



MANAGEMENT PLAN

LANGKAWI

UNESCO GLOBAL GEOPARK

2024–2028



LANGKAWI DEVELOPMENT AUTHORITY (LADA)

Lembaga Pembangunan Langkawi

geopark@lada.gov.my





First Print, 2024

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Published in Malaysia by:

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Pointlink Ventures Sdn Bhd

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Pulau Jong



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Foreword



Langkawi was declared a UNESCO Global Geopark in 2007, and since then, Langkawi's tourism industry has grown rapidly and has become the main driver for investors and the local community. The idea of a geopark is on the tourism agenda on this island, but it still has a positive impact through the comprehensive development of Langkawi. I am proud that the Langkawi UNESCO Global Geopark Management Plan 2024–2028 is prepared as a guide to empower the implementation of geopark programmes and projects for the next 5 years. I believe this management plan is in line with the Kedah 2030 vision and will expand the development potential of the state through tourism products based on heritage resources and beautiful landscapes.

The Geopark vision also plays a role in uplifting the socio-economics of the local community through innovation opportunities in the tourism sector. I am confident that this management plan has set comprehensive strategies and actions to ensure that Langkawi is able to improve its competitive ability while maintaining its position as a world tourism destination. Among the important things that need to be paid attention to is balancing efforts to conserve heritage with sustainable development. I hope all stakeholders pay attention to consulting and implementing the project guided by this management plan.

In the meantime, I am interested in the idea of introducing this tourism island with an innovative approach known as geotourism. It involves a new approach to introducing natural and cultural heritage in an integrated manner. In addition, this kind of tourism needs to respect the practices and traditions of the local community. Through geotourism, guests can not only enjoy beautiful scenery but also get to know the secrets of nature and the uniqueness of local culture.

My appreciation and congratulations go to all parties involved in preparing this management plan, especially the Langkawi Development Board (LADA) as the lead agency to make the geopark agenda successful for the well-being of the community in Langkawi.

YAB Dato' Seri Haji Muhammad Sanusi bin Md Nor

Chief Minister of Kedah

Chairman of the Langkawi UNESCO Global Geopark Advisory Council





Gegelang Mahsuri

Preface



Thank you for inviting me to deliver a few words on this important document. Well done for pioneering the global geopark vision, which is the sustainable development of the region based on outstanding geological values to stimulate heritage conservation, public education, and sustainable tourism.

Langkawi became a Global Geopark family in 2007 and was recognized as a UNESCO Global Geopark in 2015 when the International Geoscience and Geopark Program (IGGP) was approved by UNESCO. This is the world's highest recognition for the Langkawi Islands and the people. Now, Langkawi is not just an international tourist destination but a region that has a geological heritage of global importance and is managed holistically based on the vision of preservation, education, and sustainable development.

I congratulate the Langkawi Development Authority (LADA), which is the lead agency, for leading Langkawi Geopark through four reassessment missions with excellence. Langkawi Geopark is seen as a leader in geopark development in Southeast Asia and a reference in the Asia-Pacific region. This achievement is certainly supported by all stakeholders, especially local communities, government agencies, and tourism players.

The Langkawi UNESCO Global Geopark Management Plan 2024-2028 is special because this is the first time Langkawi Geopark examines its strengths and weaknesses and plans an action plan based on the global geopark vision. The focus is on aspects of sustainability governance, heritage conservation, community empowerment, knowledge tourism, and visibility. Allow me to say many thanks to all the parties involved during the drafting and revision of this management plan. Hopefully, this document will be a guide to pushing Langkawi Geopark to a higher level.

Professor Emeritus Dato' Dr. Ibrahim Komoo
Vice President, Global Geopark Network (GGN)
Advisor, Langkawi UNESCO Global Geopark





Message



The Langkawi UNESCO Global Geopark Management Plan is the first strategic document to manage Langkawi Geopark based on core values, key components, and focused programmes to ensure Langkawi continues to be a leading and reference geopark in Asia Pacific. This management plan gives high attention to improving heritage conservation efforts, developing geotourism products, and strengthening the ability of local communities to work together in the knowledge-based tourism industry.

This management plan introduces five new initiatives, 10 branded programmes, and 33 targeted projects to ensure its development is in line with the geopark's global vision. In the context of governance, this management plan will focus on expanding actions based on joint management that have been established. At the same time, strengthening the role of the Geopark and Sustainability Section. The Langkawi Development Authority (LADA), as the lead agency, will continue its role in making Langkawi Geopark the world's best geotourism destination.

Langkawi, which has received global recognition as a geopark since 2007, has gone through four re-evaluation processes with excellence (green card). This shows that the programmes and activities carried out over the years have successfully strengthened the geopark agenda, making Langkawi a magnificent island in the region. In an effort to ensure the geopark's sustainability, LADA will focus on several issues, including challenges such as the conservation of geoheritage, the development of new geoproducts, and increasing community involvement in various geopark activities. All this will be explained in this management plan so that Langkawi continues to be an aspiration in the eyes of the world.

On this occasion, I would like to say a thousand thanks to all the stakeholders involved in providing suggestions and insights to make this management plan a success. Let us together succeed in all the programmes, projects, and activities recommended to raise the excellence of Langkawi Geopark.

Thank you.

Dato' Haslina Binti Abdul Hamid

Chief Executive Officer of the Langkawi Development Board (LADA)

Co-chairman of the Coordination Committee

Langkawi UNESCO Global Geopark





Pasir Tengkorak



Getting To Know Langkawi UNESCO Global Geopark





| The peak of Gunung Raya

▶ I.1 Introduction

Geoparks are special territories containing natural heritage and outstanding landscapes that need to be managed holistically by giving special consideration to heritage preservation, public education, and sustainable development actions.

The Langkawi UNESCO Global Geopark Blueprint outlines the management framework, strategic direction, and proposed implementation of programmes, projects, and activities that can elevate Langkawi to the status of leader and UNESCO Global Geopark reference centre in the Asia-Pacific region.

This five-year management plan was developed based on the UNESCO Global Geopark status and guidelines, consultation with all key stakeholders, recommendations in several Langkawi planning and tourism documents, advice from the Langkawi Development Authority (LADA), and synthesis by a team of national geopark experts. This plan is an effort towards celebrating the earth's heritage and the well-being of the local community.



Kubang Badak BioGeotrail: Coastal traditional fishermen are involved in geotourism, sharing life experiences with tourists.



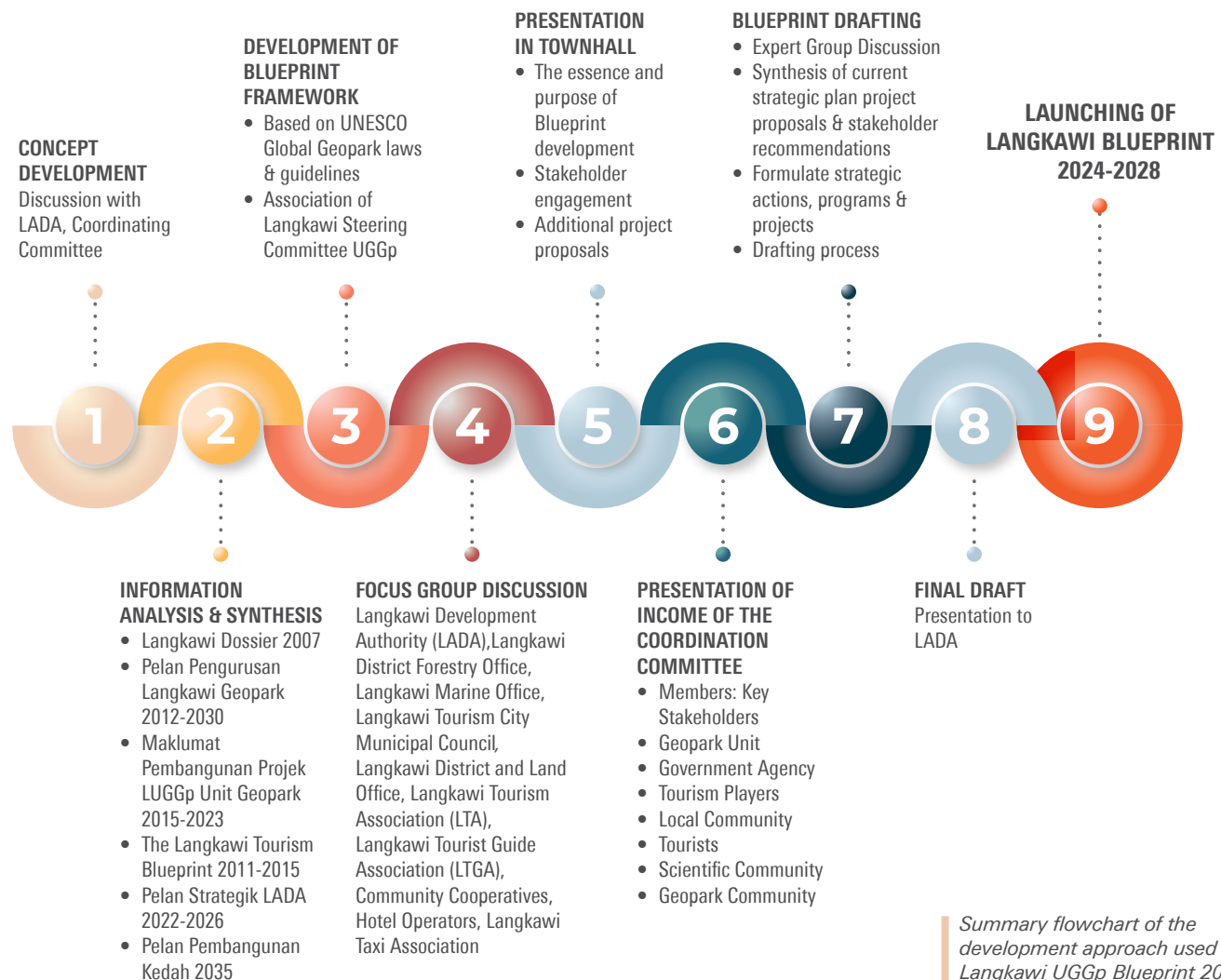
Farmers catch fish in water lines after plowing the rice fields.



APGN meeting in 2010 during the 4th International Conference of UNESCO Geoparks in Langkawi.



Tanjung Rhu



Summary flowchart of the development approach used in the Langkawi UGGp Blueprint 2024-2028.



I.2 History of the Development of Langkawi Geopark

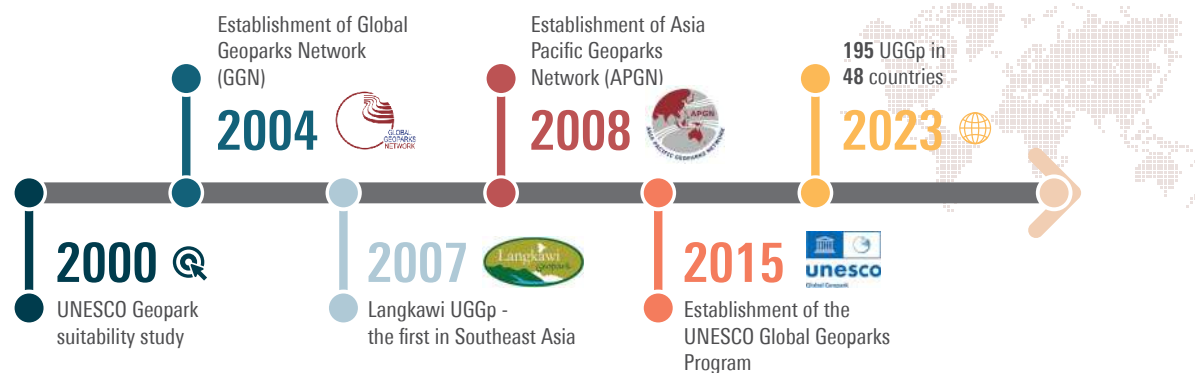
The idea of a geopark was born in Langkawi in 1996, when UKM and LADA signed an MoU to work together to develop geological heritage resources as an innovative tourism product.

Efforts to develop the concept and initial preparations to make Langkawi a geopark began in 2000, when a geopark expert from Langkawi was asked to help write an example of a geopark in the policy paper, the Feasibility Study of the UNESCO Global Geoparks Programme.

In May 2006, Langkawi Geopark was declared open by the Kedah government and in June 2007, was accepted as a member of the Global Network of National Geoparks. In 2015, when UNESCO created the International Geoscience and Geoparks Programme (IGGP), Langkawi was automatically declared a UNESCO Global Geopark.



Langkawi's proposed report in 2000 as a Malaysian geopark candidate was included in the Feasibility Study of the UNESCO Global Geoparks Programme document.



UNESCO Global Geopark development timeline.



Map of Langkawi Geopark



MoU signing ceremony between LADA and UKM on December 18, 2006.



Palm-marking ceremony during the Langkawi Global Geopark assessment mission in 2007 by three UNESCO assessors (Dr. Patrick McKeever, Prof. Dr. Zhao Xun, and Margarete Patzak). Dato' Kamarulzaman Abdul Ghani and Prof. Dr. Ibrahim Komoo were also present.



A historic event occurred when UNESCO certified the UNESCO Global Geopark Programme based on the recommendations of the 38th UNESCO Science Commission on November 9, 2015, in Paris, chaired by Tan Sri Dr. Noorul Ainur Mohd Nur (Malaysia) (fourth from left).



Langkawi Geopark was reassessed as a UNESCO Global Geopark for the second time in 2015 by the UNESCO expert group, Mr. Pablo Rivas Palomo from Spain and Mr. Pasquale li Puma from Italy.



The 3rd Langkawi Geopark reassessment mission in 2019 was conducted by assessors from the UNESCO expert group, Mr. Sigurdur Sigurveinsson (Katla UGGP, Iceland) and Dr. Kirstin Lemon (Geological Survey Northern Ireland).

▶ I.3 The First Global Geopark in Southeast Asia

In 2007, Langkawi was declared the first global geopark in Southeast Asia. Langkawi also became the first global geopark in the Asia-Pacific region outside of China.

Langkawi UGGp became the first organiser of the Regional Symposium on Asia Pacific Geoparks in 2007. During this symposium, discussions to establish the Asia-Pacific Geoparks Network (APGN) were held.

In 2008, the Asia-Pacific Geoparks Network (APGN) was certified by the Global Geoparks Network (GGN), making it the first regional network outside of Europe. Langkawi UGGp was appointed as the APGN Founding Coordinator for 10 years, and this role was handed over to China in 2016.






At the global level, Langkawi UGGp successfully organised the 4th International Conference on Global Geoparks in 2010, and became a regional training centre by organising the Regional Course on UNESCO Global Geoparks as an annual event. Langkawi UGGp is the driver, advisor, and leader of the UNESCO Global Geopark in Southeast Asia, and a reference geopark in the Asia Pacific region.



Langkawi Geopark Re-evaluation Mission in 2023: Her Royal Highness Dato' Seri DiRaja Tan Sri Tunku Puteri Intan Safinaz binti Almarhum Sultan Abdul Halim Mu'adzam Shah, together with an evaluator from UNESCO, Prof. Yuanyuan Zheng and Dr. Jeon Yongmun.



The 6th UNESCO Global Geoparks Regional Course was conducted in October 2023. This course is recognised by the Global Geopark Network (GGN) as the first regional course in Southeast Asia.

COUNTRIES		GLOBAL GEOPARK	YEAR OF ESTABLISHMENT	AREA KM ²
	Indonesia	Batur	2012	370
		Gunung Sewu	2015	1,802
		Rinjani-Lombok	2018	2,800
		Ciletuh – Palabuhanratu	2018	1,260
		Raja Ampat	2020	36,660
		Toba Caldera	2020	1,130
		Belitong	2021	4,800
		Ijen	2023	4,723
		Maros Pangkep	2023	5,077
		Merangin Jambi	2023	4,832
	Malaysia	Langkawi	2007	478
		Kinabalu	2023	4,750
	Thailand	Satun	2018	2,597
		Khorat	2023	3,167
	Philippines	Bohol Island	2023	8,808
	Vietnam	Dong Van Karst Plateau	2010	2,356
		Non Nuoc Cao Bang	2018	3,000
		Dak Nong	2020	4,760

List of Geoparks in Southeast Asia.



I.4 Overcoming Challenges

Geopark is an action agenda towards sustainable development and is a work in progress. Many successes have been achieved since its inception. Langkawi UGGp has clear leadership, led by the Langkawi Development Authority (LADA), with good human and financial capital support.

The support of the scientific community is very strong, especially with the presence of the Langkawi Research Centre at Universiti Kebangsaan Malaysia (LRC-UKM). Studies on geological, biological, cultural heritage, and sustainability science continue; information is transferred directly for public education and tourism development.

However, the understanding and acceptance of the geopark vision among geopark residents, especially tourism players, is still limited. This is perhaps because Langkawi has become a world tourist destination since the 1980s. Therefore, the change of attitude towards a region that practises sustainability, and the empowerment of local community involvement is still a challenge.

Because LADA has a role almost identical to the vision of the geopark, the management of LADA is deeply involved. The idea of 'joint management' still needs to be strengthened through more active involvement of other key stakeholders, including local communities.

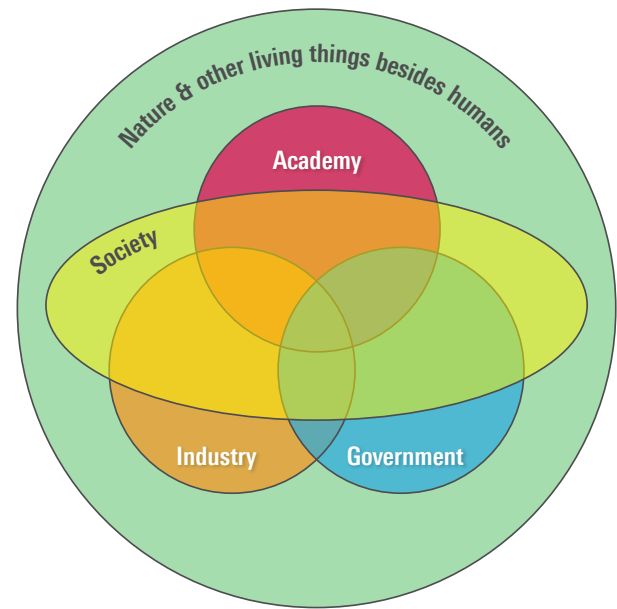
Geosites of outstanding heritage value still need to be conserved based on their true value, rather than relying solely on the conservation of Permanent Forest Reserves.

Langkawi UGGp has important conservation value to maintain the unique geological, biological, and cultural heritage of the region. Heritage conservation in Langkawi includes national and international geological features, flora and fauna, unique habitats, as well as traditions and culture for educational and daily practical purposes.

The goal of the geopark is to improve the well-being of the community while preserving the earth's heritage. The development of geoparks can best be described in the Quintuple Helix Model, which describes the relationships among five parties to achieve mutual benefits, especially local communities that act as custodians and players in the geotourism industry.



Langkawi Geopark has clear leadership, led by the Langkawi Development Authority (LADA).



Geotrail development, such as the Kubang Badak BioGeotrail, is an effort that can be described by the "Quintuple Helix," which shows the concern of government agencies (e.g., LADA) with the technical assistance of academia (LRC-UKM) and industry (Kedah Cement YTL) in helping the general public (village residents of Kubang Badak) use natural resources sustainably through geotourism activities.



The development of Kubang Badak BioGeotrail involves many parties, including LADA, LRC-UKM, Sungai Kubang Badak Fisherman's Cooperative, and the Kedah Cement YTL industry.



Langkawi Research Centre, Universiti Kebangsaan Malaysia (LRC-UKM)



Vision and Mission





 *Gua Langsuir*

▶ II.1 Geopark As a Regional Sustainable Development Tool

Langkawi is a geopark region containing outstanding geological heritage, including tropical rainforests that form a beautiful landscape. This special heritage is managed holistically by emphasising the need for conservation, education, and sustainability.

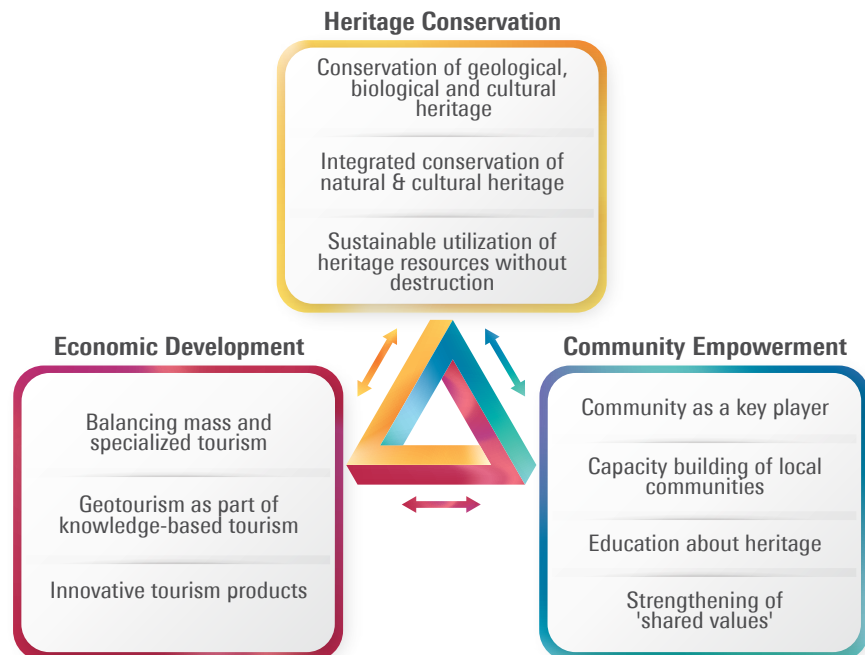
The idea of integrated heritage conservation is implemented through the approach of geoparks, geosites, biosites, and cultural heritage sites.

Local community development focuses on the utilisation of heritage sites to generate community economies and to improve social well-being.

Geopark introduces governance based on joint management; decisions are made as a team, and actions are implemented by implementing agencies, communities, and all stakeholders.

Geopark does not just determine the achievement of sustainable development but also takes joint action towards sustainability.

*Geopark as a model of
sustainable development
in action.*





Gunung Machinchang represents the geological heritage of the oldest rock in Malaysia of Cambrian age (550–505 million years ago).



Entrepreneur LekoShow at Telok Berembang, Pulau Tuba, is one of the rural tourism attractions.

Preparing a variety of rice-based foods is one of the traditions of farmers in Langkawi.



▶ II.2 Core Values, Vision and Mission

Core Values

Langkawi is a special territory that contains natural heritage, especially geology of international significance that needs to be managed holistically (joint management) based on conservation, education, and sustainable development.

Vision

To become a leader and reference centre for geopark development of global value.

Mission

1. Strengthening of geopark governance based on values and joint management.
2. Increasing the ability to conserve natural and cultural heritage in an integrated manner.
3. Empowering geotourism based on geosites and scenic landscapes.
4. Encouraging community involvement based on the community's economy.



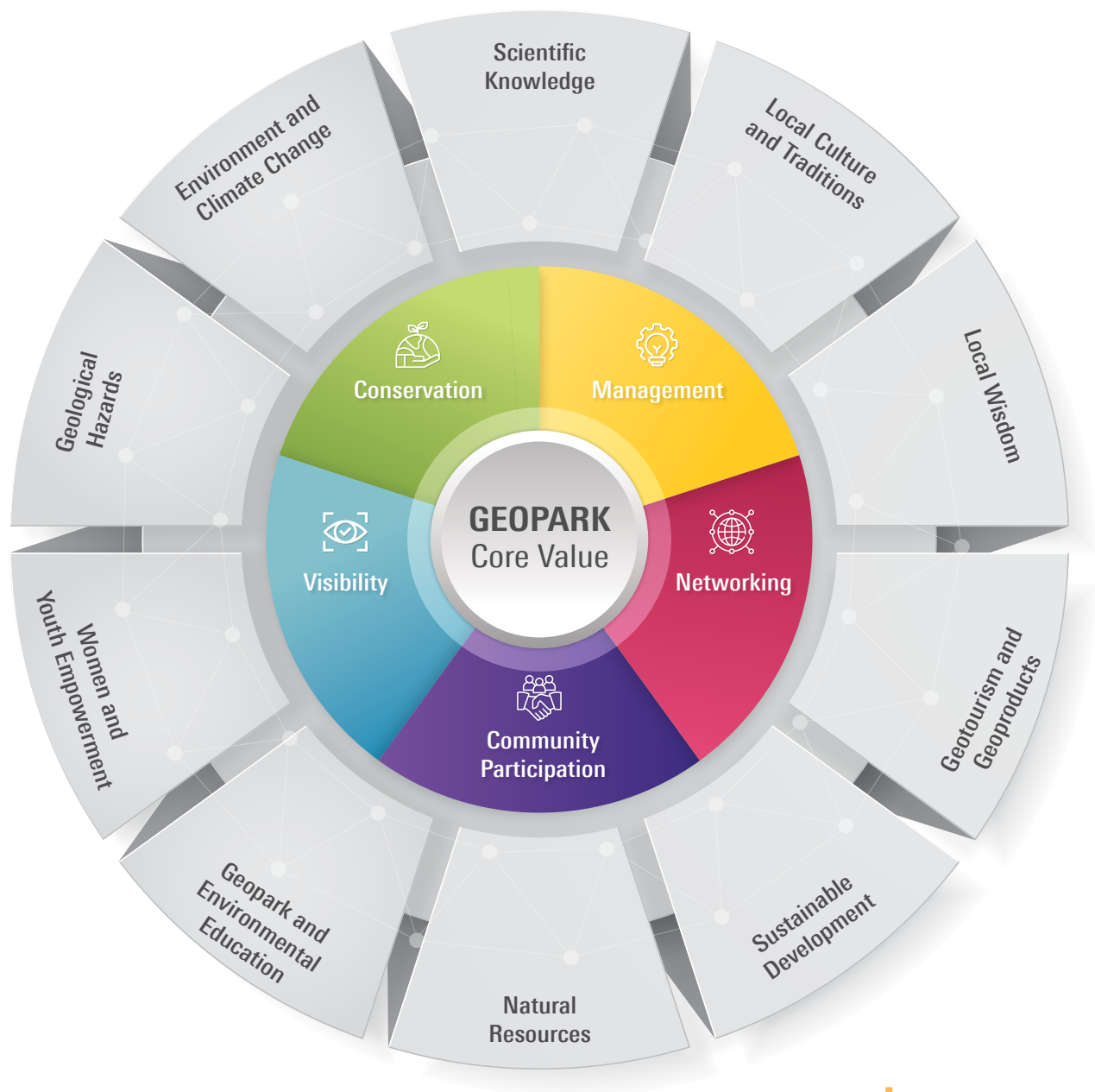
With an outstanding geological heritage, the karst landscape of the tropical archipelago is one of the core components of Langkawi Geopark that needs to be sustainably conserved.



Local culture and traditions are very much celebrated in Langkawi Geopark and need to be trained among the youth.



The production of innovative and creative geopproducts, such as Saidina Langkawi Geopark, is capable of attracting the attention of UNESCO evaluators and tourists.



Framework Development Model of Langkawi UGGp Blueprint.

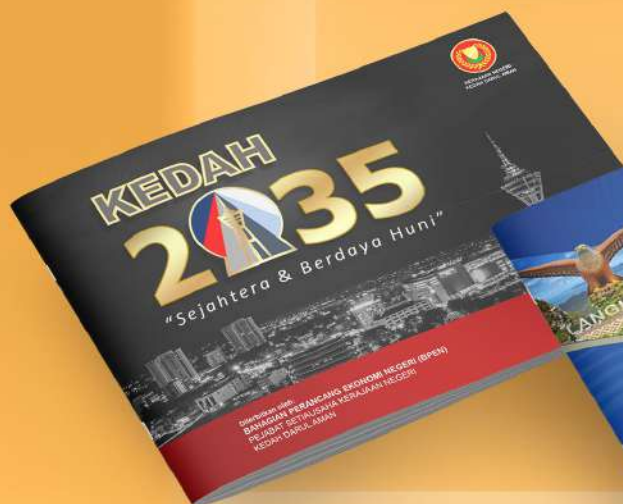
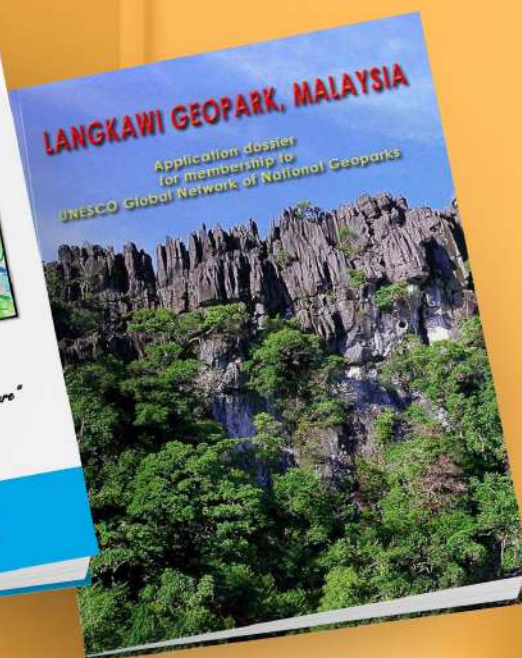
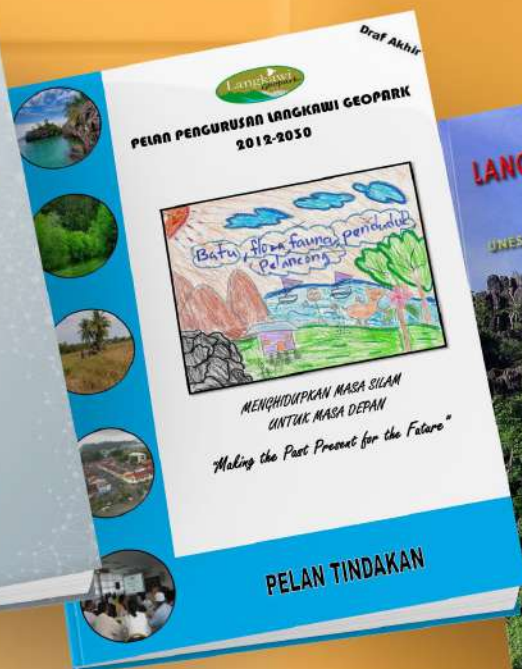
▶ II.3 Holistic Planning

Several national development plans related to land use, sustainable use, and heritage conservation have been referred to, including the Biological Diversity Policy (2016–2025), the National Ecotourism Plan (2016–2025), the Developing a Civil Nation 2022 Plan (*Membangun Negara Madani*) and Kedah 2035, so that this blueprint is in line with state and national policies.

In order to develop the Langkawi region, important documents, such as the Langkawi Development Board Act (1990), Langkawi Local Plan 2030, Langkawi Tourism Blueprint 2016-2020, and LADA Strategic Plan 2022-2026 have been referred to for continuity.

Specific documents on the development of Langkawi UGGp, especially the Global Geopark Dossier (2007), the National Geopark Development Plan (2021-2030), and the National Geopark Implementation Plan (2021-2030) have also helped in the implementation of geopark programmes and activities up to the current level of progress.

The Langkawi UGGp Blueprint will help strengthen strategic direction, focus on competitive advantage, and introduce governance transformation towards a strong co-management.



▶ II.4 Blueprint Objectives

This action plan outlines the core strategies, driving forces, and several branded projects that can be implemented to achieve the following objectives:

A

Strengthening the competitive ability of Langkawi UGGp as a reference region for geopark development in the Asia-Pacific region, while maintaining a leadership role in education and management in Southeast Asia.



B

Improving the ability to conserve geological heritage and outstanding landscapes and striving for an integrated development approach to natural and cultural heritage as a basis for building common values and the spirit of 'kawi'.



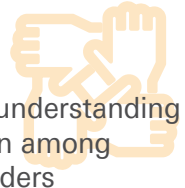
C

Empowering local communities as custodians to protect heritage and the environment, as well as improve their skills to generate economic benefits through knowledge-based tourism, especially geotourism.



D

Strengthening understanding and cooperation among all key stakeholders and cultivating geopark governance based on co-management.





Reaching a consensus regarding Langkawi Geopark through joint management.



Participants of the Regional Course on UNESCO Global Geopark organised by Langkawi Geopark-LADA, visited the Langkawi Craft Complex.



The rocky beach of Tanjung Peluru is one of the tourist sites along Tuba Geotrail, which was newly introduced in 2023.



The latest geotourism course at Langkawi Geopark was conducted at Tuba Geotrail to improve skills among the local community in knowledge-based tourism.

▶ II.5 Sustainable Development Goals

The Sustainable Development Goals (SDG) agenda was introduced by the United Nations in 2015 for countries of the world to practise and to evaluate their achievements by 2030. These goals outline 17 main issues that need to be addressed in order to achieve the aspirations of sustainable development.

In general, UGGp contributes to 8 of the 17 SDGs, which are SDGs 1, 4, 5, 8, 11, 12, 13, and 17. This means that the philosophy and vision of the geopark address the efforts to achieve these eight goals.

For Langkawi UGGp, six SDGs are in a comfortable position, while the other six SDGs are in a manageable state, but requiring continuous monitoring. More importantly, Langkawi UGGp needs to pay serious attention to five SDGs: education quality (SDG 4); clean water and sanitation (SDG 6); reducing inequality (SDG 10); sustainable cities and communities (SDG 11); and life underwater (SDG 14).



Based on all 195 UNESCO Global Geoparks in the world, the main contribution is to these eight Sustainable Development Goals (SDGs).



The achievement of the Sustainable Development Goals for Langkawi UGGp. Five sectors still need high attention.



Strengthening the Core Values





Strait of Kuah

▶ III.1 Conservation and Sustainability

Geoparks require geological sites or landscapes of international significance to be preserved in the form of geosites. At the same time, the biological and cultural heritage in or around it should be developed in an integrated manner and utilised for the benefit of the local community.

To implement the above commitment, the following recommendations are introduced:

- 1 Geological heritage sites (including geosites) need to be re-evaluated and delineated based on the type of heritage (rocks, minerals, fossils, structures, and landscapes) and guided by their function (preservation, conservation, research and education sites, geotourism, or a combination thereof).
- 2 Determine the characteristics, values, and boundaries of Gunung Raya Granite as the fourth Geoforest Park as agreed by the Kedah government, based on the function of natural heritage conservation and developing geotourism products.
- 3 Redefine the existing tourism trails into a 'geotourism trail' (geotrail) to enable the introduction of knowledge-based recreational and exploratory tourism activities. The main focus will be on Machinchang Peak Geosite, Sungai Kilim, and Tasik Dayang Bunting.
- 4 Complete the Tuba Island Geotrail and develop a new geotrail at Gunung Raya Granite Geoforest Park as the latest geotourism product in Langkawi Geopark.
- 5 Encourage the development of geotrails, biotrails, cultural trails, Eco-Forest Park trails, or combinations by the private sectors or cooperatives to increase and diversify new geotourism products. Development and implementation guidelines should be provided. Focus should be on biotrails and cultural trails.

Follow-Up Actions

- i. Project and programme details need to be discussed in the Conservation and Scientific Committee, and subsequently certified by the Langkawi Geopark Coordination Committee.





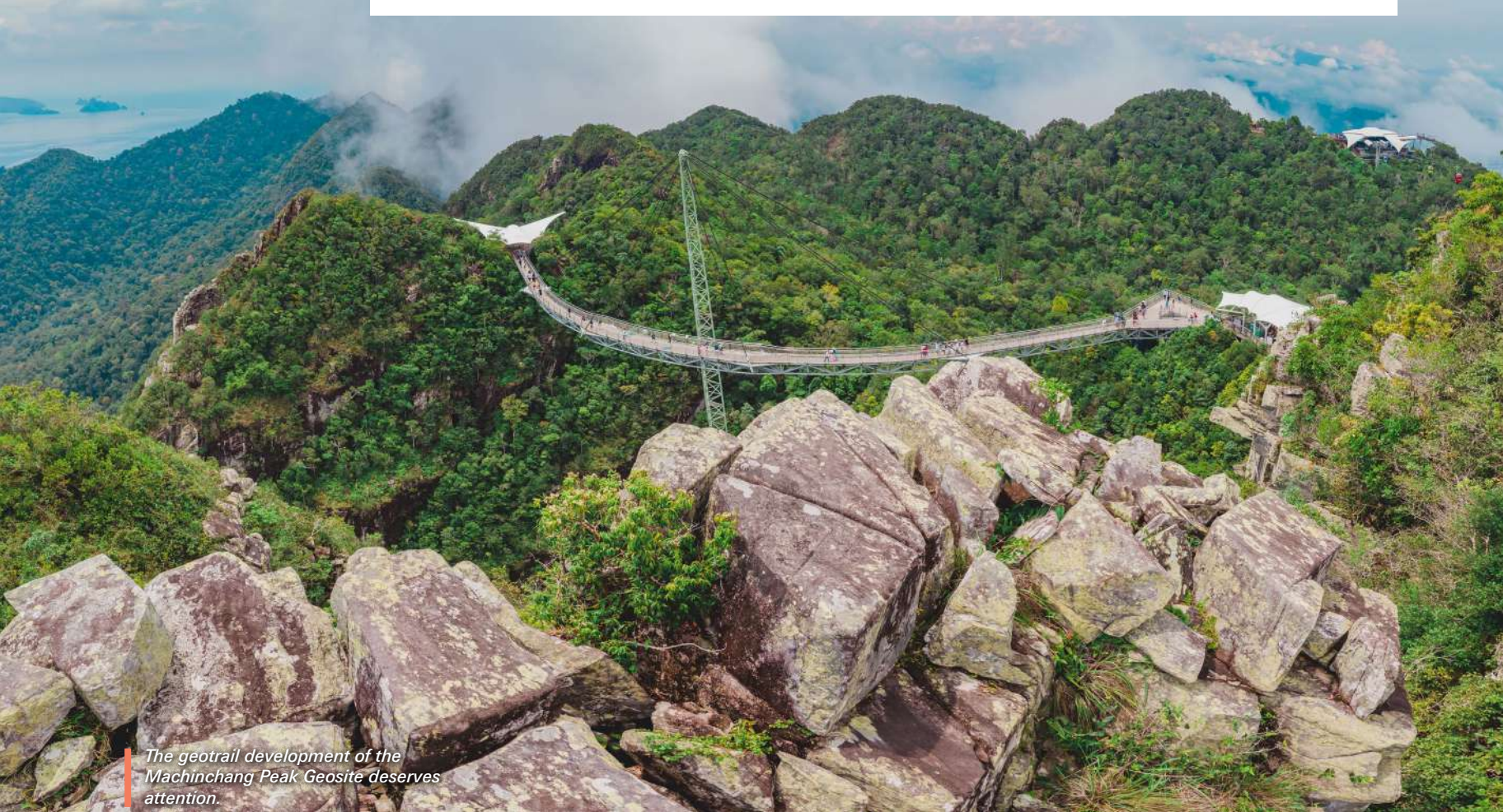
The 4th proposed Geoforest Park for Langkawi Geopark, which is Gunung Raya Granite.



The main focus will also be given to the development of Kilim Kars Geotrail.



Trail development by the private sector and cooperatives needs to be enhanced to produce a variety of new geotourism products.



The geotrail development of the Machinchang Peak Geosite deserves attention.

▶ III.2 Governance and Management

A Geopark emphasises 'bottom-up' development and a decision-making process based on co-management. This approach has been introduced in Langkawi UGGp since its establishment in 2007.

To implement the co-management philosophy, Langkawi UGGp has introduced three levels of committees. At the highest level, the Langkawi UGGp Advisory Council, chaired by the YAB Chief Minister of Kedah, acts to certify the policy and direction of the development of Langkawi UGGp. The Coordinating Committee, chaired by the Chief Executive Officer of LADA and all key stakeholders, is the decision-making level. At the working committee level, three committees, namely the Development and Promotion Committee, the Community Involvement and Public Education Committee, and the Conservation and Scientific Committee, were formed to propose and monitor the implementation of geopark projects and activities.

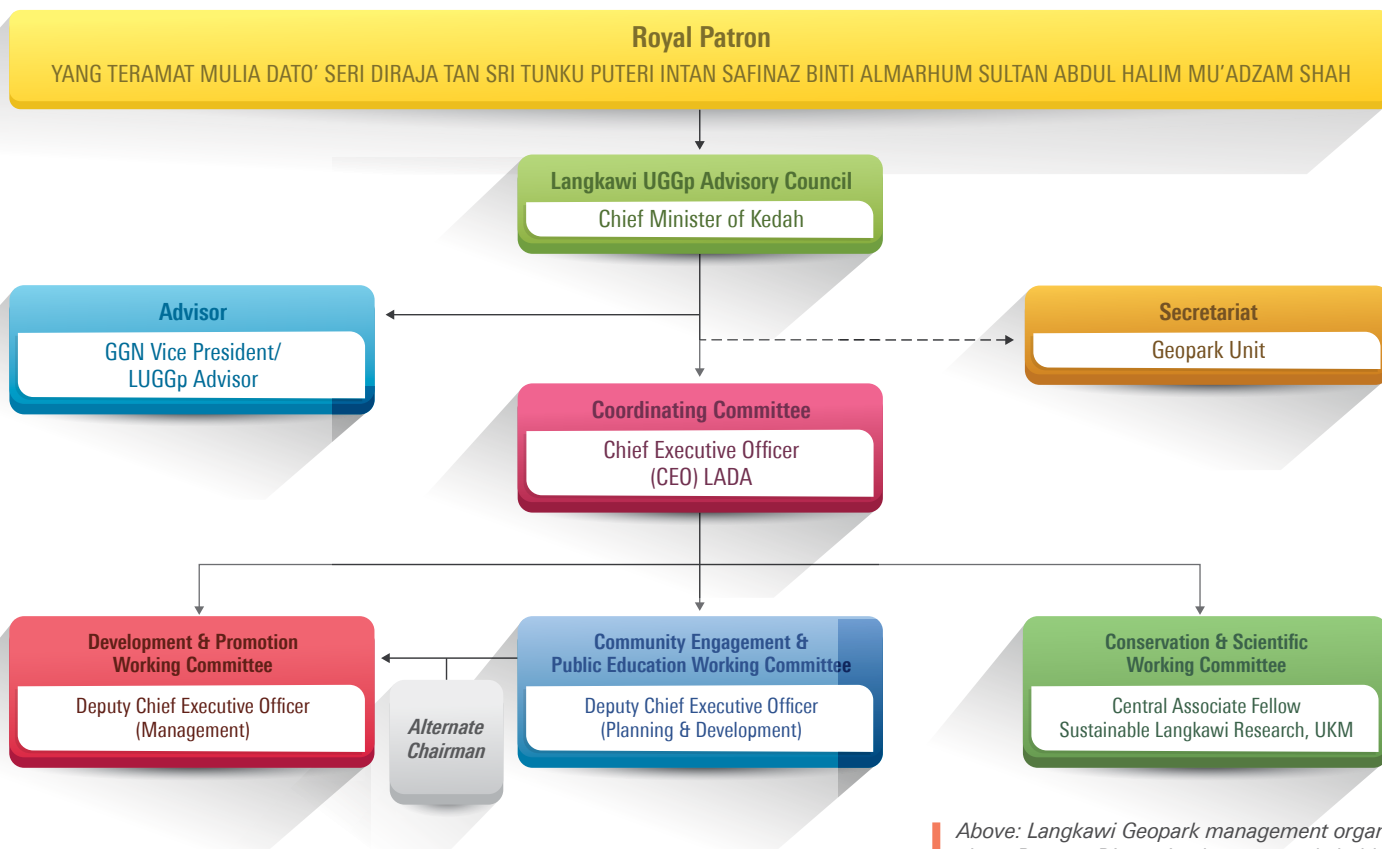
To ensure implementation and monitoring, the Geopark and Sustainability Section (the Geopark Unit herein) was created under the LADA organisation. This section has a full-time executive officer who is the backbone of almost all activities carried out, especially regarding coordination and monitoring of geopark projects and activities.

After more than 15 years as a geopark, LADA and the Geopark and Sustainability Section are seen to be still stuck in an 'authoritative approach based on LADA's functions and responsibilities'. This plan will pay attention to the process of 'transformation towards the implementation of co-management based on the geopark vision'. This can be done by improving the functions of the Geopark and Sustainability Section and encouraging the implementation of projects and activities by key stakeholders through a focused task force team.

A task force team was introduced to help with data collection and the preparation of implementation paperwork to be approved by the Coordinating Committee. This team can consist of individuals who have expertise and skills related to the programme managed by the Geopark Unit.

Follow-Up Actions

- i. The Geopark and Sustainability Section needs to update its coordination and monitoring role to activate all committees related to the co-management.
- ii. Forming a taskforce team consisting of 3–5 experts and experienced individuals to prepare the implementation papers for all iconic projects.
- iii. Encourage all stakeholders to carry out projects and activities related to the geopark.



Above: Langkawi Geopark management organisation chart. Bottom: Discussion between stakeholders and the geopark community.



▶ III.3 Visibility

De facto geoparks need to have high visibility to ensure that communities and tourists know they are in the geopark and can easily visit different facilities as well as the main visitor attraction sites.

Below are the actions for improvement:

- 1 The Craft Complex Heritage Museum and Padi Museum at Laman Padi have been rebranded to show Langkawi Geopark's connection with local cultural heritage. In this context, the legacy of local wisdom, especially that of the Malays in arts and practices as fishermen and farmers, has a long history.
- 2 Existing information centres and galleries, especially the Information Centre at the Oriental Village (2007) and the Research Gallery at LRC-UKM (2013), the LADA Complex Geopark Gallery (2020), and information centres at several hotels, are encouraged to form a network to promote themselves to make it easier for tourists to visit and get to know Langkawi Geopark.
- 3 A Langkawi Geopark Museum could be planned as a new centre of attraction in a scenic location. The museum exhibition concept can be based on the values of geological heritage of international interest: the history of the Paleozoic period, the tropical karst landscape of the archipelago, fragments of Gondwanaland, and the mega-biodiversity of the tropical archipelago.
- 4 Efforts to improve and increase geopark information panels, direction signs, and various promotional materials (including in digital form) need to be streamlined and increased.
- 5 The promotional approach covers the content of promotional materials and the variety (printed and digital), ambassadors and partners as promotional agents, and marketing strategies that need to be re-evaluated. The transformation from a 'sun-sand-sea tourism' approach to a geotourism destination to a UNESCO Global Geopark needs to be accelerated.

Follow-up Actions

- i. The Development and Promotion Committee should introduce a new strategy to encourage and monitor geotourism activities.
- ii. The LADA Tourism Division needs to formulate a new marketing strategy that introduces Langkawi Geopark as a special global destination.



Langkawi Geopark's mascots, Obit and Obtina, appeal to the feelings of tourists and geopark residents.



The Kilim Geoforest Park sign on the cliff of this karst pinnacle hill is becoming more and more prominent, and it has become the most famous site for photography among tourists.



Efforts to improve and increase geopark information panels should be continued and improved from time to time.



Laman Padi Museum shares the local wisdom of Malay heritage, leaving a memorable experience for tourists.

▶ III.4 Global Network

Global geopark development prioritises networking activities to share experiences and best practices. The initial creation was based on being a member of the Global Geopark Network (GGN), and only after 2015 was the geopark recognised as a UNESCO Global Geopark.

Langkawi Geopark is active in the global geopark network. Since 2007, it has pioneered the creation of the Asia Pacific Geopark Network (APGN). Since 2013, the Langkawi UGGp Advisor has been elected as Vice President, Global Geopark Network Organisation (GGN).

Langkawi Geopark has also spearheaded networking activities by organising the First Asia Pacific Geopark Symposium (2007), the Geopark Global International Conference (2010), and the UNESCO Global Geopark Regional Course since 2015.

In the context of a bilateral network or sistership, Langkawi Geopark has signed MoUs with around 15 UGGp, among them Zigong UGGp (2008), Jeju UGGp (2011), Dong Van UGGp (2014), Fangshan UGGp, and Muroto UGGp (2018). Five MoUs were signed in 2019, namely Satun UGGp, Yimengshan UGGp, Transnational UGGp, Qinling Zhongnanshan, and Ciletuh UGGp. The latest are Mudeungsan UGGp and Maros Pangkep UGGp in 2022.

Langkawi Geopark is also active in the activities of the GGN Working Group, especially the archipelago geopark, which currently has 22 UGGp members.

Despite leading the way, Langkawi Geopark needs to improve the effectiveness of its network and outreach through clearer and more focused joint projects and activities.

Follow-up Actions

- i. Strengthen tour guides and geopark partners through ongoing capacity-building and networking activities.
- ii. Increase cooperation and networking among UGGp in ASEAN and at the global level.
- iii. Become a network leader with other national geoparks.



CANADA

1. *Discovery UGGp*



CHINA

1. *Hong Kong UGGp*
2. *Leiqiong UGGp*



CROATIA

1. *Vis Archipelago UGGp*



DENMARK

1. *Odsherred UGGp*



GREECE

1. *Lesvos UGGp*
2. *Kefalonia-Itacha UGGp*
3. *Psiloritis UGGp*
4. *Sitia UGGp*



INDONESIA

1. *Belitong UGGp*
2. *Rinjani-Lombok UGGp*
3. *Toba Caldera UGGp*
4. *Raja Ampat UGGp*



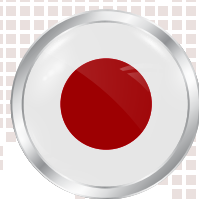
PHILIPPINES

1. *Bohol Island UGGp*



IRAN

1. *Qeshm UGGp*



JAPAN

1. *Oki Island UGGp*



MALAYSIA

1. *Langkawi UGGp*



PORTUGAL

1. *Acores UGGp*



SOUTH KOREA

1. *Jeju Island UGGp*



SPAIN

1. *Lanzarote and Chinjio Island UGGp*
2. *El Hierro UGGp*



UNITED KINGDOM

1. *Shetland UGGp*

22 archipelago UNESCO Global Geoparks in the world.

► III.5 Community Engagement

The Langkawi Geopark community consists of local residents, those from outside Langkawi who migrate to do business and provide tourism services, as well as government officials assigned to work here. According to the 2023 census, the Langkawi community numbered 98,100 people, with 91.9% being Malays, about 4.9% Chinese, 1.8% Indians, and 1.4% others.

Since the early 1980s, they have faced very active development policy changes, starting with the Declaration of Langkawi Geopark as an international tourist destination in the 1980s, followed by the recognition of Langkawi as a UNESCO Global Geopark in 2007. These changes caused many fishing and farming communities to change to becoming workers or service operators in the tourism industry.

Geopark pays attention to community development and involvement in geopark-related governance, projects, and activities. Those who live around geosites are custodians in conservation, and this group should benefit from geosite-based tourism activities. Their villages should each be an example of how the culture, traditions, and local wisdom are practised, and this should be made known to tourists. The local community should strengthen common values in the spirit of unity based on local specialities.

When Langkawi Geopark was established, the LADA Geopark Unit collaborated with Kampung Kilim Fishermen's Cooperative to manage the Kilim Geoforest Park as the main product of geotourism. Almost all the communities of Kampung Kilim are involved, and this is the best case of successful community involvement. In 2019, the LADA Geopark Unit collaborated with the Sungai Kubang Badak Fisherman's Cooperative to develop the Kubang Badak Biogeotrail. This achievement, however, could not be measured as the world was then facing the malady of COVID-19, and many community programmes were affected. In 2023, Kampung Kubang Badak Fishermen's Cooperative managed to maintain this biogeotrail product for geotourism while successfully developing several new geo-products, such as crab, seagrape (latok), and oyster aquaculture.

The involvement of local communities in conserving and utilising geosites is still limited, especially for communities close to geosites. In 2022, several geotrails were developed on Pulau Tuba. The development still needs to be continued, and more geotrails still need to be developed on the main Langkawi Island, Pulau Dayang Bunting, Pulau Langgun, and Pulau Singa Besar.

Follow-up Actions

- i. The LADA Geopark Unit streamlines community development affairs, covering activities to provide encouragement and to monitor the progress of the proposed project-based programme.
- ii. The task force team for community involvement consists of representatives of key stakeholders to prepare a paper on the Langkawi Geopark community involvement empowerment.



Board members of Kampung Kilim Langkawi Berhad Community Cooperative.



The Langkawi Geopark community is often celebrated and acknowledged at public events.



The LADA Geopark Unit cooperates with the Sungai Kubang Badak Fishermen's Cooperative to develop the Kubang Badak BioGeotrail.



Primary students of the Kilim National School enthusiastically welcomed the arrival of the UNESCO assessors during the reassessment of Langkawi Geopark in 2023.

IV

Team Action





| A Malay traditional house

▶ IV.1 Leading Agency

There are seven (7) main groups to succeed in the team governance of Langkawi Geopark. LADA is included as a government agency acting as the lead agency. The Geopark Unit has an important role in coordinating the involvement of all key stakeholders.

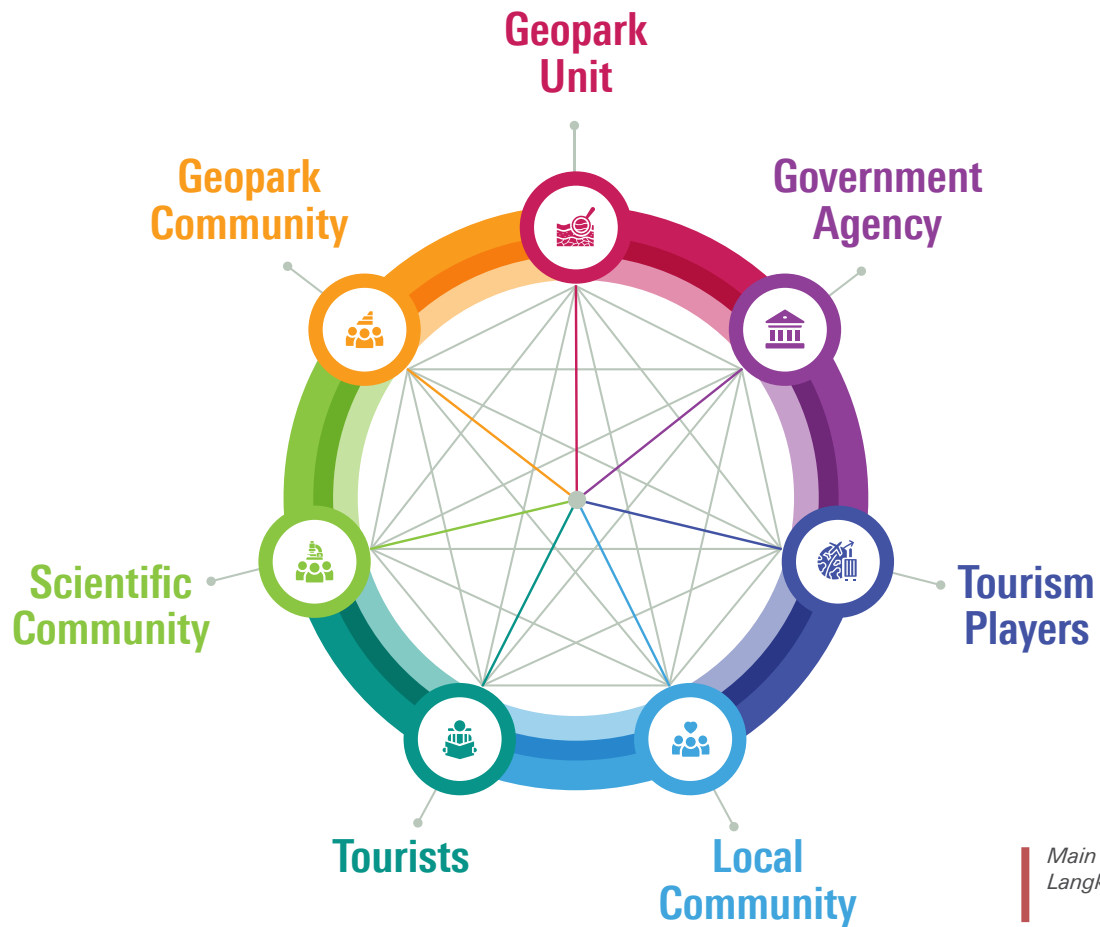
Langkawi Development Authority (LADA)

The Langkawi Development Authority (LADA) is the lead Government Agency for Langkawi Geopark. As a Federal Government agency, its role is to develop and manage tourism and local communities towards becoming world-class destinations. Until now, LADA has been fully responsible for managing Langkawi Geopark.

LADA has 13 divisions and units to develop and manage the whole of Langkawi (the same border as Langkawi Geopark) as the country's leading tourist destination. The Geopark Unit has been given specific responsibility to implement and monitor the Langkawi Geopark agenda.

Following this blueprint, the Geopark Unit will carry out the following responsibilities:

- Acting as secretariat for the meetings of the Langkawi UGGp Advisory Council, Langkawi UGGp Coordination Committee, Action Committee, and Task Force Team;
- Coordinating the results of all meetings and monitoring implementation and achievements;
- Planning and implementing projects and activities related to geopark development;
- Promoting Langkawi Geopark at the national and international level;
- Implementing recommendations for improvement by the UGGp Council and coordinating re-evaluation activities; and
- Promoting geopark activities carried out by interested agencies and other related parties.



The re-evaluation mission of Langkawi Geopark as a UNESCO Global Geopark for the 4th time in 2023.



The Memorandum of Understanding between Langkawi UGGp and Raja Ampat UGGp produced a coffee table book jointly published and was launched during the Regional Course on UNESCO Global Geopark in 2023.



LADA participated in the 7th Asia Pacific Geoparks Network Symposium held at Satun UGGp in 2022.

▶ IV.2 Government Agencies

Main Government Agencies

Government agencies, especially the Kedah government, are agencies with a major interest in planning and managing geopark-related projects and activities.

Below are the agencies and their respective roles:

- Tourism City Langkawi Municipal Council: managing urban development, providing basic amenities, business activities, and maintaining cleanliness;
- Langkawi District and Land Office: representing the state government in administering the land and the well-being of the population, especially the local community;
- Langkawi District Forest Office: managing and protecting the Permanent Forest Reserve and its conservation components, such as the Eco-Forest Park, Geoforest Park, Geosites, and Biosites;
- Langkawi District Marine Office: looking after maritime interests, enforcing regulations, conserving marine ecosystems, and the coastal environment;
- Langkawi District Education Office: managing, monitoring, and providing school facilities and systems, as well as encouraging the implementation of a geopark-related co-curriculum.

Supporting Agencies

Many supporting agencies are directly or indirectly involved in geopark development. Among them are: the Department of Minerals and Geoscience; Irrigation and Drainage Department; Agriculture Department; Fisheries Department; Kraftangan Malaysia; Malaysia Co-operative Societies Commission; Public Works Department; Royal Malaysia Police; Fire and Rescue Department of Malaysia; and Royal Malaysian Customs Department.



*Tourism City Langkawi
Municipal Council*



*Forestry Department of
Kedah State*



*Langkawi District and
Land Office*



*Langkawi District Marine
Office*



*Langkawi District
Education Office*



*Irrigation and Drainage
Department of Kedah
State*



*Department of Minerals
and Geoscience of Kedah
State*



*Agriculture Department of
Kedah State*



*Fisheries Department of
Kedah State*



Kraftangan Malaysia



*Malaysia Co-operative
Societies Commission*



*Public Works Department
of Kedah State*



*Royal Malaysian Customs
Department*



Royal Malaysia Police



*Malaysian Fire and
Rescue Department*

*Main government agencies and
supporting agencies in Langkawi
Geopark*

▶ IV.3 Tourism Players

Tourism players are individuals, groups, governments, and private agencies that are directly or indirectly involved in the tourism industry. They are responsible for promoting tourism, providing services, and generating income from tourism activities. This group is the main asset for driving economic growth based on tourism.

Tourism players at the forefront include the Langkawi Tourism Association (LTGA), the Langkawi Hotel Operators Association (PPHL), the Langkawi Tour Guide Association (LTGA), the Langkawi Taxi Association, and co-operatives or tourism-based companies. They are supported by various parties, including LADA, tourism infrastructure managers, restaurant operators, geoproduct operators, and geotourism activities.

Front-line tourism players need to play their respective roles in introducing Langkawi as a UGGp by practising sustainable tourism and mobilising the geotourism agenda. Those who provide support services should be able to produce quality-branded geoproducts and various souvenirs based on natural and cultural heritage, as well as local knowledge.



Kilim Karst Geoforest Park - Tour guides need to be trained periodically about geotourism.



The annual Regional Course on UNESCO Global Geopark, organised by Langkawi Geopark, successfully trains tourist guides and geopark managers in the Asia Pacific region.



The Tourism Information Centre needs to work closely with the LADA Geopark Unit to promote Langkawi Geopark.



Langkawi International Airport - The welcome signboard and promotion of Langkawi Geopark should start at the point of arrival.



APGN conference at Satun UGGp in 2022 - Young tour guides need to be exposed to global and regional geopark network partners.

▶ IV.4 Local Community

Those who were born in Langkawi and have lived with their families, grown up and attended school, and have built up their careers on the island are the local people. They have also built up and uphold their culture and tradition based on faith, natural surroundings, and community life.

Most are from fishing and farming families; others work with the government and the tourism industry. Many also have become businessmen by opening restaurants and grocery stores. A small proportion have become entrepreneurs, providing tourism services and producing various types of tourism-based products. Some fishermen and farmers also have side jobs related to tourism services.

The local community is the caliph or custodian of the local heritage. This group needs to jointly take care of natural heritage based on local beliefs and practices. The main role of the local community is to strengthen the common value of the geopark based on the 'Kawi Spirit' and share this spirit with tourists. The spirit of Kawi is what supports the principles of protection and conservation of natural heritage and human socio-cultural heritage in order to be knowledgeable, to appreciate heritage, and to practise the principles of sustainability.

Local communities, in addition to being examples of good practices, also need to be custodians of heritage by voicing the need to curb pollution and to avoid causing damage to the integrity of their heritage. This group needs to be given priority to receive benefits to strengthen the empowerment of the community as a complement to mainstreaming heritage-based tourism in Langkawi Geopark.





Pulau Tuba Jetty - Local residents naturally treat guests of honor with special treatment.



Local martial artists perform their talents in front of tourists.



A local entrepreneur who is appointed as Langkawi Geopark Ambassador shows his creative products of ceramic goods.



Pulau Tuba - Traditional coastal fishermen have interesting local knowledge that needs to be promoted to tourists.

▶ IV.5 Tourists

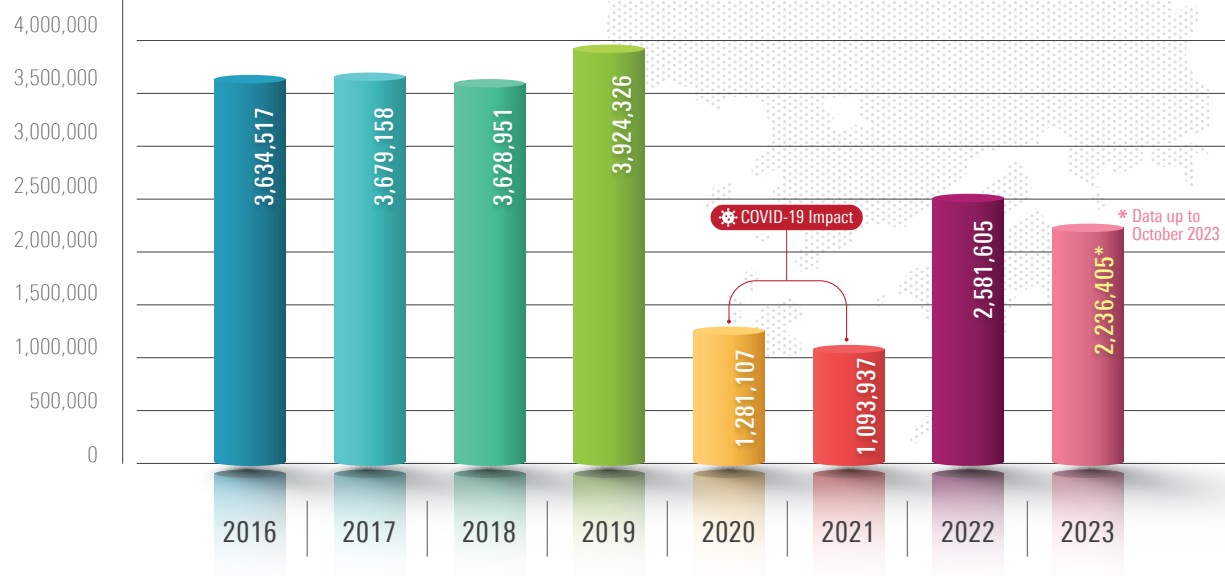
As an international tourist destination and a UNESCO Global Geopark, Langkawi receives a high number of tourists every year. They come from various countries and visit Langkawi Geopark, some for a short period and some staying up to several weeks. Most tourists visit Langkawi Geopark to relax and enjoy the beauty of nature, but many also come to attend seminars and conferences, or to visit while on a work assignment.

In the context of tourism, tourists are divided into two categories: domestic and international tourists. This is because these two groups have different behaviours and tourism needs. Therefore, the preparation of tourism services is also different. Currently, the ratio of domestic to international tourists is almost even.

In the context of marketing strategy and offer of service, tourists are often classified into three groups: upper class, middle class, and the average. High-class tourists can afford to spend a lot and expect high-quality service. The middle class expects comfortable hospitality and service, while the average tourist group always thinks of 'savings and reasonable service value'.

Geopark intends to form a special geopark group from all the categories of tourists above: tourists who want to see the special features of a region, especially the natural and cultural heritage, those who want to know the practices and local wisdom of the community, and together take care of the cleanliness and health of the environment. They are guests of the geopark, friends who will tell others about the special features of Langkawi Geopark when they return to their respective countries later.

Number of Visitor Arrivals To Langkawi UNESCO Global Geopark



Number of visitor arrivals arriving in Langkawi through the main gateway in 2016 to 2023* - *to October 2023
(Source: Langkawi Development Authority 2023)



Temurun Waterfall – The clear pool of water at the base of this waterfall is a popular spot for tourists who are interested in nature.



Langkawi Craft Complex - Sharing experiences can leave a high impact in the memories of tourists.

▶ IV.6 Scientific Community

The scientific community comprises individuals or a group of scientists from various research and higher education institutions who have or are interested in conducting research in various fields of knowledge in Langkawi Geopark. The earliest group of researchers on geoparks was from the Institute for Environment and Development (LESTARI-UKM), led by the Malaysian Geological Heritage Group (WGM), which started research in 1996 on 'Development of Geological Resources and Landscapes for Tourism'. The results of this research sparked the idea of Langkawi Geopark. More than 100 research projects were conducted by this group, involving funds amounting to more than RM15 million.

The Langkawi Research Centre (or *Pusat Penyelidikan Langkawi*, PPL) was established in 2002 as a research and training centre related to the conservation of integrated geological, biological, and cultural heritage, which is the main pillar of research to support geopark development in Malaysia and Asia Pacific. Other universities involved in various research fields in Langkawi are UUM, USM, UiTM, UPM, and UM.

In the near future, the scientific community needs to redefine what geosites in Langkawi Geopark signify and assess the success of conservation efforts and sustainable use (geotourism). The scientific community must fulfil this obligation, and ideally it should be done consistently.

The scientific community also needs to popularise knowledge through a 'science for society or social innovation' approach. Only in this way can knowledge be used to develop Langkawi Geopark, enrich the local community, and delight tourists.



PPL Gallery, UKM – This gallery was developed by many early researchers who studied the natural (geological and biological) and cultural heritage of Langkawi.



Gunung Raya - A botanist shows a large tree in his research plot.



Pasir Tengkorak Beach Geosite - Geosite mapping studies are the basis for the conservation and sustainable development of geosites.



Telaga Tujuh Geosite, Machinchang - Research on geological and biological heritage should be continued and intensified to find new sources of heritage.

▶ IV.7 Geopark Community

The Geopark community consists of residents who live in Langkawi, as well as those who come from other places, and migrate to Langkawi due to the demands of work, or family factors, to earn a living, or for other reasons. More than 10% of the total population of Langkawi in 2020 consisted of non-citizens. Communities from this group work as government employees, or with private agencies, or NGOs, or as hotel operators, traders, or in restaurants. Some of them have a close relationship with the Geopark, while the majority may not have any relationship at all.

The Geopark community is one of the groups that are jointly responsible for maintaining the sustainability of the geopark. They must collaborate with the local community to understand the geopark vision and adapt to its concept. When the 'common values' are successfully applied, the community can work together to preserve the sustainability of the Langkawi Geopark's resources and heritage. They also act as 'ambassadors' of Langkawi Geopark to the outside community, sharing stories about the uniqueness and special features of the geopark.

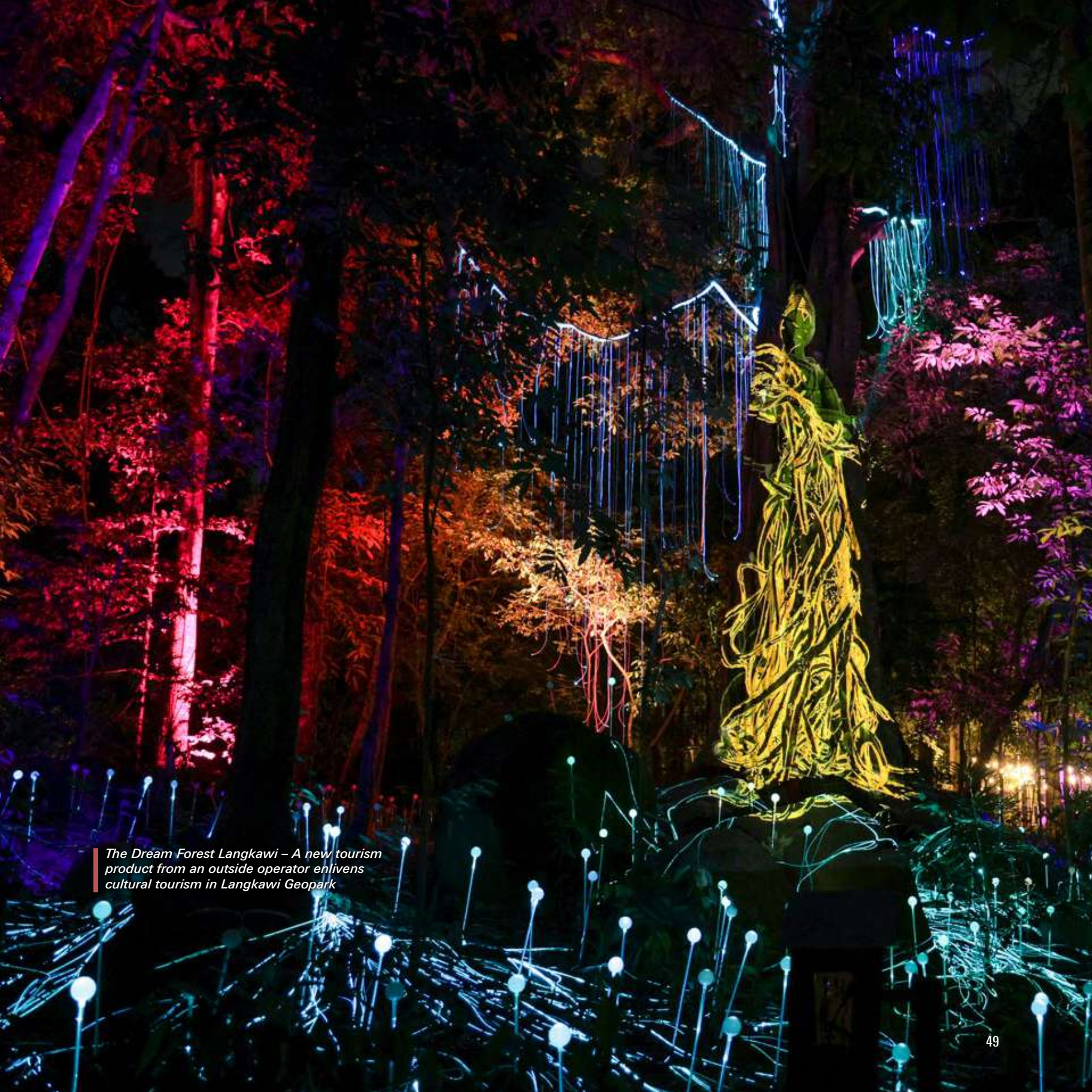
Geopark administration adheres to a co-management approach; based on this, the involvement of the geopark community in the management system is very important to ensure that both sustainable development and heritage conservation occur holistically. The Geopark community is also an important contributor to socio-economic development in Langkawi Geopark. Close cooperation between local communities that have traditional knowledge needs to be strengthened so that more quality geoproduts can be highlighted.



The Datai Langkawi – Tour guides or education officers are usually not from Langkawi but very experienced, having lived in Langkawi for a long time.



Nasi Dagang Pak Malau - Although not a traditional Kedah food, this eatery has become popular among the people of Langkawi.



The Dream Forest Langkawi – A new tourism product from an outside operator enlivens cultural tourism in Langkawi Geopark

▶ IV.8 Geopark Unit

The Geopark Unit is the Geopark and Sustainability Section, placed under the management structure of the Tourism Division, LADA. This unit is the planning, coordination, implementation, and monitoring entity for Langkawi Geopark projects and activities.

This unit has three important teams: i) Geopark Product Monitoring; ii) Geopark Planning and Development; and iii) Geopark Information and Education to monitor and coordinate geopark activities.

According to this blueprint, the Geopark Unit will carry out the following responsibilities:

- Serving as the secretariat for meetings of the Langkawi Geopark Advisory Council, Coordination Committee, Action Committee, and Task Force Team;
- Coordinating the results of all meetings and monitoring implementation and achievements;
- Planning and implementing projects and activities related to geopark development;
- Promoting Langkawi Geopark at the national and international level;
- Implementing improvement recommendations by the UGGP Council and coordinating re-evaluation activities;
- Promoting geopark activities carried out by interested agencies and other related parties.



Geopark Discovery Centre, Kilim – The Geopark Unit is responsible for the development of this centre.



The 4th Langkawi UGGp re-evaluation mission in 2023 – The Geopark Unit paid utmost attention to this mission that it ran smoothly and successfully.



LADA Geopark Gallery – The gallery at the lobby of the LADA Complex Building is managed by the Geopark Unit.



Regional Course on UNESCO Global Geoparks in 2023 – The Geopark Unit rangers participated in this course.



Iconic Programme





Kuala Teriang



V.1 Local Culture and Tradition

Iconic Programme: Elevating Local Culture as Geopark Identity through Artistic Practice and Geoproducts

Rationale

Local culture is not being highlighted enough; Langkawi Geopark needs to restore its identity through public awareness, art education and making available more geoproducts.

Goal

Celebrating heritage values, strengthening and increasing economic potential through geoproducts and cultural empowerment.

Iconic Projects

Project 1: The Origin of the Settlement of the Malay Community in Langkawi

- To conduct research on the cultural heritage, practices and wisdom of the native community of the archipelago.
- Develop villages that are examples of original community life based on existing villages.
- Publish a coffee table book: 'River Mouths - Origins of the Community Settlements in Langkawi'.

Project 2: Kampung Ayer Hangat (AHV) as a Centre for Education and Cultural Tourism

- To rebrand the hot water springs villages as centres for the development of local art and culture.
- To develop these villages into centres for training and skills development and a reference for local art and culture.

Project 3: Production of Geoproducts Based on Integrated Heritage

- To encourage the production of geoproducts based on heritage and culture by the local community.
- To provide a cultural trail that connects cultural sites and to develop storytelling.
- To develop geotrails by connecting cultural sites, geological sites and biological sites as new geotourism products.

Project 4: Cycling Cultural Trail Around Mahsuri Ring

- To develop a cycling trail and identify tourist sites surrounding Gegelang Mahsuri (Mahsuri Ring).
- To provide basic infrastructure along the cycling trail, especially information panels, viewpoints, and narration.
- To use the trail as an expansion of existing geoproducts in Kota Mahsuri.

Project 5: Rebranding of Langkawi Craft Complex as Langkawi Geopark Craft Complex

- To have Langkawi Geopark's main One-Stop Centre exhibit and sell products based on art and culture.
- To develop new content and marketing strategies to introduce cultural heritage components within the geopark heritage unit.
- To create several new spaces that introduce geoproducts and their relationship with the history and skills of the local community.

Task Force Team

- Geopark Unit (Coordinator)
- Manager of Ayer Hangat Village
- Manager of Langkawi Craft Complex
- Manager of Makam Mahsuri
- Langkawi District Youth and Sports Office
- Cooperatives related to geoproducts development around Ayer Hangat, Makam Mahsuri and related villages
- Youth Groups, Art Activists, and related NGOs
- Local investors

Implementation Actions

- Gathering up-to-date information on activities and projects to conserve and utilise local culture and traditions as the identity of the geopark community;
- Creating a Local Culture and Tradition Action Team to prepare project development papers;
- Evaluating activities and projects by the Action Committee and approval by the Coordinating Committee; and
- Producing Development and Financial or Project Business Models.
- Implementation period: 2024-2026.



Mahsuri Ring Geotrail - The trail development around Gegelang Mahsuri is an expansion of existing geoproducts in Mahsuri City.



Ayer Hangat Village needs to be rebranded to be more competitive.



Langkawi Craft Complex – Content development and new marketing strategies are needed to introduce cultural heritage within the context of geopark heritage.



Sungai Kuah river mouth – The original settlement of the community in Langkawi.

▶ V.2 Local Wisdom

Iconic Programme: Cultivating Local Heritage and Regional Wisdom

Rationale

Langkawi Geopark is famous for its natural heritage and landscape beauty, but the richness of local cultural heritage and the local wisdom are not equally highlighted. This programme aims to empower local culture and traditional heritage through geotourism practices and products.

Goal

To emphasise local heritage and celebrate local wisdom as a common practice, public education resource, and geoproduct.

Iconic Projects

Project 1: Traditional Practices of Fishermen and Rice Farmers in Cultural Heritage Cultivation

- To develop Laman Padi as a centre for training and for disseminating information about local wisdom related to paddy fields and traditional fishermen.
- To improve the standard of living in the village and transform the traditional village into a heritage-based geoproduct.
- To improve the quality of Laman Padi Gallery as a training and reference centre.

Project 2: Restoring the Legacy of Carpenters and Blacksmiths

- To develop a training and production centre for products based on wood, iron, and clay (ceramics).
- To provide training courses for carpenters, blacksmiths, and potters based on local expertise.
- To encourage individuals or community cooperatives to produce handicrafts made of wood, iron, and clay.

Project 3: Developing a Traditional Art and Gastronomy Centre

- To encourage community or hospitality colleges to provide courses related to local arts and cuisine.
- To promote local martial arts, singing, and dancing through various activities, including performances and competitions.
- To promote the production of local gastronomy as geofood and food in restaurants.

Project 4: Promoting Local Wisdom on Ethnobotany and Marine Resources

- To publish books related to ethnobotany, marine resources, and local wisdom.
- To establish Langkawi Geopark Ethnobotanical Park as a new tourism centre.
- To promote the production of items based on ethnobotany and marine resources as geoproducts.

Task Force Team

- Geopark Unit (Coordinator)
- Laman Paddy Management
- Langkawi Craft Complex Management
- Langkawi District Fisheries Office
- Langkawi Agriculture Department
- Fishermen Association of Langkawi
- Department of National Heritage
- Youth Groups, Art Activists, and related NGOs

Implementation Actions

- Conducting research to produce an inventory of local wisdom found in Langkawi and Kedah;
- Establishing a Local Wisdom Task Force Team (PB-KW) to prepare papers for several project developments;
- Gathering individuals skilled in woodworking, blacksmithing, and art;
- Preparing a plan for the development of local wisdom; and
- Evaluating activities and projects by the Action Committee for approval by the Coordinating Committee.
- Implementation period: 2025-2027.



The traditional practice of paddy farmers cultivating cultural heritage is highlighted at Laman Padi.



Various types of 'keris', traditional weapons of the Malays, forged by local talents.



Local wood sculptors are able to produce high-quality handicraft products that are sold at premium prices to international tourists.



V.3 Geotourism and Geoproducts

Iconic Programme: Transformation Towards Geotourism and Geoproducts

Rationale

Despite using geosites in promoting tourist attractions, Langkawi Geopark still practises tourism based on recreation and visits to scenic landscapes. The development of geotrails for geotourism is still in its early stages.

Goal

Improving existing tourism routes into geotrails for tourism and encouraging the development of new geotrails and geoproducts.

Iconic Projects

Project 1: Developing New Geotrails and Improving Content and Storytelling of Existing Tourism Trails

- To develop a new geotrail at Granite Raya Geoforest Park and Tuba Geotourism;
- To improve the content and narration of the Kilim Geotrail, Dayang Bunting Geotrail and Machinchang Peak Geotrail;
- To continue capacity-building activities for geoguides, boat drivers, and geotourism managers.

Project 2: Diversifying and Improving the Quality of Geoproducts and Geofood

- To encourage the production of geoproducts and innovative geofood;
- To intensify the promotion of geoproducts and geofood; and
- To increase the ability of community and individuals to engage in producing geoproducts and geofood.

Project 3: Development and Training of Micro-, Small-, and Medium-Enterprise Cooperatives (PMKS) to Produce Geoproducts

- To organise training of cooperative members to focus on producing quality geoproducts;
- To develop promotion and marketing skills using digital methods.

Project 4: Diversifying Geopark and Geotourism Promotion Approaches

- To train tourist guides (geoguides) and geotourism managers on geoscience interpretation and in communication skills;
- To improve the quality of promotional materials, especially printed and digital materials;
- To increase the cooperation network with the UNESCO Global Geopark.

Task Force Team

- Geopark Unit (Coordinator)
- Langkawi Forestry Department
- Kilim Cooperative Manager, Kubang Badak, Tuba Island, Tasik Dayang Bunting
- Kedah State Tourism, Art and Culture Office
- Langkawi Tour Guide Association (LTGA)
- Youth Groups, Art Activists, and related NGOs
- Cooperatives related to the development of Langkawi Geopark geoproducts
- 32 geopark schools in Langkawi Geopark
- Local investors

Implementation Actions

- Study and explore natural resources that have the potential to be used as new geotourism products;
- Create a Geotourism and Geoproducts Task Force Team to prepare the paperwork for the geotrail development of Gunung Raya Granite Geoforest Park as a new geoproduct;
- Organise and develop focused training packages and programmes for tour guides;
- Develop development and business plan models;
- Evaluation of activities and projects by the Action Committee and approval by the Co-ordinating Committee;
- Implementation period: 2024-2028



Best Tuba Floating Chalet - Focused training should be given to cooperative members to produce quality geoproducts.



Gunung Raya Granite Geoforest Park - The new geotrail development will stimulate tourism activities here.



Langkawi Craft Complex stingless bee breeding site - Stingless bee honey is one of the efforts to intensify the promotion of geoproducts and geofood.



Kilim Karst Geoforest Park - Trainings on geoscience interpretation and communication skills for tourist guides should be done periodically.



V.4 Sustainable Development

Iconic Programme: Transformation towards Green Development and Technology

Rationale

The use of engineering and green development in Langkawi Geopark is still limited. Langkawi Geopark needs to encourage smart partnerships between the public and private sectors as well as improve the provision of development funding in the form of investment capital to the private sector and community cooperatives to give priority to food security and local economic benefits.

Goal

To make Langkawi Geopark the first geopark to promote green development for food security and local economic benefits.

Iconic Projects

Project 1: Green Design and Engineering for Environmental Sustainability and Economic Sustainability

- Construction of buildings that use green architectural methods, such as solar energy and underground water sources;
- Increasing the area for farming of seafood resources (fish and oysters) with the flotation method;
- Introducing vertical farming through hydroponic, aquaponic, and aeroponic methods;
- Developing sustainable architect design guidelines with related parties and agencies.

Project 2: Marine Environmental Pollution and Offshore Aquaculture (Food Security)

- Reducing the instability of the quality of food sources due to pollution through strict management processes to maintain long-term fisheries;
- Conducting science-based studies to ensure continuous improvement in the fisheries management plan;
- Monitoring compliance with all relevant laws to ensure accountability for fisheries resources, the economy, and communities that depend on them.

Project 3: Raising Public Awareness About the Importance of Regional Sustainable Development (Geopark)

- Implementing the Geopark Management Plan that has been agreed upon with the local community to meet social and economic needs and to protect natural and cultural heritage;
- Conducting public education for the community in heritage preservation to increase awareness and understanding of the importance of the UNESCO label and the values underlying it;
- Developing partners and networks throughout the Geopark to create a sense of ownership and providing opportunities for sustainable promotion of local products and cultural heritage.

Task Force Team

- LADA
- District Office and Land
- Langkawi Municipal Council Tourism City
- Langkawi Fisheries Office
- Various agencies related to energy, environmental pollution, water resources
- Concerned communities and NGOs
- Fisheries Development Authority of Malaysia

Implementation Actions

- Conducting research and collecting information on green development and food security;
- Establishing a Sustainable Development Action Team to prepare a white paper and strategic action plan;
- Evaluation of activities and projects by the Action Committee and approval by the Co-ordinating Committee;
- Encouraging government, private, and NGO agencies to conduct public awareness activities.
- Implementation period: 2026-2028.



Public education about geosites at Pasir Tengkorak Beach.



Dolphins in the coastal waters of Sg. Kilim.



Oyster aquaculture in Sg. Kubang Badak.

▶ V.5 Natural Resources

Iconic Programme: Sustainable Management of Langkawi Islands' Natural Resources

Rationale

Earth's resources and biological diversity are limited in archipelago ecosystems that are small in geographical size and are in environmentally sensitive areas. Without a sustainable management policy, Langkawi Geopark will experience the extinction of the limited natural resources in the future.

Goal

Development of sustainable and environmentally friendly resource management policies and strategies.

Iconic Projects

Project 1: Formulation of sustainable and environmentally friendly natural resource development policies

- To assess the diversity of biotic and abiotic resources found in the Langkawi Islands;
- To develop a production policy that gives priority to local consumption;
- Instituting a policy of using limestone resources that do not affect the integrity of the landscape heritage as the main attraction for tourists (superior landscape).

Project 2: Development of a Policy for the Control of Invasive Species and Conservation of Biosites

- To establish policies and guidelines for the control of invasive species to prevent the extinction of native ones;
- To introduce the biosite concept as the latest approach to conserve and utilise the uniqueness of biological diversity.

Project 3: Management of Marine Resources to Strengthen Food Security

- To assess the current abundance of marine resources and develop a sustainable fishing strategy;
- To assess and control the level of chemical pollution, toxic substances, and microplastics that can affect the quality of fishery resources.

Project 4: Coastal Langkawi Coral Reef Conservation and Restoration

- To assess the distribution and quality of coral reefs in Langkawi waters;
- To conserve coral reef ecosystems and marine life;
- To restore and replant degraded coral reefs.

Task Force Team

- Geopark Unit (Coordinator)
- Tourism City Langkawi Municipal Council
- Department of Forestry
- Department of Wildlife and National Parks (PERHILITAN)
- Department of Fisheries
- Department of Environment
- Department of Minerals and Geosciences
- Higher education institutions
- Related research institutions
- Kedah Marine Office
- Langkawi District and Land Office

Implementation Actions

- Conducting research and collecting information on natural resources for the purpose of conservation and sustainable management;
- Establishing a Natural Resources Task Force Team to prepare a white paper and strategic action plan;
- Preparing paperwork for the development of the Gunung Raya Granite Geoforest Park, a new geoproduct;
- Organising and developing focused training packages and programmes for tour guides;
- Evaluation of activities and projects by the Task Force Committee for approval by the Coordinating Committee;
- Drawing up development and business model plans;
- Implementation period: 2025-2028.



Kubang Badak BioGeotrail - The policy of using limestone resources that do not affect the integrity of the landscape and biological heritage can be the main attraction for tourists.



Telaga Tujuh - Native species in Langkawi, such as the River toad, need to be protected from invasive species that are increasingly spreading on the mainland of Peninsular Malaysia.



Studies are needed to assess the level of chemical pollution, toxic substances, and microplastics that can affect the quality of fisheries and aquaculture resources.



Datai Waters – Apart from Payar Marine Park, Datai and other places, extensive coral reef coverage need to be studied further.



V.6 Geopark and Environmental Education

Iconic Programme: Raising Awareness and Fostering Public Understanding of Geopark Concepts, Sustainable Development and Environment

Rationale

The concepts of geopark and sustainable development are still not well understood, so the community of the Langkawi Geopark needs to be educated on these concepts.

Goal

Cultivating the spirit of unity and sharing of common values will enable the community to understand the geopark concept.

Iconic Projects

Project 1: Strengthening Geopark Special Curriculum in Schools and Developing Geopark Module in Community College for Public Education

- To improve the special geopark curriculum and co-curriculum for students to improve their knowledge and understanding of the geopark concept;
- To develop a geopark module on the concept of geoparks, geosites, biosites, and cultural sites as an initial or basic education for all stakeholders;
- To develop a special module with the community college for the general public to increase understanding and awareness of preserving the geopark;
- To strengthen public awareness programmes on geological value, its relationship with biological and cultural heritage, and the formation of the Langkawi Geopark region;
- To cultivate interest and love for natural heritage, nurturing the feeling of common values and 'kawi' spirit.

Project 2: Improving the Skills of Rangers and Tourist Guides on Geosite Management and Geotourism

- To ensure that the geological and biological heritage of a geosite is well preserved and can be used as an asset for geotourism purposes;
- To improve the quality of geotourism products through good management and understanding of the geological and biological content of a geosite;
- To apply the value of co-management and revive the common values of maintaining and developing geosites and promoting geotourism.

Project 3: Communicating Geopark Science through Public Awareness Activities

- To disseminate a better understanding of the concept of geoparks and regional sustainable development;
- To share geological and biological science knowledge with the public through briefings from members of the scientific community;
- To provide public health education related to animal and human interaction.

Task Force Team

- Geopark Unit (Coordinator)
- Scientific Community (PPL)
- Langkawi District Education Office
- Tourism City Langkawi Municipal Council
- Relevant NGOs
- District Health Office Langkawi

Implementation Actions

- Conducting a study on public awareness and understanding of the geopark among students and the general public;
- Creating a Geopark and Environmental Education Task Force Team and a team of experts to develop the Geopark Special Curriculum, School-to-Geosite Curriculum, as well as Geopark Modules for Community Colleges and the general public;
- Evaluation of activities and projects by the Task Force/Action Committee and approval by the Coordinating Committee.
- The implementation period is from 2025-2027.



The school curriculum for geological heritage must be strengthened, such as in the School-to-Geosite programme at Pasir Tengkorak Beach Geosite.



Improve the skills of rangers and tour guides on geosite management and geotourism.



Publicising geoscience through public awareness activities.



Train the young apprentice to lead the future development of Langkawi Geopark.



V.7 Women and Youth Empowerment

Iconic Programmes: Empowering Women and Youths in Building a Prosperous Society

Rationale

Langkawi Geopark emphasises the role of women and youths through the development of cooperatives and youth groups. This involvement can also provide them with opportunities to generate income via geotourism and geoproducts.

Goal

Increasing the involvement of women and youths in the geotourism and geoproducts sector.

Iconic Projects

Project 1: Training in Innovative Geoproduct Skills Through Women's and Single Mothers' Cooperatives

- To develop a special one-stop centre for women to market local geoproducts
- To provide skills improvement workshops for women and single mothers in the production of innovative geoproducts
- To provide training in geoproduct marketing and geotourism.

Project 2: Developing Handicraft Skills and Innovative Geofood for Groups with Special Needs, such as Disabled Youths and Orphans

- To provide training in innovative handicraft skills and geofood preparation at school, specifically for special education students and orphans
- To provide special training for people with disabilities such as autism
- To use the Langkawi Craft Complex as a handicraft and geofood skills training centre for disabled youths
- To provide disabled-friendly infrastructure in the development of Langkawi Geopark to facilitate training and marketing of products.

Project 3: Development of Geosite-Based Sports and Recreation Activities

- To develop several suitable geosites as recreational parks and sports centres, such as Gunung Raya Zipline and Pine Forest Nature Theatre
- To involve youths in the management of sports activities based on geotourism and geoproducts
- To provide training for youths to strengthen their skills in the management and operation of sports activities.

Task Force Team

- Geopark Unit (Coordinator)
- Langkawi District Youth and Sports Office
- Langkawi District Education Office
- social welfare Department
- Women's and Single Mother's Cooperative
- Langkawi Craft Complex
- Youth groups, management of Langkawi orphanages and NGOs
- Kedah Regional Development Board
- Langkawi District Office

Implementation Actions

- Collect information on the marketability of existing geoproducts
- Create a Women and Youths Empowerment Task Force Team to prepare proposal papers for the development of geosites for recreation and sports as well as for the production of innovative geoproducts
- Develop an innovative geoproduct marketing training module
- Evaluation of activities and projects by the Task Force/Action Committee and approval by the Coordinating Committee
- Implementation period: 2024-2026.



A one-stop centre to market handicraft products can ease the burden of women in the interior, such as on Pulau Tuba.



A special one-stop centre for women to market local geoproducts and geofood will increase their productivity.



Women active in the arts of music and culture need to be given attention and infrastructure to improve their abilities and talent.

▶ V.8 Geological Hazards

Iconic Programme: Risk awareness, prevention and preparedness for geological disasters

Rationale

The opening of new areas for various purposes exposes them to the risk of natural disasters, exacerbated by extreme weather in Langkawi Geopark. The community needs to be exposed to the risk of geological disasters, as well as to prevention and preparedness initiatives.

Goal

To build a resilient community that has the knowledge and skills to prevent geological disasters as well as formulate natural disaster risk reduction strategies.

Iconic Projects

Project 1: Landslide and Debris Flow Risk Management and Reduction

- To map the risk of debris flow disasters and landslides to enable risk reduction actions as well as the provision of an early warning system;
- To create public awareness to local residents about the risk of landslides and debris flow;
- To provide information and training in landslide risks and debris flow management to relevant agencies and communities.

Project 2: Urban and Rural Renewal Based on Natural Disaster Risks

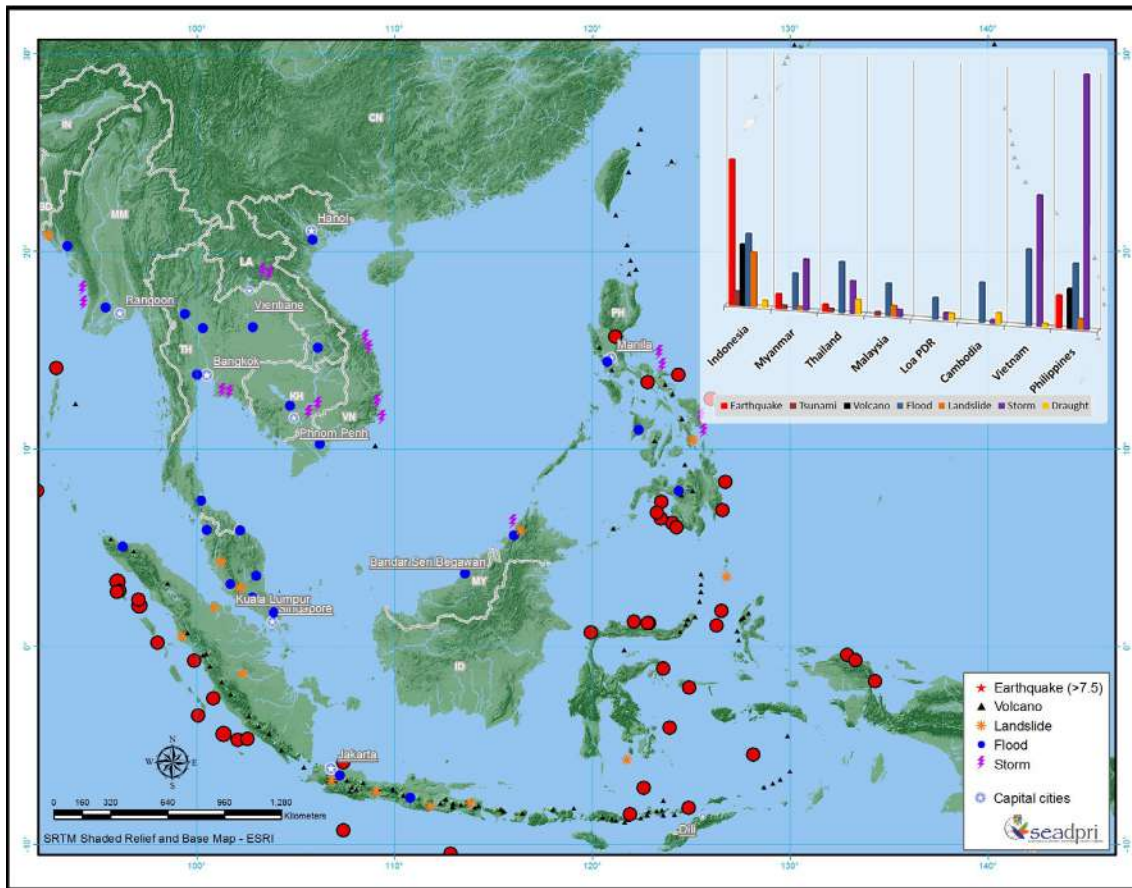
- To plan and reassess development plans with related agencies or parties taking into account the risk of natural disasters;
- To conduct research into areas that have experienced natural disasters in order to analyse and formulate prevention and reform strategies.

Task Force Team

- Kedah Department of Minerals and Geosciences
- Town and Country Planning Department
- Royal Malaysian Police
- Department of Fire and Rescue
- Langkawi District Office
- Department of Irrigation and Drainage
- Civil Defense Force
- Penghulu and related village heads

Implementation Actions

- Conduct research and information collection related to the risk of geological disasters
- Create a Geological Disaster Task Force Team to prepare a white paper and strategic action plan to be discussed in the Coordinating Committee
- Develop an early warning system and Disaster Risk Reduction (DRR) Management Plan
- Evaluate activities and projects by the Task Force/Action Committee for approval by the Coordinating Committee
- Implementation period: 2026-2028.



Langkawi is one of the places affected by the tsunami in 2004.



Houses at Kuala Teriang Beach and Kuala Melaka were severely damaged by the 2004 tsunami.



V.9 Environment and Climate Change

Iconic Programme: Public Awareness of Environmental Crises and Climate Change

Rationale

The world's two biggest agendas for humanity are environmental crises and the impact of climate change. Langkawi Geopark, as an archipelago geopark, is very much affected by these phenomena. Although various policies and efforts have been introduced, the deterioration of environmental quality continues. Community awareness and involvement are the most effective approaches to overcoming this.

Goal

To improve the quality of the environment and minimise the impact of climate change.

Iconic Projects

Project 1: Joint Action to Realise Plastic-Free Langkawi

- To spread community awareness about plastic and microplastic pollution;
- To develop policies and strategies to gradually reduce the use of plastic;
- To introduce various community projects and activities themed 'Langkawi Plastic-free Geopark by 2030'.

Project 2: Energy Transition Towards Renewable Energy

- To develop policies and strategies for carbon-free motor vehicles by 2035;
- To encourage the use of group solar energy in village areas;
- To encourage the use of green design and technology.

Project 3: Groundwater as a Source of Clean Water in Village Areas and Public Facilities

- To explore and evaluate groundwater resources as alternative supply sources ;
- To pioneer village and school water supply pilot projects;
- To explore groundwater resources for the tourism service industry.

Task Force Team

- LADA
- Various agencies related to energy, environmental pollution, water resources
- Concerned communities and NGOs
- Langkawi District Office
- Ministry of Natural Resources and Environmental Sustainability
- Langkawi Municipal Council Tourism City
- Department of Minerals and Geosciences

Implementation Actions

- Carry out studies and explore the potential of ground water resources and green technology engineering designs;
- Create an Environment and Climate Change Task Force Team to prepare a white paper and strategic action plan to be discussed in the Coordinating Committee;
- Encourage government, private and NGO agencies that are interested in carrying out public awareness activities;
- Evaluation of activities and projects by the Task Force/Action Committee and approval by the Coordinating Committee.
- Implementation period: 2025-2027.



Trash Hero Langkawi, a non-governmental organisation and the ambassador of Langkawi Geopark has a great impact on the cleanliness campaign of Langkawi.

► V.10 Scientific Knowledge

Iconic Programme: Continuous Knowledge Exploration to Maintain Competitive Ability

Rationale

Geopark is a commitment to the conservation and sustainable development of the region. Its development is based on knowledge and efforts to continuously improve quality. Without the support of scientific information, geoparks will grow horizontally and lose their competitiveness.

Goal

To continue to explore the secrets of nature, especially natural and cultural heritage, and translate scientific knowledge for society through public education and geotourism.

Iconic Projects

Project 1: Creating a Special Research and Development Fund Through Tourism Cess, Endowment, and Government/Private Grants

- To establish a research fund institution, provide a fundraising framework, a long-term research and development plan and carry out promotions to attract research funds;
- To manage and monitor the management of research funds.

Project 2: Continuous Mapping, Characterisation and Evaluation of Geosites, Biosites and Cultural Heritage Sites

- To encourage researchers from various educational institutions to conduct research in Langkawi Geopark;
- To translate scientific knowledge for heritage conservation and sustainable use, especially geotourism;
- To improve the quality of exhibition and promotion materials, especially in museums, galleries, information centres, and information panels for public education.

Task Force Team

- Geopark Unit / LADA
- Scientific Community (e.g., Langkawi Research Centre-UKM)
- Research Institution
- Environmental NGOs

Implementation Actions

- Encourage the scientific community, universities, private companies to carry out research and mapping of geosites, biosites and cultural sites;
- Create a Scientific Knowledge Task Force Team to prepare a proposal for the establishment of a special R&D fund;
- Evaluation of activities and projects by the Action Committee and approval by the Coordinating Committee.
- Implementation period: 2024 – 2026.



LRC-UKM offers various trainings to the local community about the natural and cultural heritage of Langkawi Geopark.



Eco-Discovery Centre at Ritz Carlton Hotel.



Plot study of mangrove is necessary for species inventory and forest conservation.



Researchers are trained to perform taxidermy (preserving the skin of dead animals) to serve as species reference vouchers.

VI

Way Forward

Pulau Ular



▶ VI.1 Implementation Team

Langkawi Geopark prioritises shared management vision, team action, and the support of all stakeholders. All these can be done efficiently through the following four implementation mechanisms:

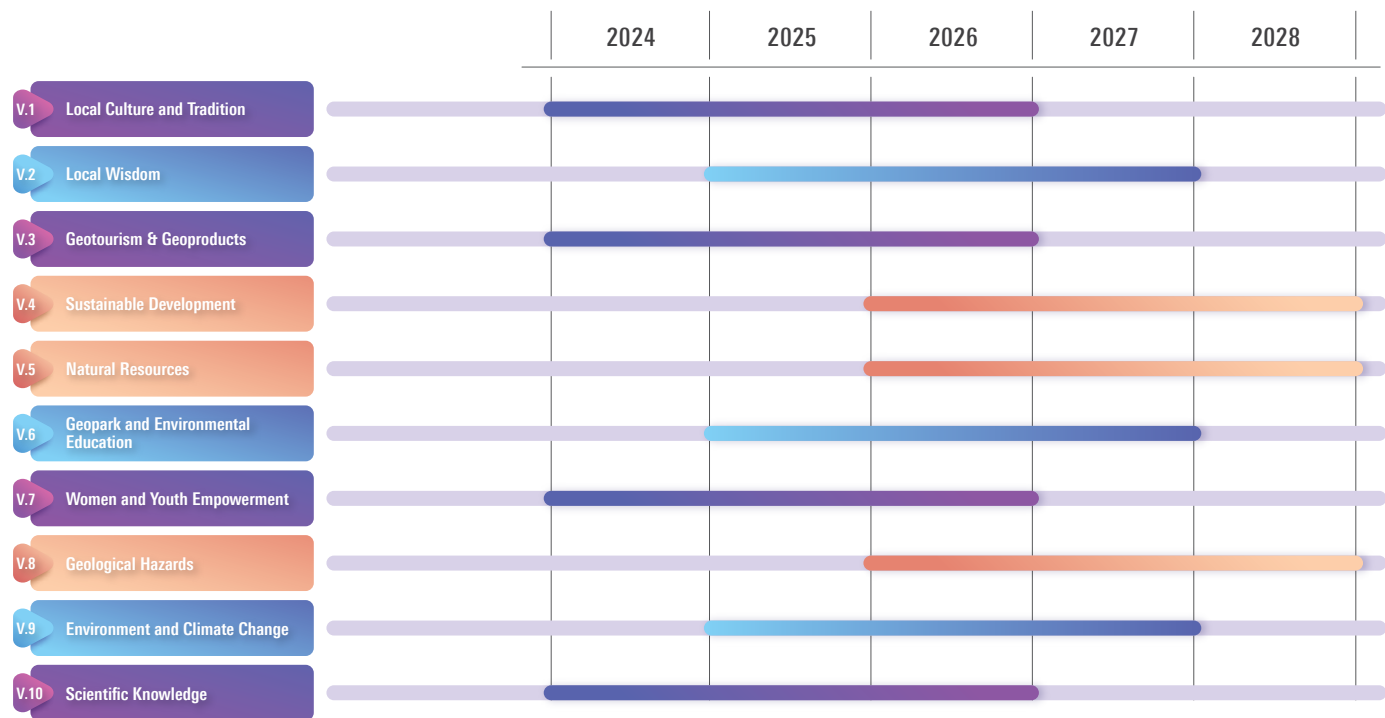
- The Management Committee is the Langkawi Geopark Advisory Council which approves policy, strategic direction, and moral support; as well as the Coordinating Committee, which is responsible for planning, managing, and coordinating geopark programmes, projects, and activities.
- The Action Committee/Task Force is a team consisting of representatives of stakeholders and experts who discuss the administration and development of the project as well as the important activities of the geopark.
- The Geopark Unit is the secretariat whose task is to ensure that all committees take appropriate action according to plan as well as to monitor their effectiveness. The Geopark Unit also needs to implement projects and activities on behalf of LADA and with the commitment of UGGp and GGN.
- The Task Force will develop a team that will be given the mandate to plan iconic projects to be brought to the Coordination Committee before implementation.



The National Geopark Committee Meeting was chaired by the KSU of the Ministry of Natural Resources, Environment and Climate Change.



The Honorable Chief Minister, Chairman of the Langkawi Geopark Advisory Council with committee members.



Iconic Programme
Implementation Timeline



LUGGp Coordination Committee Meeting chaired by the CEO of LADA.



Townhall on the development of the Management Plan with the main stakeholders of Langkawi Geopark.

▶ VI.2 Strategy and Finance

Introduction

This comprehensive blueprint is meaningless without an implementation strategy.

The key to success is cultivating the value of unity, strengthening governance, and encouraging the involvement of all stakeholders.

Strategy

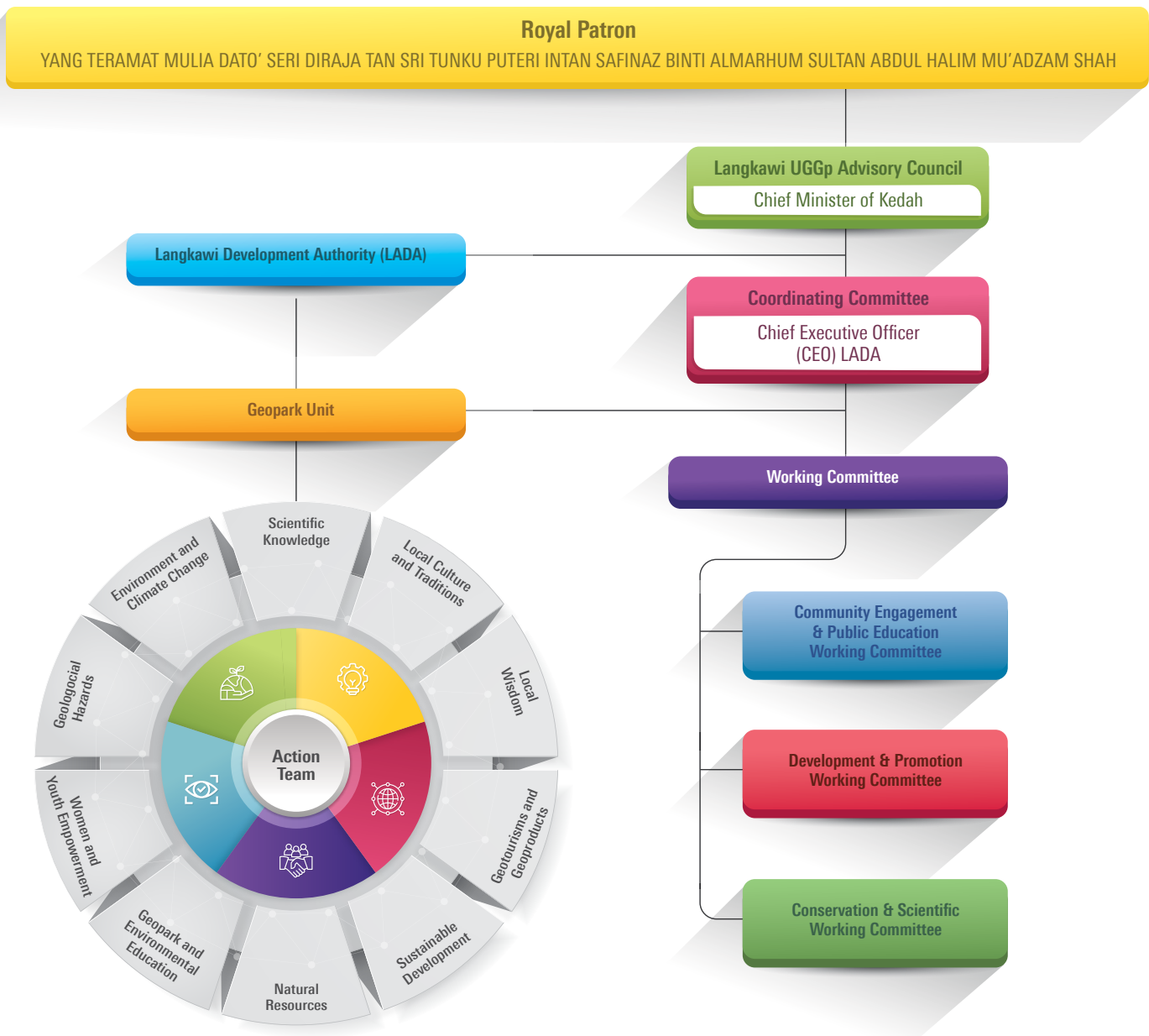
Implementation strategies are proposed based on improved governance and focused engagement via:

- a. Policy approval through the Langkawi Geopark Advisory Council; approval of actions through the Coordination Committee; and informed consent through the Action Committee.
- b. This process needs to be led by the Lead Agency (LADA), instructed and monitored by the Geopark Unit, and introduced through the Task Force Team.

Finance

To ensure the effectiveness of implementation, financial sources need to be diversified. Among them:

- a. Expenses of Managing LADA,
- b. Tourism Division Management Allocation,
- c. Special allocation of the main agency,
- d. Individual and private project funds, and
- e. Geopark Fund



Proposed Governance Structure of Langkawi Geopark Management Organisation

VII

Acknowledgements and References





KILIM GEOFOREST PARK

| Kilim Geoforest Park

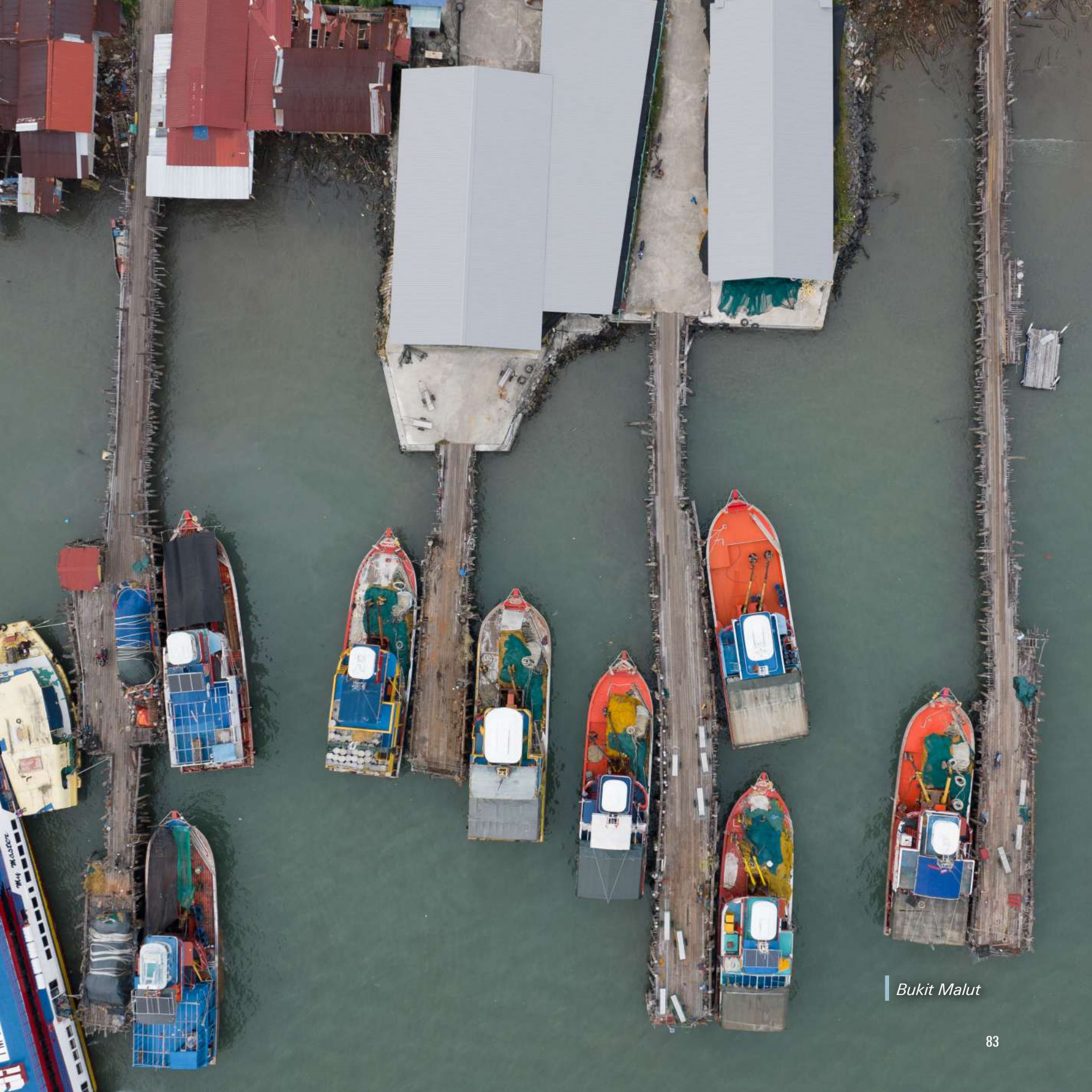
► VII.1 Acknowledgements

People Contributing Views or Comments Through Focus Group Discussions (FGD) and Stakeholder Engagement Sessions (Townhall)

YBrS. Tuan Nasaruddin Bin Abdul Muttalib. YBhg. Dato' Abdul Gafar Bin Yahya. Dato' Kamarulzaman Abdul Ghani. Pn. Nordiana Nordin. Pn. Rasanubari Asmah Rahmah Abd Hamid. Pn. Furzannie Hanna Binti Arif. Mohd Sharul Mat Ripin. Siti Aisyah Mohd Taib. Akram bin Gimin. Norkasmi Bin Azizan. Nor Hariani Muhamad Akbar. Omar Ariffin. Sabri Musa. Basor Osman Amir. Mohd Fadzlan Nor. Ardi Bahador. Hussein Mohd Said. Othman Ayeb. Indara Rahayu Mohd Noor. Nur Iqramullah Othman. Mohd Ramdzan Rahmat. Anis Faezah Mat Aziz. Muhammad Irfan Zainuddin. Hajjah Zuraidah Zainal Abidin. Muhamad Razib Saruddin. Ong Ping Ping. Mariyam Othman. Manshor Yusup. Rusasmizal Mohd Ghazali. Ahmad Nizar Hanafiah. Luqman Adzahar. Mohd Yusof. Hashim Mohamad. Parizah Osman. Ahmad Mustaqim Abd Rahim. Ali. Norulhuda Mohamad. Latifah Hashim. Mastura Ismail. Linda S Zubaidah. Nissya Othman. Areena. Jislana. Hj Musinn. Salmi Salleh. Sharifah Norlida. Siti Hajar Ibrahim.

Agency/ NGO/ Co-operative

- Langkawi Development Authority
- Langkawi Research Centre
- Langkawi District and Land Office
- Langkawi Tourism City Municipal Council
- Langkawi District Forestry Office
- Langkawi Marine Office
- Langkawi Tourism Association
- Langkawi Tourist Guide Association
- Petekma Association Langkawi Branch
- Malaysian Budget & Business Hotel Association
- Malaysian Association of Hotel Owners
- Langkawi Malay Hotel Association
- Langkawi Homestay Association
- Langkawi Resident Tourism Association
- Langkawi Tourism Industry
- Kampung Kilim Langkawi Berhad Community Cooperative
- Sungai Kubang Badak Fishing Cooperative
- Tuba and Strait Islands Community Cooperative Berhad



Bukit Malut

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| Kilim Geoforest Park

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- Prof. Dr. Norhayati Ahmad
- Prof. Dr. Che Aziz Ali
- Prof. Dr. Asan Ali Golam Hassan
- Dr. Azmil Munif Mohd Bukhari

VII.4 Main Acronyms

Some key acronyms used in the Blueprint are as follows:

AHV – Ayer Hangat Village
 APGN – Asia Pacific Geopark Network
 ASEAN – Association of Southeast Asian Nations
 GGN – Global Geopark Network
 JK – Committee
 LADA – Langkawi Development Board
 Langkawi Geopark – Langkawi Global Geopark before November 2015 and Langkawi UNESCO Global Geopark after November 2015
 LUGGp – Langkawi UNESCO Global Geopark
 NGO – Non-Governmental Organisation
 OKU – People with Disabilities
 PPL UKM – Langkawi Research Center of the National University of Malaysia
 SDG – Sustainable Development Goals
 UGGp – UNESCO Global Geopark
 UiTM – MARA University of Technology
 UM – University of Malaya
 UNESCO – United Nations Educational, Scientific and Cultural Organisation
 Geopark Unit – LADA Geopark and Sustainability Section
 UPM – Universiti Putra Malaysia
 USM – University of Science Malaysia
 UUM – University of North Malaysia



| Sungai Kilim





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