the unit promotes dialogue, cooperation, and collective action toward common goals.

### Unit Kutipan Tunggakan (The Arrears Collection Unit)



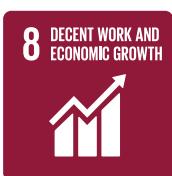
The role described involves managing the procurement process for work, supplies, and service contracts, and ensuring compliance with established rules and regulations. This aligns with SDG 12 by promoting responsible and sustainable practices in procurement.



## Department

## Roles and Functions

### Jabatan Khidmat Pengurusan (Management Services Department)

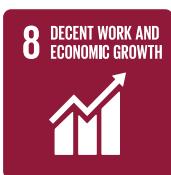


managing and coordinating the development of human capital within MPAG, the department contributes to building a skilled and knowledgeable workforce that can support the delivery of quality services and contribute to sustainable development.

The department's responsibility for managing human resources and human capital development aligns with SDG 8, which aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

The department's coordination and management functions across various areas, including human resources, procurement, and quality, reflect the importance of partnerships and collaboration.

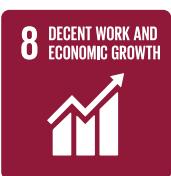
### Jabatan Kewangan (Finance Department)



The department's role in managing financial resources and optimizing expenditure aligns with SDG 8.

Efficient management of financial resources is crucial for supporting the development of resilient infrastructure and promoting inclusive and sustainable industrialization.

### Jabatan Penilaian dan Pengurusan Harta (Valuation And Property Management Department)



The Valuation and Property Management Department is responsible for establishing a fair, quality and uniform property valuation system for ratings and rents to sustain and add to MPAG's yearly revenue. The public is given awareness on property valuation work as provided by Act 171. In addition, this department also gives awareness to property owners about the importance of value in property ownership. This department also manages and supervises all MPAG owned properties as well as the rental, disposal and sale of all MPAG owned retail spaces.



## Department

## Roles and Functions

### Jabatan Perancangan Bandar (Urban Planning Department)



The Urban Planning Department is in charge for the planning in the administration area that is achieved by controlling the use and development of lands and buildings while promoting physical and socio-economic development. The planning is carefully performed by abiding to the provisions enforced by the Law, as well as planning rules and guidelines.

### Jabatan Kejuruteraan (Engineering Department)



The Urban Planning Department is in charge for the planning in the administration area that is achieved by controlling the use and development of lands and buildings while promoting physical and socio-economic development. The planning is carefully performed by abiding to the provisions enforced by the Law, as well as planning rules and guidelines.

### Jabatan Bangunan (Building Department)



The Building Department is entrusted in supervising building constructions from the process of obtaining the building plan approval until the issuance of the Certificate of Completion and Compliance (CCC) by the project consultants. This department is also responsible in monitoring the construction of unauthorized structures, approve Temporary Building permits and prepare building design plans for projects implemented by MPAG.



## Department

## Roles and Functions

### Jabatan Kebersihan (Cleanliness Department)



The department is responsible for monitoring solid waste management, public cleansing, grass cutting, drainage cleansing, and overall cleanliness while managing beach and recreational area cleanliness, implementing 3R practice awareness programs, ensuring quality management, and handling general administration.

### Jabatan Korporat dan Khidmat Masyarakat (Community Services Department)



The role of the Community Services Department is to bolster the organization of community programs by collaborating with the community, government agencies, the private sector, NGOs, youth, businesses and those who are interested in the development of the district. Various initiatives have been taken to strengthen social and community development programs through implementation of the National Blue Ocean Strategy (NBOS). MPAG is also a major supporter of State Government programs especially at the district level, in rural/village and residential areas.

### Jabatan Penguatkuasaan (The Enforcement Department)



The Enforcement Department is entrusted in carrying out enforcement duties in a transparent, precise and strict manner. The enforcement activities in this administrative area are guided by Act 171, Act 172, Act 133, Enactments, Rules and By-Laws enforced by MPAG.



## Department

## Roles and Functions

### Jabatan Pelesenan (Licensing Department)



The department is responsible for managing business license applications, renewals, and revocations, as well as overseeing the licensing committee meetings, ensuring quality management, and handling general administration tasks

### Jabatan Pengindahan Bandar (Urban Beautification Department)



The Urban Beautification Department is responsible to plan and implement holistic beautification and greenery programmes in improving the quality of the environment and landscape designs that are supported by an efficient maintenance program. Landscape development is reinforced through the introduction of a Landscape Master Plan to design and execute landscaping and beautification projects.

### Jabatan Kesihatan Persekutaran (Health and Environment Division)



The department oversees waste management, public cleansing, maintenance of roads, cleanliness of beaches and recreational areas, implements 3R awareness programs, ensures quality management.

### Jabatan Teknologi Maklumat (Information Technology Department)



This department is responsible for ICT Development Strategic Planning, managing procurement and paymentd, conducting computerization work process analysis, planning the development and enhancement of the council's ICT system, and managing hardware maintenance. This department also manages MPAG's Website and application systems as well as planning and providing new training related to ICT



By carrying out this comprehensive alignment process, MPAG aimed to institutionalize the SDGs within its organizational culture and operations. This approach ensured that sustainable development considerations were integrated into decision-making processes, resource allocation, and performance management throughout the organization.

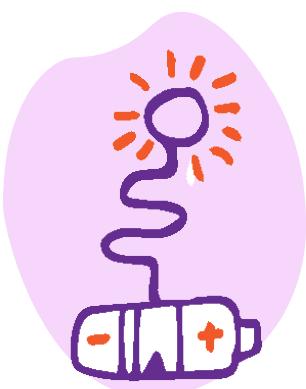


## 2.3 Alignment Of Sdgs To Current Development Plans

Alor Gajah Municipal Council has a long-standing tradition of promoting sustainable development and is currently supported by various plans that encompass development policies and special action plans addressing specific sectors or challenges within the municipality.

The interlinkages between SDGs and Alor Gajah Municipal Council's statutory policies and plans are illustrated below. The SDGs are extensively incorporated into the planning documents of the municipality through actionable strategies and initiatives. Key SDGs that receive particular emphasis include SDG 11 (Sustainable Cities and Communities), SDG 15 (Life on Land), and SDG 16 (Peace, Justice and Strong Institution).

Moving forward, it is crucial to further enhance the integration of the SDGs into the municipality's operational strategy, financial and operational planning, and practical activities.





Draft Alor Gajah Local Plan 2023

Local Agenda 21

Low Carbon Cities 2030 Challenge

Alor Gajah Strategic Plan

Draft Alor Gajah Local Plan 2023

Local Agenda 21

Low Carbon Cities 2030 Challenge

Alor Gajah Strategic Plan



## SDG PROGRESS

**Alor Gajah Mayor emphasizes the importance of approaching sustainable in an integrated manner and empowering the communities.**

Photo: Dataran Keris Alor Gajah







## 3.1 The Prioritised SDGs

By conducting several engagements and analyses, we have utilized the Malaysia SDG Cities framework to evaluate the alignment between current policies and implemented projects. This framework enabled Alor Gajah to assess the significance of each Sustainable Development Goal (SDG) and its corresponding targets through a priority index. To localize the SDGs effectively, the city is integrating them vertically, horizontally, and territorially, while leveraging its existing structures and ongoing initiatives. Consequently, Alor Gajah has identified seven SDGs that will be given priority in its initial Voluntary Local Review (VLR). These SDGs are as follows:





## 3.2 High Impact Project

Alor Gajah, in its commitment towards achieving the SDGs, has successfully implemented over 50 projects and programs. The selection of these initiatives was carried out through an interactive process within the MPAG, aiming to emphasize high-impact projects that would greatly benefit the community, the city, and align with the SDGs.

The selection process followed a comprehensive set of criteria. Initiatives were chosen based on their direct relevance to more than two SDGs, their ability to generate high-impact results in terms of investment, participation, and improvements in the community's well-being. Furthermore, the innovativeness and uniqueness of each initiative were taken into account, ensuring that the projects brought fresh perspectives and approaches to address local challenges. Lastly, the relevance of the initiatives to the specific context of Alor Gajah was a key factor in the selection process.

After a thorough and inclusive evaluation process, five projects emerged as the highest impact initiatives. These projects were identified as exemplifying the criteria and were recognized for their potential to drive positive change within Alor Gajah. The implementation of these selected projects represents a significant step forward in the pursuit of sustainable development, showcasing the dedication and commitment of Alor Gajah towards building a better future for its community and contributing to the global SDGs agenda.





## 5 High Impact Projects on SDGs for Alor Gajah

### 1 Paya Lebar Eco-Tourism Development Alor Gajah Municipal Council

#### Project Collaborator:

- Tourism Promotion Division of MPAG
- MOTAC Melaka
- UPEN
- Paya Lebar Jetty Association
- Tebing Urut Jetty Fishermen Association
- MATTA Melaka Chapter.



The Recreational Forest around Linggi River in Paya Lebar offers abundant natural flora and fauna treasures, making it an ideal destination for ecotourism. One noteworthy feature is the intriguing eco-system of the mangrove swamp forest, which is home to various animals and birds. This natural environment provides excellent opportunities for ecotourism activities like fishing, bird watching, river walking, exploring the forest and mangrove swamps, and observing the effects of ancient history in the area

### 2 Alor Gajah Low Carbon City Alor Gajah Municipal Council

#### Project Collaborator:

- MGTC
- SWCorp Melaka
- SWM
- TNB
- SAMB
- Panorama.



The Low Carbon Cities Framework (LCCF) established since 2011 aims to provide Local Authorities universities and all states nationwide to transform their cities into low carbon cities. The LCCF looks at addressing carbon emissions in 4 main areas: Urban Environment, Urban Infrastructure, Urban Transportation and Buildings. With a designated LCC area of 467.8 hectares and a reduction target of 8.41% compared to the baseline of 2017, with a new target of 9% by 2022 and an accompanying LCC Action Plan.



# 3

## Projek Perumahan Mampu Milik

Alor Gajah Municipal Council

### Project Collaborator:

- Lembaga Perumahan Melaka (LPM)

The Rumah Mampu Milik Melaka (RMM) housing program, overseen by LPM, serves a crucial role in addressing the housing needs of the residents of Melaka. By facilitating affordable homeownership, RMM aims to alleviate the burden of high housing costs and enable more individuals and families to establish stable and secure living arrangements.



Through this program, Melaka residents are provided with various forms of assistance and support, such as financial subsidies, favorable mortgage terms, and access to affordable housing units. By removing financial barriers and offering feasible pathways to homeownership, RMM plays a vital role in empowering individuals and families to achieve their housing aspirations.

# 4

## Digitization of MPAG Services

Alor Gajah Municipal Council

### Project Collaborator:

- -

The MPAG is actively expanding its range of online services to enhance convenience for the public. This strategic move aligns with the council's vision of developing a Smart City and implementing Smart Government practices. By prioritizing the development and implementation of inclusive and transparent end-to-end e-services, MPAG aims to cater to the evolving needs of the community.

The emphasis on increasing the quantity of online services reflects a commitment to leveraging technology to streamline processes, reduce bureaucratic barriers, and enhance accessibility for residents. By offering a wider range of digital services, MPAG seeks to empower the public with efficient and user-friendly solutions that can be accessed anytime and anywhere.





## The Safe City Programme

Alor Gajah Municipal Council

### Project Collaborator:

- PDRM

Safe City Programme, which was established in 2004 for Malaysian cities, is used as a foundation for preventing street crimes; similar programmes have been shown to reduce street crime in numerous cities around the globe. The 2004 Safe City Programme, which comprised 23 measures aimed at preventing crime, has been reduced to 15 steps to make our cities safer.

The Blackspot Whitening Initiative was implemented as part of the Safe City Program with the primary objective of reducing crime rates and increasing the public's perception of safety. A Blackspot is an area with a high crime rate and a sense of insecurity regarding crime (anxiety of crime).





Photo: Solar Panel ➔

## 7 AFFORDABLE AND CLEAN ENERGY



# Affordable and Clean Energy

Alor Gajah has made significant progress towards achieving SDG 7, particularly in terms of universal access to affordable, reliable and modern energy services, as well as promoting renewable energy and energy efficiency. The provision of electricity is largely controlled by the national utility company, Tenaga Nasional Berhad (TNB). As such, the responsibility for ensuring reliable and sustainable energy supply primarily lies with the state and federal government rather than Alor Gajah City Council.G

However, the state's heavy reliance on natural gas as its primary energy source remains a challenge in achieving a more sustainable energy mix. It is encouraging to see that the state government has been actively promoting renewable energy and engaging in international cooperation to facilitate access to clean energy research and technology.

# 7





## 7.1 Universal Access to Modern Energy

According to the Malaysia Energy Statistics Handbook 2020, Melaka's electricity consumption in 2019 was 5,655 GWh, with a peak demand of 1,504 MW. The state's electricity consumption has been steadily increasing over the years, with an average annual growth rate of 3.3% from 2010 to 2019.

In terms of universal access to affordable, reliable and modern energy services, Melaka has achieved a high electrification rate of 99.8% in 2019, according to the Malaysia Energy Statistics Handbook 2020.

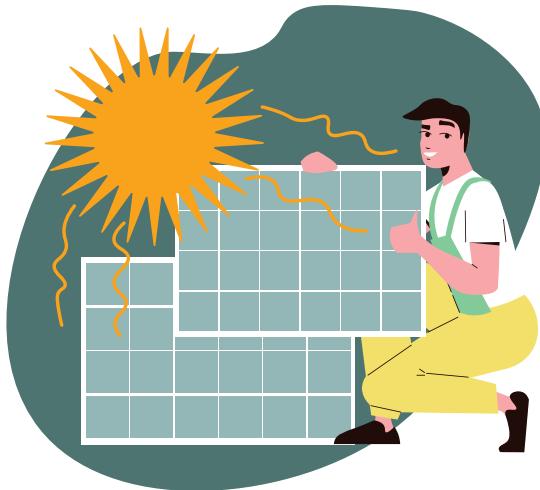
## 7.2 Increase Global Percentage of Renewable Energy

In terms of energy mix, Melaka heavily relies on natural gas as its primary energy source for power generation, accounting for 93.8% of its total energy mix in 2019. The remaining 6.2% is contributed by coal.

However, the state has been actively promoting renewable energy as well, with several solar photovoltaic (PV) projects currently operating in Melaka. The largest of these is the 10 MW solar farm in Rembia, the Melaka World Solar Valley with a total area of 7,248.43 hectares, which was completed in 2017.

There is a gas turbine power plant located in Kuala Sungai Baru, which is fully owned by China Solar Energy Investment Ltd, a subsidiary of China General Nuclear Power Corp Ltd. The power plant was built by Edra Power Sdn Bhd, the second-largest independent power producer in Malaysia, and a leading clean energy producer group in Southeast Asia with a focus on gas power generation.

The power plant has a capacity of 2,242 megawatts (MW) and can supply up to 10% of the country's electricity demand. It was constructed in the first quarter of 2018 and is expected to commence operations in the first half of 2021.





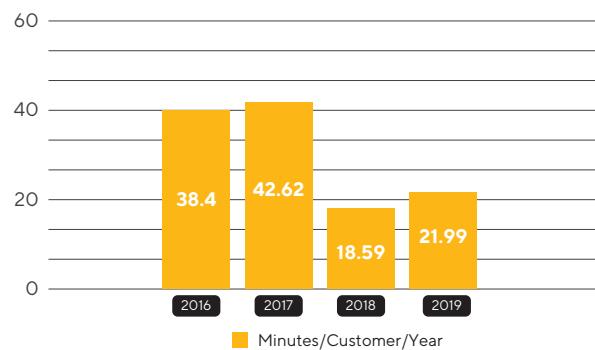
## 7.3 Double the Improvement In Energy Efficiency

System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI) are among the indices used to measure the reliability of the electric power distribution system. The reliability of the electric power distribution system refers to the ability of the system's components to provide electric supply to users in the appropriate quantity and quality as required by the users. According to the annual performance report by the Energy Commission of Malaysia for the year 2020, the SAIDI for the Southern Region, which includes Melaka, was 192.28 minutes, and the SAIFI was 1.17 times per customer.

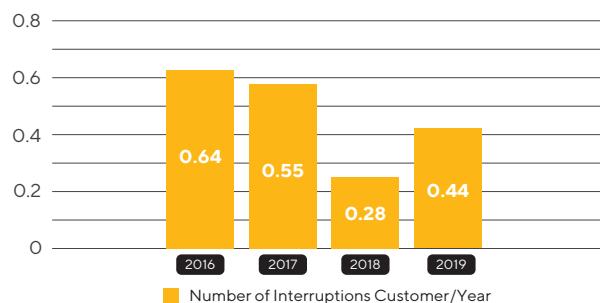
The state government has also launched several initiatives to promote energy efficiency, such as the "Melaka Energy Efficiency and Conservation Master Plan" in 2018, which aims to reduce the state's energy intensity by 20% by 2025.

Finally, Melaka has also been actively engaging in international cooperation to promote clean energy research and technology. For instance, the state government has signed a Memorandum of Understanding with the International Islamic University Malaysia to collaborate on research and development in the field of renewable energy.

**Figure 3.1** System Average Interruption Duration Index (SAIDI)



**Figure 3.2** System Average Interruption Frequency Index (SAIFI)



Source: Energy Commission of Malaysia for the Year 2020



Photo: XXX (MPAG to provide)



**8** DECENT WORK AND ECONOMIC GROWTH

# Decent Work and Economic Growth

SDG 8 emphasises the importance of sustained economic growth and increased productivity in generating well-paying jobs, while also promoting resource efficiency in production and consumption. In line with this, efforts are being made in Alor Gajah to support the creation of employment opportunities for young people, including providing capital and financing for potential businesses and industries, as well as ongoing support and assistance for youth seeking employment in the area. These efforts are aimed at fostering full employment and decent work for all, while also promoting economic development and sustainability in the region.





## 8.1 Sustainable Economic Growth

The economic growth of Alor Gajah District is reflected through the economic growth of Melaka state, as measured by the Gross Domestic Product (GDP) and per capita GDP of the state. Melaka state generated a GDP of RM41,029 million in 2020, contributing only 3.1% to the national GDP. The contribution of Melaka state to the national GDP is relatively small compared to the contribution by neighbouring Johor state.

**RM 4,029 Mill**

GDP of Malacca in 2020

**3.1%**

Contribution of Malacca State GDP to National GDP

**RM 42,716**

Per capita income of Malacca state in 2020

**8.3%**

Annual Growth Rate (2010-2015)

**4.9%**

Declined Growth Rate (2015-2019)

**2.6%**

Contracted Growth Rate (2015-2020)

Melaka state experienced rapid economic growth from 2010 to 2015, with an annual growth rate of 8.3%. However, this growth started to decline from 2015 to 2019, with a growth rate of 4.9% per year. This decline in growth rate was further impacted by the global COVID-19 pandemic in early 2020. The GDP growth rate between 2015 and 2020 contracted, achieving only 2.6% growth. This trend of declining growth was experienced by neighbouring states such as Johor and Negeri Sembilan, as well as the overall national growth rate. However, Melaka state was more severely affected compared to Johor and Negeri Sembilan.

The heavy reliance on the tourism sector as an economic driver has contributed to Melaka state being more adversely affected compared to these neighbouring states, which still prioritise the industrial and commodity agriculture sectors as their main economic drivers.

*The per capita income of Melaka state in 2020 was RM42,716. It is important to note that data specifically for Alor Gajah District is not available in the provided information, and the analysis pertains to the economic performance of Melaka state as a whole.*

## 8.2 Diversify, Innovate and Upgrade for Economic Productivity

### Informal Business Sectors

In Alor Gajah, informal businesses operate in 54 different locations, with the majority being night markets (38.9%) and static stalls/food courts (25.9%). These informal business sites provide a total of 2,636 business units, with 68.1% of them located in night markets, followed by farmer's markets and morning markets. Although there are numerous sites for food courts, the available business space is limited. About 18.7% or 494 units/lots are rented premises pr

Night markets and static stalls/food courts serve as prominent locations for informal business activities, offering a significant number of business units. The provision of rented premises by the MPAG indicates efforts to support and formalize the operations of these businesses, contributing to the goal of SDG 8 in promoting decent work and economic growth. It also underscores the importance of creating suitable spaces and facilities for informal businesses to thrive, enhancing their productivity and enabling them to contribute to the local economy.



## E-Commerce

In 2019, approximately 6.39% of businesses in the district of Alor Gajah were engaged in e-commerce activities, while the percentage of internet usage in business operations was relatively high at 64.8%.

The presence of e-commerce activities among a portion of businesses in Alor Gajah reflects a growing trend of leveraging digital platforms and technologies for conducting trade and commerce. This indicates a shift towards online business models, which can offer various benefits such as expanded market reach, increased efficiency in transactions, and potential cost savings.

The adoption of e-commerce in the district contributes to SDG Target 8.2 by promoting innovation, productivity, and economic diversification.

suggests the significance of trade and commerce activities in the district's economy. The substantial number of jobs in the service sector, including accommodation, food and beverage services, highlights the role of hospitality and tourism-related industries in generating employment opportunities.

As of February 2021, there were approximately 11,000 registered businesses in the district of Alor Gajah and 64,479 businesses in the state of Melaka. Interestingly, there have been no reported declines or reductions detected by the Companies Commission of Malaysia (SSM) as a result of the COVID-19 pandemic; instead, there has been an increase at the state level. The data for Melaka as of June 2021 shows a total of 64,479 businesses, compared to 61,262 businesses recorded in December 2020.

In addition, the SME Corporation Malaysia has established a branch in Melaka to provide support and assistance to SMEs in the state, including Alor Gajah. The agency offers various programs and initiatives such as the SME Digitalization Grant, the SME Business Accelerator Program, and the SME Innovation Fund, which provide financial and technical assistance to SMEs to enhance their productivity and competitiveness.

## 8.3 Promote Policies to Support Job Creation and Growing Enterprises

In 2019, it was estimated that there were 44,462 jobs in the business and service sectors in the district of Alor Gajah, with 67.93% of them belonging to the business sector and 32.07% to the service sub-sector. These job estimates do not include government services.

The majority of jobs in Alor Gajah were found in the wholesale and retail sectors, totaling 14,633, followed by the service sector with 14,258 jobs. The accommodation, food and beverage sub-sector accounted for 11,350 jobs, while the smallest number of jobs was in the finance, insurance, and business services sub-sector, which represents a higher-level sub-sector.

These employment figures provide insights into the occupational composition and distribution within the business and service sectors in Alor Gajah. The dominance of jobs in the wholesale and retail sectors



## 8.5 Full Employment and Decent Work with Equal Pay

The total labor force in Alor Gajah District in 2019 was 95,300, out of which 93,800 individuals were employed, while 1,500 individuals were unemployed. This results in an unemployment rate of 1.6%. The labor force participation rate in the district was 67.3% in 2019. The labor force participation rate in the district is slightly lower than the state average, while the district's unemployment rate is higher than the state average for the same period.

The low unemployment rate of 1.6% indicates that a significant portion of the labor force in Alor Gajah District is employed, which aligns with the objective of achieving full employment. However, it is important to acknowledge the impact of the COVID-19 pandemic on the job market in 2020. In response to the pandemic, numerous businesses faced challenges, including temporary closures, reduced operations, and financial strains. These factors significantly affected the employment landscape, leading to a rise in unemployment rates across many regions worldwide, including Alor Gajah District. As a result, the district experienced an increase in the unemployment rate, which reached 2.8% in 2020.

This target aims to ensure that everyone who wants to work has access to decent and productive employment opportunities. The relatively low unemployment rate in the district suggests that it is making progress towards this goal. The slightly lower labor force participation rate in the district compared to the state average suggests that a portion of the working-age population may not be actively participating in the labor market. This could be due to various factors such as higher rates of retirement, student population, or individuals engaged in informal or self-employment. The 69.8% participation rate highlights the

proportion of individuals who are either employed or actively seeking employment. This indicates the level of engagement in the labor market within the district.

The higher unemployment rate in the district compared to the state average indicates that there may be specific challenges or limitations in terms of job availability or matching job seekers with suitable employment opportunities. It highlights the need for targeted measures to address unemployment and promote job creation within the district.

**Table 3.1** Statistics of Employment in Alor Gajah Administrative District

	2018	2019	2020
Labour Force ('000)	92.7	95.3	<b>100.9</b>
Employed Persons ('000)	91.3	93.8	<b>98.1</b>
Unemployed ('000)	1.4	1.5	<b>2.8</b>
Outside Labour Force ('000)	47.7	46.3	<b>43.6</b>
Labour Force Participation rate (%)	66	67.3	<b>69.8</b>
Unemployed rate (%)	1.5	1.6	<b>2.8</b>

Source: MyLocal Stats Alor Gajah Melaka 2021



## 8.6 Promote Youth Employment, Education and Training

Youth employment is an important aspect of SDG 8, which aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. In Alor Gajah, youth employment is a concern as the district has a relatively high youth population. According to data from the Department of Statistics Malaysia, the unemployment rate for youths (aged 15-24) in Melaka state was 10.3% in 2020.

To address youth unemployment, Alor Gajah has implemented various programs and initiatives. The district has collaborated with the Melaka state government and the Malaysian government to provide training and upskilling programs for youth. For instance, the Ministry of Human Resources has implemented programs such as the Skim Latihan 1Malaysia (SL1M) and the Pembangunan Sumber Manusia Berhad (HRDF) to train and upskill youths.

In addition, the Alor Gajah district council has also established the Alor Gajah Youth Development Center (Pusat Pembangunan Belia Alor Gajah) to provide various programs and activities for youth, including vocational training, entrepreneurship development, and leadership training.

## 8.9 Promote Beneficial and Sustainable Tourism

Another aspect of SDG 8 is the need to promote sustainable tourism. Alor Gajah is home to several tourist attractions, including the historic A Famosa Fort and the Alor Gajah Square.

The data on tourist arrivals at several major attractions were obtained from MPAG Tourism Unit. As the tourist unit was established only in 2019, the unit has data for only two recent years (2019 and 2020). According to the obtained data, approximately 1,849,040 tourists visited the attractions in 2019. However, there was a significant decrease in tourist arrivals from 2019 to 2020, by 63.7% when the Movement Control Order (MCO) was implemented due to the COVID-19 pandemic. The pandemic had critical impacts on all economic sectors, particularly the tourism industry, in the state. The increase in COVID-19 positive cases in the country affected the tourism industry in Melaka.

However, there is a need to balance the economic benefits of tourism with the potential environmental and social impacts. The local government could work with tourism industry stakeholders to develop sustainable tourism practices that prioritize the conservation of natural resources and the well-being of local communities.

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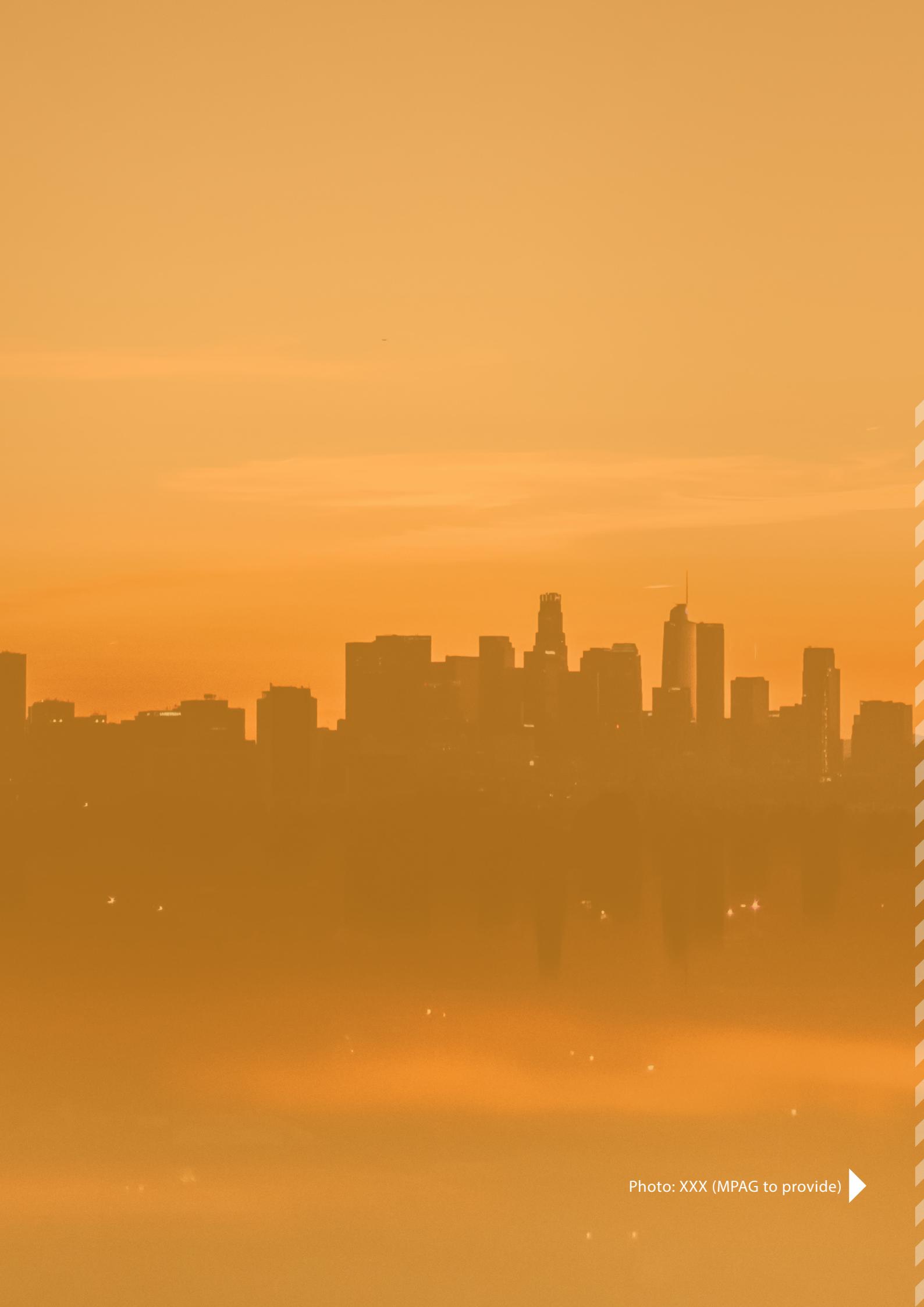


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## 11 SUSTAINABLE CITIES AND COMMUNITIES



# Sustainable Cities and Communities

Alor Gajah is actively pursuing SDG 11. Efforts include providing affordable housing, improving public transportation, implementing effective waste management, developing parks, and mitigating climate change. The city focuses on ensuring safe and decent housing for low-income individuals, promoting sustainable mobility, reducing waste generation and implementing recycling programs. Alor Gajah also prioritizes the creation of green spaces, enhancing biodiversity conservation and residents' well-being. Through measures to reduce greenhouse gas emissions, increase energy efficiency, and adopt renewable energy sources, the city aims to build a sustainable and inclusive future. These initiatives align with SDG 11, fostering a high quality of life for Alor Gajah's residents while prioritizing environmental stewardship.

# 11



## 11.1 Safe and Affordable Housing

In the context of Alor Gajah, efforts to address housing challenges involve not only meeting the basic housing needs but also considering factors that contribute to a thriving community. This includes promoting homeownership opportunities, providing diverse housing options to cater to different needs and preferences, creating a supportive neighbourhood environment, and ensuring access to essential services and amenities.

The largest residential areas in Alor Gajah are found in Mukim Kelemak (364.76 hectares), followed by Mukim Ayer Pa'abas (307.22 hectares), Beringing (284.87 hectares), Machap (262.15 hectares), and Masjid Tanah (236.643 hectares). In urban areas, the housing pattern consists of clustered residential areas formed by planned housing zones, government quarters, and urban settlements, including new villages.

The number of housing stock has increased from 35,995 units in 2006 to 49,601 units in 2021, representing an increase of 13,606 houses or a 37.6% rise since 2006. According to population projections by the Department of Statistics in 2020, the estimated housing demand for the year was 53,333 units, indicating that the current housing stock falls short of the projected demand.

Alor Gajah is experiencing growth in its housing stock, but the demand for housing units still exceeds the current supply. Efforts are being made to address housing challenges and create a thriving community by considering various factors such as homeownership, diverse housing options, neighbourhood environment, and access to essential services.

### Affordable Housing

In 2021, the district of Alor Gajah had a total of 11,411 affordable housing units, showing an increase of 1,379 units compared to the count in 2010, which was 10,032 units. This represents a growth of 13.75% over a span of nearly 10 years. These low-cost housing units make

up only 13.56% of the overall housing stock in the Alor Gajah District. It is important to note that the number and percentage of affordable housing refer specifically to planned affordable housing units, with the majority being constructed by government agencies.

Alor Gajah is also home to two affordable housing projects by PR1MA, namely Residensi A'Famosa, currently under construction with an initial price starting from RM125,000, and Residensi Pulau Sebang, with an initial price starting from RM147,420. These two housing projects collectively provide a total of 1,737 housing units.

## 11.2 Affordable and Sustainable Transport System

In the Alor Gajah context, the goal for 2030 is to ensure that everyone has access to transport systems that are safe, affordable, accessible, and sustainable. This includes improving road safety and expanding public transportation, with a particular focus on meeting the needs of vulnerable populations such as women, children, persons with disabilities, and older persons.

The policies and frameworks mentioned, such as Dasar Pengangkutan Negara, Rancangan Fizikal Negara Ke-3, Dasar Perbandaran Negara 2, Dasar Perumahan Negara Ke-3, Pelan Tindakan Bandar Rendah Karbon (LCCF), Rancangan Struktur Negeri Melaka 2035, Pelan Strategi Melakaku Maju Jaya 2035, and Green City Action Plan: A Framework for Green Actions Melaka, Malaysia, have played a crucial role in making the transport system in Alor Gajah accessible and sustainable.

These policies and frameworks have laid the foundation for comprehensive planning and development of transportation infrastructure and services in Alor Gajah. They have provided guidelines and strategic directions for improving accessibility, promoting sustainable modes of transport, and enhancing the overall efficiency and effectiveness of the transport system.

## Public Transportation

Public transportation services play a crucial role in enhancing accessibility to various destinations and reducing reliance on private vehicles. The provision of public transportation services within the Alor Gajah Municipal Council area encompasses land transportation facilities, including bus, taxi, and rail services.

Additionally, there is a port in Kuala Linggi that facilitates import and export activities to Damai, Indonesia. There are plans to upgrade this port to the Kuala Linggi International Port (KLIP), which will serve as a central hub for international maritime trade activities.

Alor Gajah can be connected through three (3) bus terminals, namely Alor Gajah Bus Terminal, Masjid Tanah Bus Terminal, and Pulau Sebang Bus Terminal, which provide stop-to-stop bus services within and across districts as well as express bus services to other states. Additionally, Alor Gajah is also accessible through commuter train services and the Electric Train Service (ETS) to northern states of Peninsular Malaysia from the KTM Pulau Sebang Station.

By offering a range of public transportation options and expanding the port infrastructure, the Alor Gajah district aims to improve connectivity, facilitate trade, and enhance overall accessibility for residents and businesses. These efforts promote sustainable transportation practices and contribute to the economic development of the region.

### Bus

Two companies, namely Panorama Melaka Sdn Bhd and Maraliner Sdn Bhd, provide stop-to-stop bus services between towns in Alor Gajah. The fare for Panorama Melaka Sdn Bhd is RM1 for the first kilometer and an additional RM0.10 for each subsequent kilometer, while Maraliner Sdn Bhd charges RM0.90 for the

first kilometer and an additional RM0.20 for each subsequent kilometer. Previously, Panorama Melaka Sdn Bhd also operated electric stop-to-stop bus services, but it was discontinued due to a discontinued contract with the supplier.

### Rail Transportation

Railway services in Alor Gajah involve one (1) station that connects states and districts on the west coast of Peninsular Malaysia, namely the KTM Pulau Sebang Station, located near the town of Tampin. Previously, there were three (3) types of railway services provided in the study area that could be accessed from the KTM Pulau Sebang Station, namely:

**Intercity railway services:** These services connect cities between different states, allowing for long-distance travel.

**Commuter railway services:** These services cater to the transportation needs of daily commuters within the study area, offering frequent stops and shorter distances between stations

**Electric Train Service (ETS):** This high-speed train service provides efficient and faster connections for passengers traveling between various destinations within the study area.

*Note: Please keep in mind that the information provided is based on the given context up until September 2021, and there may have been updates or changes to the railway services since then.*





## Intercity Rail

The intercity train services that stopped at the KTM Pulau Sebang Station were discontinued starting from July 2020 due to the reduced frequency of train operations as a result of the implementation of Movement Control Order (MCO) 1.0. This discontinuation poses a challenge for commuters and travelers relying on the intercity train services.

The discontinuity of the intercity train services affects the connectivity between cities, limiting the transportation options for individuals who depend on this mode of travel. It may result in inconvenience, longer travel times, and the need to seek alternative modes of transportation. Additionally, it may impact the economic activities and tourism potential of the areas served by the intercity train services.

## KTM Komuter Service

Currently, there are 16 daily trips of KTM Komuter services that stop at Pulau Sebang Station, with a frequency of every two hours. However, due to the spread of the Covid-19 pandemic and the implementation of Movement Control Order (MCO) 3.0, the KTM Komuter services have been reduced to only five (5) daily trips starting from May 2021, operating during peak morning and evening hours. This reduction in service frequency has become burdensome for the residents.

The decreased frequency of KTM Komuter services poses challenges for the residents relying on this mode of transportation. With fewer trips available, it may lead to overcrowding during peak hours, longer waiting times, and potential delays in reaching their destinations. The limited number of daily trips can disrupt commuters' schedules, making it inconvenient for them to plan their daily activities or travel plans efficiently.

## 11.5 Reduce the Adverse Effects of Natural Disasters

Alor Gajah is confronted with the pressing issue of sea-level rise resulting from climate change. This region holds significant importance due to its dual role as a prominent agricultural zone, with over 50% of the land dedicated to farming activities, and as a vital water resource area comprising 21% of water bodies, including the Durian Tunggal Reservoir and major rivers, which play a crucial role in supplying water to the state of Melaka. Moreover, the area within the council is characterized by its coastal nature, making it an attractive destination for eco-tourism and a key conservation site for preserving the critically endangered sea turtles.

However, despite its ecological significance, the Alor Gajah Municipal Council area is vulnerable to the adverse effects of climate change, particularly the projected sea-level rise until the year 2100. This poses significant challenges to the sustainability and resilience of the region's ecosystems, as well as its socio-economic development. It is worth noting that the forested areas within Melaka, including those within the council's jurisdiction, are relatively small compared to other states. Nevertheless, these forests harbor essential and unique habitats, especially in areas such as Tanjung Tuan and Kuala Linggi.

## 11.6 Reduce the Environmental Impact of Cities

SDG 11.6 aims to reduce the adverse per capita environmental impact of cities, with a specific focus on air quality and waste management. In the context of Alor Gajah, collaborative efforts between SWCorp and MPAG in waste management, including proper waste collection and public cleansing, contribute to minimising the environmental impact. Additionally, measures to address air pollution, such as monitoring and improving air quality, are crucial in achieving the target.



## Air Quality

SDG 11.6 focuses on reducing the environmental impact of cities. In the case of Alor Gajah, the Air Pollutant Index (API) or Indeks Pencemaran Udara (IPU) is monitored through 68 surveillance stations by the relevant authorities. The closest monitoring station to the Alor Gajah area is in Bukit Rambai, located in the Central Melaka District, while Port Dickson is near Tanjung Tuan in the Kuala Linggi district. The main sources of air pollution in the area are intentional burning, industrial emissions, and vehicles.

The API reporting is based on the number of days in a year that record air quality under five different categories. From 2012 to 2018, Alor Gajah recorded a moderate level of air pollution compared to Tanjung Tuan (Port Dickson). The monitoring devices in Alor Gajah are situated close to residential areas that experience traffic congestion, and residents often practice backyard waste burning. Additionally, it is located approximately 3km from industrial and quarrying areas. In 2015, the highest number of unhealthy air days was recorded in seven years. The severe haze incidents in 2013 and 2015, caused by extensive forest fires in Indonesia during the dry El Niño Southern Oscillation (ENSO) phenomenon, resulted in the spread of haze across borders affecting Malaysia and neighboring countries like Singapore, Brunei, and Thailand.

## Waste Management

Waste management in Alor Gajah is a collaborative effort between the Solid Waste Management and Public Cleansing Corporation (SWCorp) and the Alor Gajah Municipal Council (MPAG). SWCorp, an agency under the Ministry of Local Government Development (KPKT), enforces the Solid Waste and Public Cleansing Management Act 2007 (Act 672) across seven states, including Kuala Lumpur, Putrajaya, Pahang, Perlis,

Kedah, Negeri Sembilan, Melaka, and Johor. Within SWCorp, SWM Environment Sdn Bhd, a concession company appointed by KPCT, assists in waste management and public cleansing in Johor, Melaka, and Negeri Sembilan.

Meanwhile, MPAG oversees waste management in designated zones supervised by the Department of Sanitation and Health. These zones are divided into two categories: the SWCorp Waste Collection Zone and the MPAG Waste Collection Zone.

SWCorp Waste Collection Zone areas are transferred from MPAG to SWCorp for management. Waste collection and public cleansing tasks in this zone are carried out by SWM Environment Sdn Bhd.

MPAG Waste Collection Zone, which includes Alor Gajah, Masjid Tanah, and Pulau Sebang, MPAG appoints its own contractors to handle waste collection.

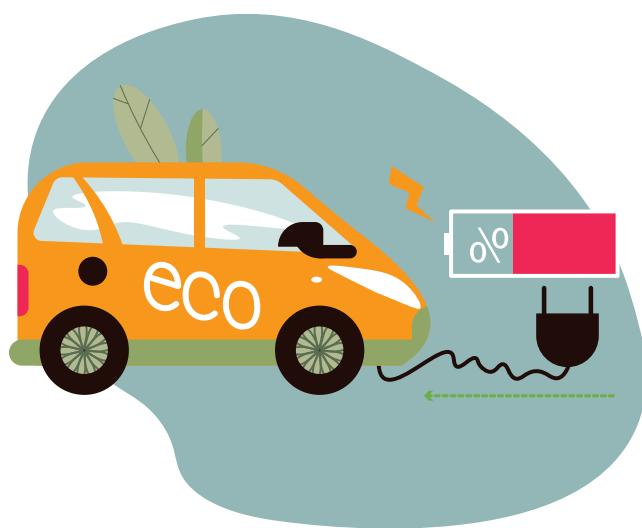
The effective waste management practices implemented by SWCorp and MPAG play a significant role in reducing the environmental impact of cities, as outlined in SDG 11.6. Proper waste management helps prevent pollution, mitigate health risks, and minimize the negative consequences associated with improper waste disposal, such as air and water pollution, soil contamination, and the spread of diseases. By ensuring efficient waste collection, segregation, recycling, and proper disposal, Alor Gajah can contribute to creating cleaner and more sustainable urban environments, reducing the environmental footprint of the city, and enhancing the overall well-being of its residents.



## 11.7 Provide Access to Safe and Inclusive Green and Public Spaces

The municipality recognizes the importance of green and public spaces in creating sustainable and livable environments. Efforts are made to preserve and expand existing green areas, such as parks, gardens, and recreational spaces, which provide opportunities for leisure activities, social interaction, and relaxation. Additionally, the municipality strives to improve accessibility to public spaces, ensuring they are inclusive and cater to the needs of all residents.

In Alor Gajah, the overall extent of open spaces within the municipality covers an area of 373.39 hectares, accounting for 0.59% of the total land area. The provision ratio of open spaces to the current population is 1.74 hectares per 1,000 residents, which falls below the recommended provision ratio of 2 hectares per 1,000 residents outlined in the Open Space and Recreation Land Planning Guidelines and Murninet Indicators.







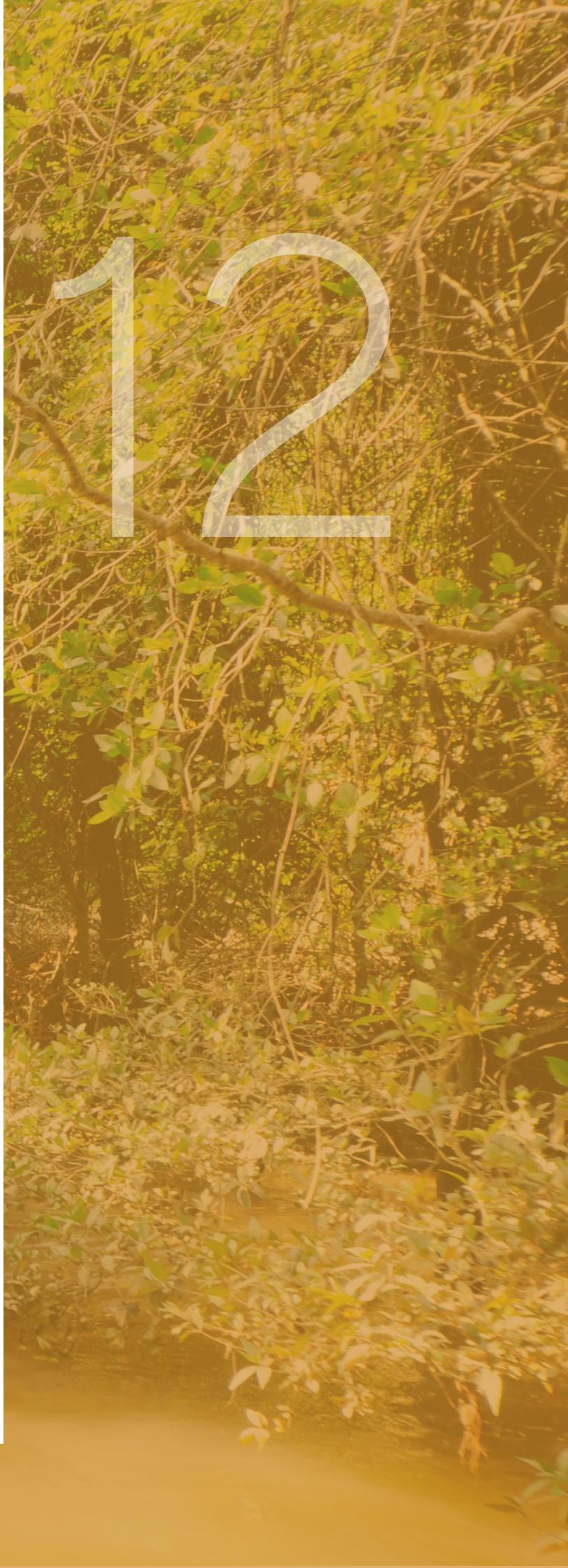
**12** RESPONSIBLE  
CONSUMPTION  
AND PRODUCTION



# Responsible Consumption and Production

Alor Gajah's waste management, spearheaded by SWCORP, is witnessing promising progress with positive trend indicators, particularly in waste separation and recycling efforts, aligning with the principles of SDG 12. However, it is crucial to address the concern of an increased volume of solid waste generated, necessitating further focus on waste reduction strategies and sustainable practices to achieve the goal of responsible consumption and production outlined in SDG 12.

**12**





## 12.5 Substantially Reduce Waste Generation

Based on the waste disposal statistics in the Alor Gajah district over a four-year period (2016 to 2020), there was a consistent increase in the amount of solid waste being discarded each year, with the highest increase recorded at 79.5%. Specifically, the waste disposal increased from 28,319.06 tons in 2019 to 50,839.74 tons in 2020. According to information from SWCorp, this significant increase in waste generation in 2020 can be attributed to the construction of new developments, which led to a rise in the local population. Additionally, the majority of residents stayed at home during the Covid-19 pandemic, further contributing to the increased domestic waste production.

To address this issue and substantially reduce waste generation in Alor Gajah, several measures have been implemented. Firstly, efforts have been made to control and manage the construction of new developments more efficiently. This includes stricter waste management guidelines and increased awareness among developers to minimize waste production during construction activities.

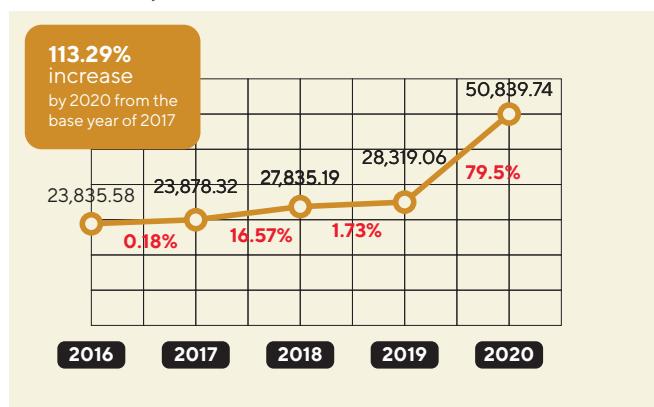
Furthermore, the district has focused on promoting waste reduction and recycling practices among residents. Various initiatives, such as educational campaigns and community programs, have been introduced to raise awareness about the importance of waste segregation, recycling, and composting. These efforts aim to encourage residents to adopt more sustainable waste management practices in their daily lives.

### Recycled Waste

Additionally, the local authorities have implemented stricter regulations and enforcement measures to ensure compliance with waste management guidelines. This includes monitoring waste disposal sites, conducting regular inspections, and imposing penalties for non-compliance. By enhancing accountability and enforcing responsible waste management practices, Alor Gajah aims to curb the excessive generation of waste.

Over the four-year period, the daily waste generation in Alor Gajah ranged from 65.30 tons to 139.28 tons, as indicated in the provided table. However, through these comprehensive efforts and initiatives, the district has made significant progress in reducing waste generation and promoting a more sustainable approach to waste management.

**Table 3.2** Total Waste Generation in Alor Gajah District, 2016 – 2020 (Tonnes/year)





**Table 3.3** Amount of Waste Segregation Caused in the Alor Gajah District

Year	Amount of Waste Segregation at Source Per Year (Tons)	Amount of Waste Segregation at Source Per Day (Tons)
2015	12,421.00	36.76
2016	61,189.00	167.64
2017	60,513.00	165.78

*Source: Community Participation and Performance of Waste Segregation Program in Malacca: Towards Sustainable Waste Management, 2019*

The amount of waste disposal at the source in Alor Gajah increased from 13,421 tons in 2015 to 60,513 tons in 2017. This indicates a significant rise in the amount of waste generated at the source. On a daily basis, the waste disposal at the source also showed an increase from 36.76 tons per day in 2015 to 165.78 tons per day in 2017.

Household residents are encouraged to separate recyclable domestic waste such as paper, plastic, and glass. Similarly, for construction, industrial, commercial, and institutional premises, they are also encouraged to segregate recyclable waste as stated in the Solid Waste Management and Public Cleansing Regulations [P.U. (A) 181/2018] and [P.U. (A) 278/2018].





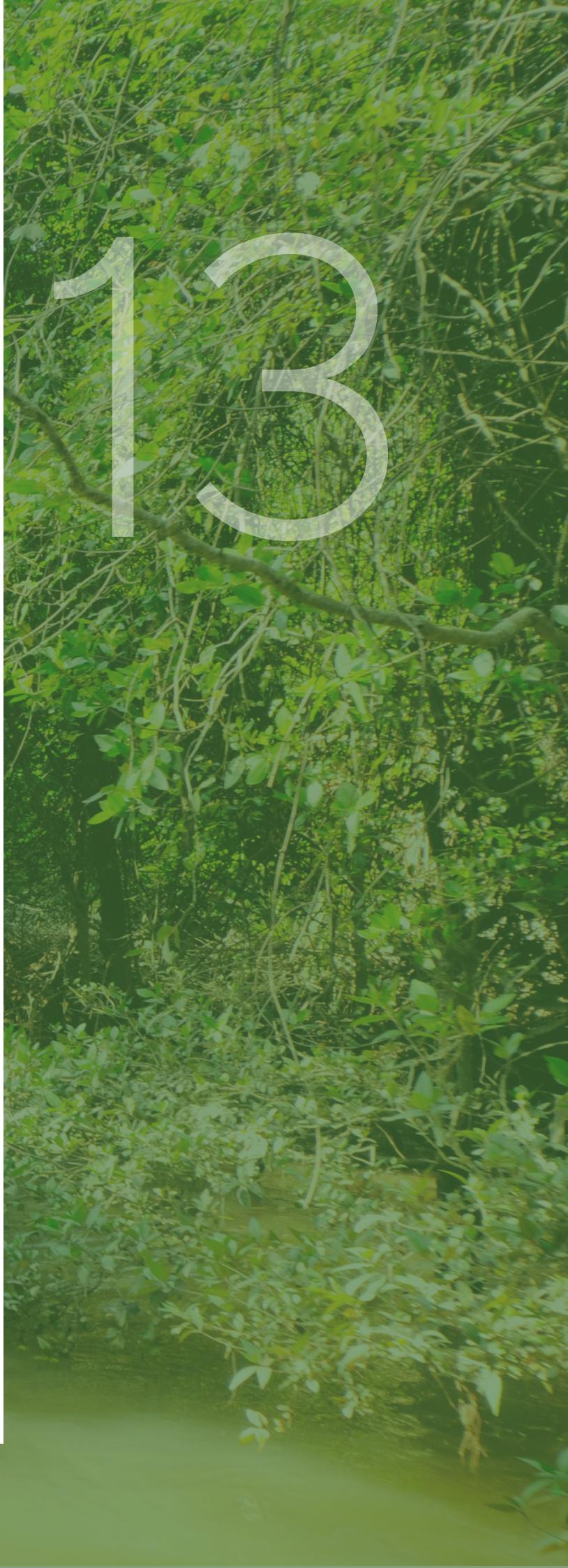
**13** CLIMATE  
ACTION



## Climate Action

In Alor Gajah, efforts are being made to address SDG 13, which focuses on combating climate change. The municipality is actively working to strengthen resilience and adaptability to climate-related disasters by investing in infrastructure and disaster response mechanisms. Climate change measures are being integrated into policies and planning, considering land use, infrastructure, and resource management. Knowledge and capacity-building initiatives are being implemented to raise awareness and enhance skills for climate change mitigation and adaptation. These localized efforts aim to contribute to global climate change goals and create a sustainable and resilient future for Alor Gajah.

**13**





## 13.1 Strengthen Resilience and Adaptive Capacity to Climate Related Disasters

### Floods

Floods are the most frequent natural disasters occurring in Alor Gajah. Recognizing this risk, Alor Gajah has been actively preparing for climate actions to address and mitigate the impact of floods. By identifying the recurring occurrence of floods, the local authorities and communities in Alor Gajah have been working towards strengthening their resilience and adaptive capacity. In general, there are three (3) types of floods that occur in the Alor Gajah region, which are as follows:

Monsoon floods or major floods are floods that occur over a relatively long period and involve the displacement of residents and property damage. The main cause of major floods is exceptionally heavy rainfall, which subsequently increases the volume and water levels of rivers. Strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries can help mitigate the impacts of major floods in Alor Gajah by improving early warning systems, implementing effective evacuation plans, and constructing flood-resistant infrastructure.

Flash floods are floods that occur over a short period, with the floodwaters receding within less than a day. The displacement of residents is rare during flash floods because they occur within a brief timeframe. Throughout the state of Melaka, flash floods are caused by intense rainfall coupled with rapid urban development, which exacerbates the severity of these events. Strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries can contribute to addressing flash floods in Alor Gajah by implementing sustainable urban planning, promoting proper drainage systems, and enhancing community preparedness.

Floods caused by tidal surges primarily occur in areas near the coastal regions. These floods result from the rise and fall of sea levels, impacting nearby coastal communities. Strengthening resilience and adaptive capacity to climate-related hazards and natural disasters in all countries is crucial for addressing these coastal floods in Alor Gajah. This can involve implementing coastal protection measures, such as constructing sea barriers and embankments, and promoting land-use planning that considers the risks associated with tidal surges.

### Flood Area.

Based on the Annual Flood Report of Melaka State from 2016 to 2019, which was released by the Melaka State Drainage and Irrigation Department (JPS), it was found that the number of flood locations varied each year. In 2016, there was one (1) flood location, in 2017 there were twenty-two (22) flood locations, in 2018 there were seven (7) flood locations, and in 2019 there were thirty-four (34) flood locations. The depth of the floods ranged from 0.15 meters to 1 meter. During the period of 2016 to 2019, a total of thirteen (13) rivers and two (2) drains were identified as the sources of these floods.

As part of the efforts to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters, one of the measures taken is the provision of flood detention ponds, flood warning sirens, rainfall monitoring stations, and water level measurement stations. These facilities play a crucial role in achieving Sustainable Development Goal 13.1, which aims to enhance the ability of a city to cope with climate-related hazards.

By implementing flood detention ponds, excess water during heavy rainfall can be temporarily stored, reducing the risk of immediate flooding and allowing for gradual release. There are four detention ponds in Alor Gajah:

Rainfall monitoring stations provide real-time data on precipitation patterns, aiding in flood prediction and preparedness efforts. In total there are 10 rainfall monitoring stations in Alor Gajah which are

1. Ladang Sungai Baru
2. Ladang Lendu
3. Solok Duku
4. Ladang Sing Lian
5. Simpang Empat
6. Sungai Siput
7. Tanjung Rimau
8. Ladang Tebolang
9. Ladang Pegoh
10. Melaka Pindah

Water level measurement stations help monitor and assess the rise and fall of water levels in rivers and other bodies of water, providing vital information for flood management and response. There are two stations which are Sungai Melaka Station in Durian Tunggal (Down Stream) and Melaka Pindah.

Flood warning sirens help alert communities in advance, enabling timely evacuation and emergency preparedness. However, Alor Gajah currently does not have a flood warning system in place. Nevertheless, the area currently only has an automatic water gate system. This system automatically opens the water gates to release water into the flood detention ponds when the water capacity reaches its maximum limit.

Currently, there are tidal gates installed in the Alor Gajah along the Melaka River estuary. In Durian Tunggal, the tidal gates are equipped with automatic water level sensors. However, these sensors are no longer functional. As a result, the JPS has subsequently provided new water level sensors to address this issue.

Generally, there are three main projects implemented to address flood issues, namely:

- Flood Mitigation Plan: A plan formulated by the Department of Drainage and Irrigation (JPS) that focuses on river improvements, such as upgrading riverbank structures.
- Integrated River Basin Management (IRBM): A plan also developed by JPS that emphasizes the management of river basins, including landscape enhancements along riverbanks.
- Drainage Master Plan (DMP): A comprehensive master plan crafted by JPS, encompassing all drainage systems, including tributaries, and containing detailed strategies for enhancing the drainage system and channels.



## Flood Mitigation Plan

Under the Melaka Budget Plan in 2019, a flood mitigation project in Alor Gajah was allocated a budget of RM30 million. The Alor Gajah district currently has one (1) existing Flood Mitigation Plan (FMP), and two (2) additional FMPs are in the planning stage.

- **Alor Gajah FMP Phase 2**

This FMP is still in the process of seeking allocation to be included in the 12th Malaysia Plan (RMK-12). There are issues regarding land acquisition for the project, specifically related to upgrading the drainage system to the confluence of the Melaka River.

- **Sungai Linggi FMP Phase 5**

Bank rehabilitation works for Phase 5, which will be included in the 12th Malaysia Plan (RMK-12), will commence from Kampung Nyatoh in Rantau to Kampung Sri Mantau, Mambau. The areas involved are Kampung Sri Mantau (scheduled for implementation in 2021) and Kampung Mawar (scheduled for implementation in 2021).

- **Gadek FMP, Alor Gajah**

The construction of this FMP aims to address flood issues in Durian Tunggal. A detention pond was constructed in 2017. Land acquisition work has been carried out for river widening and deepening activities.



## 13.2 Integrate Climate Change Measures Into Policies and Planning

In line with the goal to integrate climate change measures into policies and planning, Alor Gajah has successfully incorporated these measures into various initiatives, such as the draft Alor Gajah Local Plan, Local Agenda 21, and the Strategic Plan of the Alor Gajah Municipal Council (MPAG). These efforts have been translated into concrete actions, including the implementation of programs like the Pulau Semut Village Sustainable Communities Program (PSVSC) and the participation in the Low Carbon Cities 2030 Challenge.

## 13.3 Build Knowledge and Capacity to Meet Climate Change

Alor Gajah has implemented a comprehensive approach to improve education, raise awareness, and strengthen the human and institutional capacity to address climate change mitigation, adaptation, impact reduction, and early warning systems, in line with SDG 13.3. This includes awareness-raising campaigns and community engagement programs have been conducted to inform residents about the importance of climate change actions and encourage their active participation during the Alor Gajah Car Free Day and Pulau Semut Village Sustainable Communities Program (PSVSC)

Furthermore, Alor Gajah has invested in capacity-building programs for government agencies, local authorities, and relevant stakeholders to enhance their knowledge and skills in climate change mitigation and

adaptation strategies during the Low Carbon Cities 2030 Challenge and Alor Gajah SDG City Roadmap. This includes training sessions, workshops, and seminars to equip individuals and institutions with the necessary tools and expertise to effectively respond to climate-related challenges.

The efforts of Alor Gajah extend beyond education and capacity-building. They have also established early warning systems that utilize advanced technology and data analysis to monitor weather patterns, river levels, and other critical indicators. These systems enable timely alerts and provide valuable information to residents, allowing them to take precautionary measures and respond proactively to potential climate-related hazards.

Through these comprehensive actions, Alor Gajah aims to foster a climate-resilient community that is well-informed, empowered, and prepared to address the challenges posed by climate change.







## Life on Land

In the context of Alor Gajah, aligning with Sustainable Development Goal 15 on life on land involves conserving the remaining forested areas, particularly the crucial mangrove forests in Kuala Linggi and Tanjung Tuan, to preserve biodiversity. Sustainable land management practices, combating illegal wildlife trade, and engaging local communities in conservation efforts are key to achieving this goal. By protecting ecosystems, preventing land degradation, and raising awareness, Alor Gajah can contribute to the broader objective of sustaining terrestrial ecosystems and biodiversity for the benefit of present and future generations.

The land use data for the Alor Gajah Municipal Council (MPAG) in 2020 indicates that the forested area is less than 2%, covering approximately 1,200 hectares, which accounts for 22% of the total forested area in Melaka state. Despite its relatively small size, the remaining forested areas within MPAG are of vital importance, particularly the mangrove forests found in Kuala Linggi and Tanjung Tuan. These forests serve as critical habitats for a diverse range of wildlife and plant species that are unique to wetland areas. The mangrove forests also play a significant role in supporting the reproduction of marine life, thus contributing to the preservation of marine resources.

# 15





## 15.1 Freshwater Ecosystem

As nearly 70% of the MPAG area is located within the Melaka River basin, it is crucial in terms of serving as a water catchment area. This is particularly relevant to SDG 15.1, which focuses on freshwater ecosystems. The Durian Tunggal Reservoir serves as a vital water source not only for MPAG but also to meet the water demands of the entire state of Melaka.

However, there have been instances where residents in MPAG experienced water shortages due to prolonged dry seasons and low water levels in the Durian Tunggal Reservoir from 2019 to 2021. By the end of September 2019, the situation became critical, necessitating the pumping and distribution of water from the Tasik Biru reservoir in the Jasin district to consumers in MPAG.

The Melaka Water Regulatory Authority (Badan Kawal Selia Air Melaka) is the main agency responsible for managing and planning water resources in MPAG, including the Durian Tunggal Reservoir, Jernih Water Treatment Plants, and other reservoirs. It is also accountable for ensuring the preservation of water supply quality through the declaration and management of reservoir reserves and the control of activities in the upstream areas within the reservoir catchment as well as at water intake points (such as Gadek River and Siput River).

## 15.5 Protect Biodiversity and Natural Habitats

### Environmental Sensitive Areas (ESA)

Environmental Sensitive Areas (ESA) or Kawasan Sensitif Alam Sekitar (KSAS) in Alor Gajah refer to designated zones within the region that require special

attention and conservation due to their environmental significance. These areas are identified based on their heritage value, ecological support, and the need for protection against natural disasters. They encompass various ecosystems, including river basins, coastal areas, and important habitats for wildlife.

The KSAS in Alor Gajah are crucial for maintaining water catchment areas, preserving biodiversity, and safeguarding valuable natural resources. These areas play a vital role in sustaining the region's ecosystem services, such as water supply, soil conservation, and habitat connectivity for wildlife.

MPAG has identified these areas in the National Physical Plan in order to regulate development activities in areas of heritage value, ecological support, and disaster protection to mitigate the adverse effects of natural disasters.

ESA in Alor Gajah is categorized into three levels based on their management requirements. These levels consider the specific characteristics and conservation needs of each area.

**Table 3.4** Levels of ESA Management Area

Level 1 ESA
Empangan Durian Tunggal
Takungan Air Pinggiran Sungai (TAPS) Jernih
River bank of Sg Melaka, Sg Siput, Sg Baru
Tanjung Tuan Wildlife Reserve
Level 2 ESA
Forest Reserved Areas; Kuala Linggi, Linggi, Linggi (Tambahan), Sg Udang, Tg Tuan, Sg Baru Ilir, Sg RS Baru Ulu, Taboh Naning, Kemuning
Recreational Forest Paya Laut Kuala Linggi, Sg Udang dan Tg. Tuan
Durian Tunggal Dam and TAPS Jernih
Level 3 ESA
Coastal areas of Kuala Linggi and Balik Batu



The ESA designated in the MPAG 2020 Local Plan found that nearly 70% of the MPAG area is proposed as Level 1 ESA. This includes the Melaka River basin, which is considered a crucial water catchment area and habitat. Additionally, all High Conservation Value Areas (HCVAs) are designated as protected areas and fall within Level 1, along with the coastal areas stretching from Kuala Linggi to Tg. Bidara, which is the most important landing site for green turtles in Peninsular Malaysia.

By implementing these three levels of ESA management, authorities can tailor conservation strategies to suit the specific needs and characteristics of different areas. This ensures a comprehensive and balanced approach to environmental protection, taking into account the importance of strict preservation, controlled human activities, and safeguarding ecological connectivity within and around these sensitive areas.

### **Forest**

Nearly half (43.2%) of the forest area in MPAG has been declared as Permanent Forest Reserve (HSK) managed by the Department of Forestry, Melaka State. All HSK areas are classified as protected forests, which means no logging activities are allowed. Some of these forests also serve as Wildlife Reserves, such as Tg. Tuan, managed jointly with the Department of Wildlife and National Parks (PERHILITAN) of the state.

In 2012, the HSK in MPAG was only 345.21 hectares. The recent declaration of HSK Kuala Linggi in 2012 added 102.7 hectares, making it the largest HSK area in MPAG. The HSK area continued to expand with two more recent declarations in 2016 at Sungai Baru Hilir and Taboh Naning. The increase in HSK area is impressive considering the limited land area of MPAG and the already small existing forest areas. The declaration of HSK Kuala Linggi in 2012 was a crucial step in preserving the only mangrove ecosystem in MPAG and among the three mangrove areas in Melaka.



Photo: XXX (MPAG to provide)



# Peace, Justice and Strong Institutions

SDG 16 in Alor Gajah is dedicated to promoting peaceful and inclusive societies for sustainable development. The goal encompasses multiple facets, including ensuring access to justice for all individuals and communities. It emphasizes the importance of building effective, accountable, and inclusive institutions at all levels of governance, from local to national. By strengthening institutions and promoting inclusivity, SDG 16 aims to create a society that upholds the principles of justice, equality, and the rule of law. The goal also emphasizes the need for transparent and accountable governance structures, as well as the participation and engagement of all segments of society in decision-making processes. By focusing on SDG 16, Alor Gajah is striving to create a harmonious and equitable environment that fosters sustainable development and the well-being of its residents.

# 16





## 16.1 Reduce Violence Everywhere

The police service plays a crucial role in ensuring the security and safety of the local area, as well as preventing and combating crime. The police service in the administrative area of MPAG consists of the District Police Headquarters, Police Stations, and Police Posts. There is a District Police Headquarters overseeing all 12 police stations and 7 police posts in the MPAG administrative area. A total of 512 security personnel serve in the MPAG area.

In terms of crime index, the crime index in Alor Gajah has experienced a significant decrease of 22.3% from 2019 to 2021.

The crime rate index refers to a statistical measure used to assess the level of criminal activity within a specific area or community. It is typically calculated based on the number of reported crimes relative to the population size. A lower crime rate index indicates a lower level of reported criminal incidents.

There are several factors contributing to this decline in the crime rate index. It is attributed to various proactive measures taken by law enforcement agencies, such as increased police presence, improved community policing efforts, and enhanced crime prevention strategies. Additionally, community engagement and awareness programs, coupled with efficient investigation and prosecution processes, have also played a role in reducing criminal activities.





## 16.5 Substantially Reduce Corruption and Bribery

Alor Gajah has made significant efforts to tackle corruption and bribery in all their forms, aligning with Sustainable Development Goal (SDG) 16.5. The district has implemented an Anti-Corruption and Integrity Plan as well as established an Integrity Unit to address these issues effectively.

The efforts to substantially reduce corruption and bribery have had positive effects on various aspects of the district's governance and development. They have contributed to a more transparent and accountable administration, improved public trust, and facilitated fair and equitable access to public services and resources. By maintaining a strong focus on integrity and combating corruption, Alor Gajah has taken significant steps towards achieving SDG 16.5 and creating a more just and inclusive society.

### Anti-corruption and Integrity Plan

- **Anti-Corruption Plan**

The Anti-Corruption and Integrity Plan serves as a comprehensive framework that outlines strategies, policies, and actions aimed at preventing, detecting, and combating corruption within Alor Gajah. It includes measures to promote transparency, accountability, and ethical behavior among public officials and employees. The plan sets clear guidelines and procedures to ensure that all activities and transactions are conducted with integrity.

- **Integrity Unit of MPAG**

To ensure the effective implementation of the plan, Alor Gajah has established an Integrity Unit. This specialized unit is responsible for overseeing and enforcing anti-corruption measures, investigating allegations of corruption, and promoting a culture of integrity within the municipality council. The Integrity Unit works closely with relevant authorities, such as law enforcement agencies and anti-corruption bodies, to strengthen the fight against corruption. Through these initiatives, Alor Gajah has created a robust framework to prevent and combat corruption. By promoting transparency, accountability, and ethical practices, the district has fostered an environment that discourages corrupt practices and encourages responsible behavior among public officials and employees.

- **Anti-Corruption Committee**

In addition, Alor Gajah has established the Jawatankuasa Anti Rasuah (Anti-Corruption Committee) within the Alor Gajah Municipal Council (MPAG). This committee aims to enhance the efficiency and transparency of government management based on principles of governance, integrity, and anti-corruption. The Jawatankuasa Anti Rasuah plays a crucial role in promoting a culture of integrity and anti-corruption within MPAG. It actively identifies and addresses potential corruption risks, implements preventive measures, and conducts internal investigations when necessary. By doing so, the committee ensures that the council's operations adhere to the highest standards of governance, transparency, and accountability and deepening activities.



## 16.7 Ensure Responsive, Inclusive and Representative Decision-making

Alor Gajah is committed to ensuring responsive, inclusive, participatory, and representative decision-making processes at all levels of governance. The city recognizes the importance of engaging stakeholders and promoting their active involvement in decision-making for the betterment of the community.

During the drafting of the Alor Gajah Local Plan, extensive efforts were made to encourage public engagement. The district actively sought input from residents, businesses, community organisations, and other relevant stakeholders. Public consultations, workshops, and meetings were conducted to gather feedback, suggestions, and concerns regarding the development and planning of the district. This inclusive approach allowed diverse perspectives to be considered, ensuring that the Local Plan reflects the needs and aspirations of the community it serves.

Moreover, Alor Gajah recognizes the significance of the SDGs in guiding sustainable development efforts. In the formulation of the SDG roadmap, numerous stakeholders were involved, ranging from council members and technical agencies to the general public. Through workshops, focus group discussions, and consultations, input from stakeholders was collected to identify priority areas, set targets, and develop strategies to achieve the SDGs within the city. This participatory approach ensured that the SDG roadmap truly represented the collective aspirations and concerns of Alor Gajah's stakeholders.





## Wayforward

Alor Gajah Mayor emphasizes the importance of approaching sustainable in an integrated manner and empowering the communities.







## WAY FORWARD

The Alor Gajah Voluntary Local Review serves as a significant tool for the district and its stakeholders to collaboratively enhance sustainable development and update its sustainability strategy. This report also serves as an important platform to engage with the public and residents of Alor Gajah, providing them with well-informed information for discussions and deliberations on the 17 Sustainable Development Goals (SDGs). It identifies new data sets, potential solutions for each SDG challenge, and new actors who can contribute to holistic development solutions.



This Voluntary Local Review is instrumental in educating and informing local, national, and global audiences about Alor Gajah's progress. It demonstrates that the district and its local government play a vital role in the global implementation of the 17 SDGs. Alor Gajah has successfully integrated and implemented the SDGs into its statutory planning documents, specifically the Alor Gajah Local Plan. This highlights the commitment of the district towards the 2030 Agenda, further reinforced by the SDG roadmap that realigns and reprioritizes strategies and initiatives.

By submitting this comprehensive report to the United Nations, Alor Gajah is spearheading indicator-based sustainability reporting, which will become a new tradition for the city. The indicators have been tailored to the specific context of Alor Gajah and are linked to the SDG roadmap, which systematically aligns with the 17 Sustainable Development Goals. This roadmap sets clear goals for the city until 2030 and outlines significant initiatives to achieve these goals.

However, Alor Gajah still faces key challenges such as improving efficient public transportation for its growing population, fostering inclusivity and integration among communities, and reducing environmental impacts. These issues require concerted efforts and innovative approaches. Alor Gajah recognizes its important role in driving societal change and remains dedicated to addressing these challenges as it progresses towards sustainable development.

