



# 20<sup>th</sup> Malaysian Forestry Conference

“Harmonizing Forestry Towards Sustainability”

- 28<sup>th</sup> - 30<sup>th</sup> OCTOBER 2024
- SABAH INTERNATIONAL CONVENTION CENTRE (SICC), KOTA KINABALU





WELCOME TO

**MFC-20**

Table of

# Contents

**01** Introduction & Objectives

**02** Chronology of Malaysian Forestry Conference

**06** Message by Chairman

**07** Sports

**08** Programme

**22** Opening Ceremony & Welcoming Dinner

**24** Closing Ceremony

**26** Closing Dinner

**27** List of Posters

**34** List of Information Papers

**38** Conference Officials

**42** Abstracts for Oral Papers

**75** Acknowledgements



# Introduction

The Sabah Forestry Department, Forest Department Sarawak and Forestry Department of Peninsular Malaysia have a common interest in the planned development of Forestry and proper utilization of the forest resources of Malaysia and desire to further the attainment of these ends through common cooperation, have agreed to hold regular conference as a platform for exchange of information, ideas and experiences.

## Objectives

- To discuss and resolve common problems pertaining to all aspects of forestry development.
- To coordinate the planned management of the forest resources and its utilization, and to seek means and methods leading to the development and diversification of the forest industries with the aim of maximising its contribution to the socio-economic development of the nation.
- To coordinate research and the use improved techniques in all aspects of forestry operations and utilisation.
- To establish closer working relationship and understanding between the officers from three Regions; and
- To generate public awareness through publicity and education on the importance of forestry as an integral element in the nation economy.



## Chronology of

# Malaysian Forestry Conference

MFC  
01

Venue: Kepong, Selangor  
Theme: -  
Date: 10-17<sup>th</sup> September 1966



MFC  
02

Venue: Sandakan, Sabah  
Theme: Silviculture & Management Problem  
Date: 10-18<sup>th</sup> August 1968

MFC  
03

Venue: Kuching, Sarawak  
Theme: The Forest Resources of Malaysia & Their Future Utilization  
Date: 10-18<sup>th</sup> August 1970

MFC  
04

Venue: Kuala Lumpur  
Theme: Forest & Forest industry in National Development  
Date: 07-14<sup>th</sup> August 1972

MFC  
05

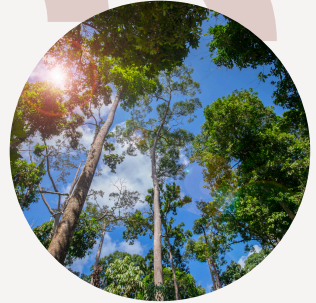
Venue: Kota Kinabalu, Sabah  
Theme: Forest Resources Development Strategy  
Date: 21-28<sup>th</sup> August 1974

## Chronology of

# Malaysian Forestry Conference

MFC  
06

Venue: Kuching, Sarawak  
Theme: Forestry in Socio-  
Economic Development  
Date: 11-17<sup>th</sup> October 1976



MFC  
07

Venue: Pulau Pinang  
Theme: Sustainable Management on  
National Forest  
Date: 10-18<sup>th</sup> August 1979

MFC  
08

Venue: Sandakan, Sabah  
Theme: Forest Development in 80's  
Date: 02-08<sup>th</sup> August 1982

MFC  
09

Venue: Kuching, Sarawak  
Theme: Forest Our National Heritage  
Date: 13-20<sup>th</sup> October 1985

MFC  
10

Venue: Kuantan, Pahang  
Theme: Forest Management & Environment  
Conservation  
Date: 24-29<sup>th</sup> July 1989

## Chronology of

# Malaysian Forestry Conference



MFC  
11

Venue: Kota Kinabalu, Sabah  
Theme: Sustainable Forestry  
Development Toward 2020  
Date: 27 July-02<sup>nd</sup> August 1992

MFC  
12

Venue: Miri, Sarawak  
Theme: Sustainable Forest Management &  
Biodiversity Conservation Challenges Ahead  
Date: 20-26<sup>th</sup> November 1995

MFC  
13

Venue: Johor Bahru, Johor  
Theme: Managing Forest in the New Millennium  
Date: 20-25<sup>th</sup> August 2001

MFC  
14

Venue: Kota Kinabalu, Sabah  
Theme: Forestry in Malaysia: Re-inventing  
Human-Nature Relationships  
Date: 12-16<sup>th</sup> September 2005

MFC  
15

Venue: Kuching, Sarawak  
Theme: Addressing Global Demands &  
expectations in Forestry  
Date: 20-24<sup>th</sup> October 2008

## Chronology of

# Malaysian Forestry Conference



MFC  
16

Venue: Melaka  
Theme: Forest for  
Community Livelihood  
Date: 05-09<sup>th</sup> December 2011

MFC  
17

Venue: Kota Kinabalu, Sabah  
Theme: A Century of Forest Management:  
Lesson Learnt & The Way Forward  
Date: 11-12<sup>th</sup> November 2014

MFC  
18

Venue: Kuching, Sarawak  
Theme: Advancing Sustainable Forestry  
Through Digitalization and Technology  
Date: 31<sup>st</sup> July-02<sup>nd</sup> August 2018

MFC  
19

Venue: Kuantan, Pahang  
Theme: Adapting Forestry to New Reality  
Date: 12-15<sup>th</sup> June 2022

MFC  
20

Venue: Kota Kinabalu, Sabah  
Theme: Harmonizing Forestry Towards  
Sustainability  
Date: 28-30<sup>th</sup> October 2024

# Message by **Chairman**



I take this opportunity to warmly welcome all of you to the 20<sup>th</sup> Malaysian Forestry Conference, hosted by the Sabah Forestry Department.

The theme for this conference, “Harmonizing Forestry Towards Sustainability” is timely and appropriate as this is the way forward in sustainable forest management in line with the United Nations Sustainable Developments Goals (SDGs).

In the face of global environmental changes, sustainable forestry practices stand out as vital for the preservation of our planet’s ecosystems. This incorporates balancing ecological, economic and social aspects of forestry to ensure the resources are used in an innovative approach that meets the objectives of The United Nations Forum on Forests besides the SDGs. The conference focuses on five main sub-themes which are essential and relevant to the current scenario in forest management, namely policy and governance framework, international cooperation and partnership, climate change mitigation and adaptation, biodiversity conservation, plantations in forests and beyond, and finally, community involvement and stakeholders.

I wish all of you a productive conference, and I believe that the resolutions from this conference will enable us to further strengthen sustainable forest management and conservation in Malaysia, more so, gearing towards sustainability.

Thank you!

**Datuk Frederick Kugan**

Chief Conservator of Forests,  
Sabah Forestry Department



## 27<sup>th</sup> October 2024 (Sun)

- Venue: Dalit Bay Golf & Country Club, Tuaran
- Time: 6:30 am
- Contact Person: Tn. Paul Leo Lohuji
- E-mail: PaulLeo.Lohuji@sabah.gov.my
- Contact No.: 013-8693590

## 28<sup>th</sup> October 2024 (Mon)



- Venue: Padang UMS, Kota Kinabalu
- Time: 3:00 pm
- Contact Person: Tn. Zainuden @ Rudy Jimbun
- E-mail: Zainuden.Jimbun@sabah.gov.my
- Contact No.: 017-5750023

## 28<sup>th</sup> October 2024 (Mon)



- Venue: KK Galaxy Bowl, Centre Point Sabah, Kota Kinabalu
- Time: 9:00 am
- Contact Person: Tn. Ismailey Ismail
- E-mail: Ismailey.Ismail@sabah.gov.my
- Contact No.: 017-2717788

MFC-20

# PROGRAMME



## 28<sup>th</sup> October 2024 (Mon)

02:00 PM  
05:00 PM

Registration

07:00 PM  
10:00 PM

Heads of Delegation Meeting (Closed Session)

## Day 1: 29<sup>th</sup> October 2024 (Tue)

Venue: Sipadan Hall II, Level 4

8:30 AM  
10:30 AM

- Closed Session (For members only)
- Appointment of the Conference's Chairman
- Appointment of the Conference Officials
- Reporting: Actions taken on 19<sup>th</sup> Malaysian Forestry Conference Resolutions
- Discussion
- Amendment to the Standing Orders of Malaysian Forestry Conference, if there is any

10:30 AM  
10:50 AM

Refreshments



MFC-20

# PROGRAMME



**Day 1: 29<sup>th</sup> October 2024 (Tue)**

**Plenary Session: Main Working Paper**

Venue: Sipadan Hall II, Level 4

11:00 AM  
11:30 AM

Sabah Forestry Department

11:30 AM  
12:00 PM

Forest Department Sarawak

12:00 PM  
12:30 PM

Forestry Department of Peninsular Malaysia

12:30 PM  
2:00 PM

Luncheon  
Venue: Sipadan Hall I, Level 4

**Concurrent Session 1: Policy & Governance Framework**

Venue: Sipadan Hall II, Level 4

**Session  
Chairperson**

**Tn Zulkifli Suara  
Sabah Forestry Department**

2:30 PM  
2:45 PM

**Paper 1:** Protection and Conservation of Biodiversity Outside the Permanent Forest Estates (PFE) in Sabah: What are the Possibilities?

**Speaker:** Siti Zubaidah S. Abdullah, Sabah Forestry Department

MFC-20

# PROGRAMME



**Day 1: 29<sup>th</sup> October 2024 (Tue)**

**Concurrent Session 1: Policy & Governance Framework**

Venue: Sipadan Hall II, Level 4

2:45 PM 3:00 PM	<b>Paper 2:</b> Sustainable Forest Management: Sarawak's Perspective  <b>Speaker:</b> Semilan Anak Ripot, Forest Department Sarawak
3:00 PM 3:15 PM	<b>Paper 3:</b> Pelaksanaan SMART Patrol di Jabatan Perhutanan Semenanjung Malaysia, Pendekatan Bersepadu dalam Rondaan dan Penguatkuasaan Hutan  <b>Speaker:</b> Abd Ramliza uyahhudin bin Mahli, Forestry Department of Peninsular Malaysia
3:15 PM 3:30 PM	<b>Paper 4:</b> Sabah Timber Legality Assurance System (TLAS): Strategic Approach Towards European Union Deforestation Regulation (EUDR) Compliance  <b>Speaker:</b> Robert Martin Mijol, Sabah Forestry Department
3:30 PM 4:00 PM	Q&A session

# PROGRAMME



**Day 1: 29<sup>th</sup> October 2024 (Tue)**

## **Concurrent Session 2: International Cooperation & Partnership**

Venue: Mantanani & Sepilok Room, Level 5

Session Chairperson	YBhg. Dato' Mohd Rahim bin Rani Forestry Department of Peninsular Malaysia
2:30 PM 2:45 PM	<p><b>Paper 5:</b> Pemerkasaan Konservasi Biodiversiti Di Landskap Central Forest Spine (CFS) Semenanjung Malaysia</p> <p><b>Speaker:</b> Syed Mohd Adzha bin Syed Khalid, Forestry Department of Peninsular Malaysia</p>
2:45 PM 3:00 PM	<p><b>Paper 6:</b> International Cooperation and Partnership in Utilising Remote Sensing Techniques For Enhanced Assessment of Forest Resources and Ecosystem Health</p> <p><b>Speaker:</b> Julsun J. Sikui, Sabah Forestry Department</p>

MFC-20

# PROGRAMME



**Day 1: 29<sup>th</sup> October 2024 (Tue)**

## **Concurrent Session 2: International Cooperation & Partnership**

Venue: Mantanani & Sepilok Room, Level 5

3:00 PM 3:15 PM	<b>Paper 7:</b> Strengthening Sarawak Forest Management through International Collaboration & Partnership  <b>Speaker:</b> Hjh Mohizah Binti Hj Mohamad, Forest Department Sarawak
3:15 PM 3:30 PM	<b>Paper 8:</b> WWF's Contribution in Supporting Forest Conservation in Sabah and Beyond  <b>Speaker:</b> Dr Henry Chan, WWF-Malaysia
3:30 PM 4:00 PM	Q&A session
4:00 PM 4:30 PM	Refreshments / End of Day 1
6:45 PM 10:00 PM	<b>Opening Ceremony and Welcoming Dinner</b> <b>20<sup>th</sup> Malaysian Forestry Conference</b> Venue: Sipadan Hall I, Level 4



**Day 2: 30<sup>th</sup> October 2024 (Wed)**

**Concurrent Session 3: Climate Change Mitigation & Adaptation**

Venue: Sipadan Hall II, Level 4

**Session  
Chairperson**

**Tn Ricky Anak Jonathan Alek  
Forest Department Sarawak**

8:30 AM  
8:45 AM

**Paper 9:** Promoting Sarawak's Forest Carbon Initiatives

**Speaker:** Dr. Malcom Demies, Forest Department Sarawak

8:45 AM  
9:00 AM

**Paper 10:** Restoration, Reclamation and Rehabilitation of Degraded Forest Areas in Peninsular Malaysia: National Agenda and Commitment

**Speaker:** Khairul Anuar bin Rahim, Forestry Department of Peninsular Malaysia

MFC-20

# PROGRAMME



## Concurrent Session 3: Climate Change Mitigation & Adaptation

Venue: Sipadan Hall II, Level 4

9:00 AM 9:15 AM	<p><b>Paper 11:</b> Nature-Based Solutions (NBS) As Natural Fixes: Trendsetting Ideas in Harnessing Nature to Combat Climate Change in Sabah</p> <p><b>Speaker:</b> Rosila Anthony, Sabah Forestry Department</p>
9:15 AM 9:30 AM	<p><b>Paper 12:</b> Kuamut Rainforest Conservation Project (KRCP): Sabah and Malaysia's 1<sup>st</sup> Nature Based Climate Project</p> <p><b>Speaker:</b> Ivy Wong Abdullah, Permian Global</p>
9:30 AM 10:00 AM	Q&A session
10:00 AM 10:30 AM	Refreshments

# PROGRAMME



**Day 2: 30<sup>th</sup> October 2024 (Wed)**

## **Concurrent Session 4: Biodiversity Conservation**

Venue: Mantanani & Sepilok Room, Level 5

**Session  
Chairperson**

**Dr Arthur Chung  
Sabah Forestry Department**

8:30 AM  
8:45 AM

**Paper 13:** Sabah's Plant Conservation  
Journey in Safeguarding Threatened Plant

**Speaker:** Alviana Damit, Sabah Forestry  
Department

8:45 AM  
9:00 AM

**Paper 14:** Research and Biodiversity  
Conservation in Permanent Forest Estate  
Sarawak

**Speaker:** Khairunnisa binti Othman, Forest  
Department Sarawak



MFC-20

# PROGRAMME



**Day 2: 30<sup>th</sup> October 2024 (Wed)**

## **Concurrent Session 4: Biodiversity Conservation**

Venue: Mantanani & Sepilok Room, Level 5

9:00 AM  
9:15 AM

**Paper 15:** Nilai Hutan Sebagai Penapis dan Pembersih Air Semulajadi: Kajian Kes Di Hutan Simpan Belum, Perak

**Speaker:** Tuan Marina binti Tuan Ibrahim, Forestry Department of Peninsular Malaysia

9:15 AM  
9:30 AM

**Paper 16:** Forest Genetic Resource Management Through DNA Technology

**Speaker:** Dr Kevin Kit Siong Ng, FRIM

9:30 AM  
10:00 AM

Q&A session

10:00 AM  
10:30 AM

Refreshments

MFC-20

# PROGRAMME



**Day 2: 30<sup>th</sup> October 2024 (Wed)**

## **Concurrent Session 5: Plantations in Forests & Beyond**

Venue: Sipadan Hall II, Level 4

**Session  
Chairperson**

**Mdm Zarina Binti Haji Shebli  
Forest Department Sarawak**

10:30 AM  
10:45 AM

**Paper 17:** Advancing The Greening Sarawak Initiative: Diverse Strategies in Monitoring Forest Plantation Development

**Speaker:** Eveleen Bt Augustine Lai, Forest Department Sarawak

10:45 AM  
11:00 AM

**Paper 18:** Status Ladang Hutan di Semenanjung Malaysia

**Speaker:** Asri bin Draman, Forestry Department of Peninsular Malaysia

MFC-20

# PROGRAMME



**Day 2: 30<sup>th</sup> October 2024 (Wed)**

## **Concurrent Session 5: Plantations in Forests & Beyond**

Venue: Sipadan Hall II, Level 4

11:00 AM  
11:15 AM

**Paper 19:** Promoting Tree Planting by Smallholders and Local Communities as An Important Source of Wood for the Timber Industry

**Speaker:** Kelvin N.K. Pang, Sabah Forestry Department

11:15 AM  
11:30 AM

**Paper 20:** Current Status and Challenges of Forest Plantation

**Speaker:** Rahman Khan, Jawala Plantation Industries Sdn Bhd

11:30 AM  
12:00 PM

Q&A session



**Day 2: 30<sup>th</sup> October 2024 (Wed)**

**Concurrent Session 6: Community Involvement & Stakeholders**

Venue: Mantanani & Sepilok Room, Level 5

**Session  
Chairperson**

**YBhg. Dato' Hj Ahmad Fadzil bin Abdul Majid  
Forestry Department of Peninsular Malaysia**

10:30 AM  
10:45 AM

**Paper 21:** Mountain Climbing Risk Assessment and Management Framework as A Risk Reduction Among Climbers in Malaysia

**Speaker:** Mohd Yussainy bin Md Yusop,  
Forestry Department of Peninsular Malaysia

10:45 AM  
11:00 AM

**Paper 22:** Assessing Ecological Integrity and Ecosystem Services for Sustainable Management of Forests, incorporating Community Involvement

**Speaker:** Elné Betrece Johnlee, Sabah  
Forestry Department

MFC-20

# PROGRAMME



Day 2: 30<sup>th</sup> October 2024 (Wed)

## Concurrent Session 6: Community Involvement & Stakeholders

Venue: Mantanani & Sepilok Room, Level 5

11:00 AM  
11:15 AM

**Paper 23:** Pengurusan dan Pembangunan Perhutanan Sosial di Sarawak

**Speaker:** Ts. Abang Nuradzizi Bin Abang Bolhi, Forest Department Sarawak

11:15 AM  
11:30 AM

**Paper 24:** Social Forestry in Deramakot Forest Reserve (DFR) and Its Social Impact Assessment (SIA)

**Speaker:** Ricky A. Martin, Sabah Forestry Department

11:30 AM  
12:00 PM

Q&A session

MFC-20

# PROGRAMME



## Day 2: 30<sup>th</sup> October 2024 (Wed)

12:00 PM 2:00 PM	<b>Luncheon</b> Venue: Sipadan Hall I, Level 4
2:00 PM 4:00 PM	<b>Closed Session (For members only)</b> Conference Resolution Presentation and Adoption Venue: Sipadan Hall II, Level 4
4:00 PM 5:00 PM	<b>Closing Ceremony</b> Venue: Sipadan Hall II, Level 4
7:00 PM 10:00 PM	<b>Closing Dinner of the 20<sup>th</sup> Malaysian Forestry Conference</b> Venue: Sipadan Hall I, Level 4

**29<sup>th</sup> October 2024**

**Opening Ceremony of the 20<sup>th</sup> Malaysian Forestry  
Conference & Celebration of Sabah Forestry  
Department's 110<sup>th</sup> Anniversary**

Venue: Sipadan Hall I, Level 4, Sabah International Convention  
Centre (SICC)

THEME  
*Batik*

TIME	PROGRAMME
06:45 PM	Arrival of conference participants and invitees
07:00 PM	Arrival of Honorable Ministers
	Arrival of Honorable Deputy Chief Ministers
07:15 PM	<ul style="list-style-type: none"><li>• Arrival of The Right Honourable Datuk Seri Panglima Haji Hajiji Bin Haji Noor, Chief Minister of Sabah</li><li>• Visit to the Conference Exhibitions and Sabah Forestry Department's 110<sup>th</sup> Anniversary Display</li></ul>



**29<sup>th</sup> October 2024**

**Opening Ceremony of the 20<sup>th</sup> Malaysian Forestry  
Conference & Celebration of Sabah Forestry  
Department's 110<sup>th</sup> Anniversary**

Venue: Sipadan Hall I, Level 4, Sabah International Convention  
Centre (SICC)

THEME  
*Batik*

TIME	PROGRAMME
08:15 PM	Negaraku and Sabah Tanah Airku Song
	Sabah Maju Jaya and Sabah State Integrity Song
	Welcoming performance
	<ul style="list-style-type: none"><li>• Speech by The Right Honourable Datuk Seri Panglima Haji Hajiji Bin Haji Noor, Chief Minister of Sabah</li><li>• Launching of the 20<sup>th</sup> Malaysian Forestry Conference</li><li>• Launching of the Sabah Mangrove Action Plan 2024-2033</li></ul>
10:00 PM	Performances
	End of the Opening Ceremony



**30<sup>th</sup> October 2024**

## **Closing Ceremony of the 20<sup>th</sup> Malaysian Forestry Conference**

Venue: Sipadan Hall II, Level 4, Sabah International Convention Centre (SICC)

TIME	PROGRAMME
04:00 PM	Arrival of Heads of Delegation and participants
	Negaraku and Sabah Tanah Airku Song
	Sabah Maju Jaya and Sabah State Integrity Song
	Closing Remarks by YBhg. Datuk Frederick Kugan, Chief Conservator of Forests, Sabah cum the Chairman of the 20 <sup>th</sup> Malaysian Forestry Conference
	Closing Speech by YBhg. Dato' Haji Zahari bin Ibrahim, Director General of Forestry Department of Peninsular Malaysia, representing the Secretary General of the Ministry of Natural Resources and Environmental Sustainability
	Remarks by YBhg. Datu Haji Hamden Bin Haji Mohammad, Director of Forests Sarawak
05:00 PM	End of the Conference

**30<sup>th</sup> October 2024**

**Closing Dinner of the 20<sup>th</sup> Malaysian Forestry  
Conference**

Venue: Sipadan Hall 1, Level 4, Sabah International Convention  
Centre (SICC)

**THEME**  
**Contemporary Traditional**

TIME	PROGRAMME
06:45 PM	Arrival of conference participants
07:00 PM	Arrival of YBhg. Datuk Frederick Kugan, Chief Conservator of Forests, Sabah
	Welcoming performance
	Remarks by YBhg. Datuk Frederick Kugan, Chief Conservator of Forests

**30<sup>th</sup> October 2024**

**Closing Dinner of the 20<sup>th</sup> Malaysian Forestry  
Conference**

Venue: Sipadan Hall 1, Level 4, Sabah International Convention  
Centre (SICC)

**THEME**  
**Contemporary Traditional**

TIME	PROGRAMME
07:30 PM	Performance by Forest Department Sarawak
	Performance by Forestry Department of Peninsular Malaysia
	Performance by Sabah Forestry Department
	Presentation of prizes
10:00 PM	End of the Closing Dinner



# **L**IST OF **POSTERS**

## LIST OF POSTERS

### ● SABAH FORESTRY DEPARTMENT

NO.	TITLE	AUTHORS
1.	Development of Geoforest Application to Monitor Forest Resources in Sabah	P.L. Lohuji, V. Linggok, N.S. Sabari & M.A. Mansur
2.	A Systematic Approach to Land-Use and Land-Cover Monitoring in Sabah	S.T.L. Tsen, C.J. Wong, C. Sinoh, S.J. Mianus, J.J. Sikui & R. Nilus
3.	Vegetation and Biomass Assessment in Ulu Kalumpang-Mt Wullersdorf Forest Restoration Area Using Lidar Technology	C.J. Wong, S.J. Mianus, E.K.M. Dyi, J.J. Sikui, A. Rawlenes, F. Mohd Noor & R. Nilus
4.	Evaluating Intraspecific Population Structure of Tuhau ( <i>Etlingera coccinea</i> ) in Sabah for Conservation and Management Purposes	D. Idhamsah, N.S. Amir Mahmud, R. Robert, S.W. Yap & V.S Kumar
5.	Investigating the Influence of Abiotic Factors on the Phytochemistry & Bioactivity of Tuhau ( <i>Etlingera coccinea</i> ) across Sabah	N.S. Amir Mahmud, D. Idhamsah, R. Robert, S.W. Yap & B.E. Cheong

## LIST OF POSTERS

### ● SABAH FORESTRY DEPARTMENT

NO.	TITLE	AUTHORS
6.	Candidate Plus Tree (CPTs) Selection: A Pathway to Sustainable Forestry	C. Sinawat, M.Z. Damit, E. Sapindal & K. Kimjus
7.	Oil Palm to Timber Plantation: The Suan Lamba Conversion Model	E. Khoo, A.Y.L. Hastie, C.X. Lo & H.K. Lo
8.	Effectiveness of Benocide and Hydrogen Peroxide in Mitigating Damping-Off Disease in Laran ( <i>Neolamarckia cadamba</i> )	V. Paul, F.Z. Kamalariffin & A. Amirin
9.	Bioprospecting of Plant Growth-Promoting Bacteria Capable of Mobilising Multiple Forms of Soil Nutrients	R. Robert, C. Budiman, B.B. Tuzan, R.J. Majapun, R. Salleh, T.E. Chen & V.S. Kumar
10.	Distribution Modelling of Sabah's State Butterfly, <i>Troides andromache</i> (Lepidoptera: Papilionidae) in Sabah	R. Japir, D.F. Ag Damit, J.L. Yukang, A.Y.C. Chung & S. Bosuang



## LIST OF POSTERS

### ● FOREST DEPARTMENT SARAWAK

NO.	TITLE	AUTHORS
1.	Enhancing Sarawak Timber Legality Verification System (STLVS) and Efficient Revenue Collection Through Digitalization: The Sarawak Logs Tracking and Forest Revenue System (REVLOG)	O.J. Ngayop, J. Deri, S. Bojeng & H. Bujang
2.	Efficiency and Reliability: The System Behind Forest Department Sarawak's Investigations Paper	R. Othman, A.M. Terang & A. Sapiee
3.	Response of 1-Year-Old <i>RevoTropix Paulownia</i> Planted on Red-Yellow Podzolic Soil to Different Types of Fertilizer Application	I. Nur Bazilah, J.G. Geoffery, B. Halipah & S.R. Keeren
4.	Achievements of Heart of Borneo Sarawak	Forest Department Sarawak
5.	Information Technology in Prevention and Enforcement Activities of the Sarawak Forest Department	M. Ambau, H. Mohammad, S. Happysupina, R. Othman, M.S. Joe, A.M. Terang

## LIST OF POSTERS

### ● FOREST DEPARTMENT SARAWAK

NO.	TITLE	AUTHORS
6.	Vegetative Propagation of Dipterocarps to Assure Continuous Planting Material for Forest Restoration in Sarawak	N. Welman, J. Jeson, B. Phillip, S.L. Pang & Z. Shebli
7.	Bringing Life on Barren Land: Preliminary Potential of Rehabilitation on Coal Ex-Mining Site Through Greening Landscape Initiative	A. Millicent, S. Zarina & S. Happysupina
8.	Growth Performance of Selected Plantation Species Planted at Model Planted Forest Project in Sabal Forest Reserve, Simunjan District in Serian Division Sarawak	B. Razali & M.Y. Bong
9.	Leveraging on a UNESCO Global Geopark Initiative for Partnership in Sustainable Development- A Case Study of Sarawak Delta Geopark	G.P. Madeline & O. Lelawati
10.	Evaluating Biodiversity: A Camera Trapping Study of Mammals and Birds in Three Forest Management Units of Sarawak	S.A. Zakaria, I. Fatin Nur Azizah, W. Natasha Anina & J. Jeripson Jalong

## LIST OF POSTERS

### ● FORESTRY DEPARTMENT OF PENINSULAR MALAYSIA

NO.	TITLE	AUTHORS
1.	Analisis Data Petak Kajian Tumbesaran (Growth Plot) di Semenanjung Malaysia Sehingga Tahun 2023	A.F. Abdul Majid, A. Richard, R.H. Rosli, M.F. Sobri, A. Mohd Sukri & N.H. Jamaluddin
2.	The Efficiency of Forest Governance in Addressing Development Activities in Permanent Reserve Forests: Issues and Challenges	M.J. Marzuki, V. Justin & A. Ahmad
3.	Early Warning System @ Taman Eko-Rimba Negeri Perak	M.B. Abdul Manaf, A.R.A. Wahid & M.A. Zainul
4.	Hutan Simpan Ulu Muda: Permata Negeri Kedah	A. Muhamad, J. Zainuddin, Y. Mohd Asri, N.A. Nor Shahrini & R. Fatin Afqah
5.	Penemuan Signifikan Persampelan Kepelbagaian Spesies Terjadual dan Spesies yang Mempunyai Nilai Pemeliharaan yang Tinggi di Gunung Bilah, Kuala Betis, Kelantan	H.M.R. Endot, E.J. Yapp, J. Yahya, M.N.F. Rahim, A. Razali, M.S.S. Rosli & M.F.F. Jafrei

## LIST OF POSTERS

### ● FORESTRY DEPARTMENT OF PENINSULAR MALAYSIA

NO.	TITLE	AUTHORS
6.	Penubuhan Pusat Biodiversiti Malaysia: Pusat Kecemerlangan Biodiversiti Merentas Sektor	O. Helmy Tariq
7.	Valuing The Recreational Benefit of Central Forest Spine (CFS) Ecological Corridor N-SL2 (CFS2:SL7) Angsi Forest Reserve And Berembun Forest Reserve, Negeri Sembilan	Z. Manan, A.F. Abdul Majid, H.A. Halim, T.M. Tuan Ibrahim, R. Tahir & S.F. Adnan
8.	Spatial Monitoring And Reporting Tool (Smart) System For Monitoring Efficiently And Strengthening Enforcement Of Forest	A.R.A. Wahid, N. Mohd Ghazali & A.A. Rahim
9.	Peningkatan Sosioekonomi Masyarakat Setempat Di Landskap Rangkaian Ekologi Central Forest Spine (CFS) Lembah Tanum, Lipis, Pahang Melalui Aktiviti Ekopelancongan Di Bawah Inisiatif Pelan Induk Rangkaian Ekologi Cfs (PIRECFS)	A.M. Ahmad Fadzil, R. Aldrich, T. Rusli, S.K. Syed Mohd Adzha, M. Mohd Fauzan, M. Dionysia, C.A. Affeefah Amanee & I. Muhammad Syafuan
10.	Program “Buyback Guarantee” Tapak Semaian Orang Asli Negeri Pahang	K. Nurfaizliza, R. Roslan, J. Norzaiddi, A.S. Norhafiezah & M.N. Mohd Kamal



# **L**IST OF **INFORMATION PAPERS**

## LIST OF

### ● INFORMATION PAPERS

NO.	AGENCY	TITLE	AUTHORS
1.	Sabah	Notes on Expanding Mangrove Forests in Sabah	M. Matami, D. Seligi, C.X. Francis, J. Aribin, F. Koret & J. Tangah
2	Sabah	Seed Ageing Detection Method on Dormant Seeds Before Planting and Storage	F.Y. Chong, M.M. Mazri & R.J.H. Kueh
3	Sabah	An Estimation of Soil Organic Carbon Density: A Case Study of Tabin Landscape Lahad Datu, Sabah	E.K.M. Dyi, C.J. Wong, B. Japrin, C. Dawid, B.C. Mail & R. Nilus
4	Sabah	The Impact of Local Community Participation and the Potential Sustainability of Bestaria Eco-Tourism	J. Kijin, E.B. Johnlee, N.S.A. Bakar, J.J. Jakiwa, A. Bisuk & D. Ijes.
5	Sabah	A Note on Procurement of Planting Materials to Fulfill the Demand for Seedlings in Smallholder Plantations	V.S. Guanih, K.N.K. Pang, F.Y. Chong, V.Paul, K. Kimjus, D.W. Lionel, F. Janain & M. Ajik

## LIST OF

### ● INFORMATION PAPERS

NO.	AGENCY	TITLE	AUTHORS
6	Sabah	Early Growth Performance of Laran ( <i>Neolamarckia cadamba</i> ), Batai ( <i>Falcataria moluccana</i> ), Binuang ( <i>Octomeles sumatrana</i> ) and Talisai Paya ( <i>Terminalia copelandii</i> ) in Smallholder Plots	K.N.K. Pang, F.Y. Chong, K. Kimjus, N. Yusof, S.M. Norbeh, I.B. John & V.S. Guanih
7	Sabah	Round Logs Inspection and Royalty Assessment System (SPPR)	B. Valentine, A.L. Radin, K.L. Yong & A. Hasim
8	Sabah	The Sabah Plant Red List of Dipterocarpaceae: Identifying High-Density of Threatened Species in Permanent Forest Estates	R.J. Majapun, S.T.L. Tsen & E. Khoo
9	Sabah	Functions and Capabilities of Sabah Forestry Institute (IPS) in Providing Adequate Trained Workforces for Sustainable Management of Forest (SFM) in Sabah	J. Siong, M.R. Mohammad, F. Tangkim, J. Hassim, M. Saradin, N.A.F. Unus, S.S. Salleh, S. Majamin & T.D. Mudi

## LIST OF

### ● INFORMATION PAPERS

NO.	AGENCY	TITLE	AUTHORS
10	Sabah	Plant Conservation Through an Arboretum Development Project in Taman Botanical Sepilok Reserve, Sabah	S. Sabran, P.M.S. Salam, J.T. Pereira, A. Damit, J.J. Lucas, B. Joeman, G.H. Petol & J.B. Sugau
11	Sabah	Managing Ecotourism Sites in Forest Management Unit (FMU) No 10 (FMU 10) in 2023: An Analysis on Selected Socio-Economic Indicators	A. Jadin, N. Nasly, J.A. Bakar, A.E. Pg. Mahmud & R. Sulaiman
12	JPSM	The Sixth National Forest Inventory	A.F. Abdul Majid, R. Rani, A. Richard, R.H. Rosli, J.S. Shahar, M.F. Sobri, A. Mohd Sukri, J. Francis, R.A. Jamil, M.A. Shohaimay & N.A. Bahrum
13	Yayasan Sabah	Preliminary Project Social Impact Study on Planting Bamboo and Rattan Raw Handicraft Materials with Local Communities in the Interior of Sabah	S.W. Yap, R. Razalie, J. Gilau & E.L.G. Wilfred





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The background features a light beige field with a subtle pattern of small, overlapping circles. In the top right corner, there is a decorative element consisting of vertical stripes in a light brown color, partially enclosed by a curved shape. On the left side, there are several overlapping circles in shades of orange and brown. The word "ABSTRACTS" is prominently displayed in the center, with the letter "A" being significantly larger and enclosed within a thick, stylized circular frame made of two concentric arcs in orange and brown tones.

# ABSTRACTS

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

● Sub-Theme 1: Policy & Governance Framework

### PAPER 1: PELAKSANAAN SMART PATROL DI JABATAN PERHUTANAN SEMENANJUNG MALAYSIA, PENDEKATAN BERSEPADU DALAM RONDAAN DAN PENGUATKUASAAN HUTAN

**S. Kasmani\* & A.R. Mahli**

*Jabatan Perhutanan Semenanjung Malaysia*

*\*Email: shahrulnizam@forestry.gov.my*

#### ABSTRAK

Penggunaan aplikasi “*Spatial Monitoring And Reporting Tool (SMART)*” semasa rondaan dan penguatkuasaan hutan di dalam kawasan Hutan Simpanan Kekal (HSK) di Semenanjung Malaysia boleh membantu meningkatkan perlindungan kepada sumber biodiversiti hutan dengan penghasilan maklumat yang membantu membentuk pola pengurusan yang sesuai. Negeri Johor, Pahang dan Perak adalah merupakan negeri perintis yang telah menggunakan aplikasi SMART sebagai alat merekod hasil penemuan semasa melaksanakan aktiviti rondaan dan penguatkuasaan di kawasan *Central Forest Spine* (CFS) yang terpilih. Melalui pelaksanaan projek *Improving Connectivity in the Central Forest Spine* (IC-CFS), pegawai dan kakitangan perhutanan yang terpilih di negeri tersebut dibekalkan dengan aplikasi ini beserta peralatan, data asas dan latihan yang berkaitan. Kajian ini adalah berdasarkan kepada pengalaman dari siri latihan, soal selidik, pemerhatian lapangan dan perbincangan dengan pegawai dan kakitangan yang berkaitan. Didapati penggunaan aplikasi ini sering menunjukkan cabaran dari segi teknikal, sumber, kapasiti dan tingkah laku dinamik pegawai dan kakitangan (pengguna). Cabaran ini disebabkan oleh ketidakcekapan atau penurunan kemahiran dalam kalangan pegawai dan kakitangan (pengguna), kurang keserasian dengan teknologi baru, dan pengagihan sumber yang tidak seimbang. Bagi mengatasi cabaran ini, beberapa langkah dicadangkan agar pembangunan pelan pelaksanaan SMART yang bersepadu dapat diwujudkan, serta meningkatkan motivasi pegawai dan kakitangan lapangan.

**Kata kunci:** Penguatkuasaan Hutan, SMART, Hutan Simpanan Kekal, *Central Forest Spine*, Cabaran Penggunaan Teknologi

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

- Sub-Theme 1: Policy & Governance Framework

### PAPER 2: SUSTAINABLE FOREST MANAGEMENT: SARAWAK'S PERSPECTIVE

**H.H. Haji Mohammad, S. Ripot\*, R.J. Alek\*, W. Cluny & Ir. W.A. Kader**

*Forest Department Sarawak*

*\*Email: semilan1@sarawak.gov.my, ricky1@sarawak.gov.my*

#### ABSTRACT

Sustainable Forest Management is generally understood as achieving a balance among three key pillars: environmental protection, economic viability, and socially acceptable practices. With growing concerns over prioritizing environmental protection and respecting the traditional rights of local communities, the governing authorities must adapt to these evolving demands while upholding the core principles of sustainability. Since 2019, Sarawak's forestry policies have undergone significant changes, emphasizing environmental protection and the sustainability of forest resources. Harvesting operations in Sarawak have decreased to around 2 million m<sup>3</sup> per year, accompanied by stringent requirements for forest management certification in both natural and planted forests. Currently, Sarawak has 26 certified natural forests covering over 2.3 million hectares, along with 8 certified forest plantations spanning approximately 122,000 hectares. In our efforts to restore the forests, more than 35 million trees have been planted under the Sarawak Greening Campaign. The amendment to the Forest Ordinance 2022 and the Sarawak Policy 2019 enables Sarawak to diversify its economy through forest carbon activities and payment for ecosystem services (PES). The PES has generated a total of RM 6,582,766.55 in revenue, which supports community development and education for our local communities. Meanwhile, forest carbon projects are expected to bring in an annual revenue in statutory charges of RM 20-25 million for every 500,000 hectares. The Sarawak Government has also invested about RM 8 million under the 11<sup>th</sup> and 12<sup>th</sup> Malaysia Plan for research and technology to improve forest management, conserve forest resources and strengthen the timber chain of custody.

**Keywords:** Sustainable Forest Management, revenue generation, Payment for Ecosystem Services, forest carbon activities

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

● Sub-Theme 1: Policy & Governance Framework

### **PAPER 3: PROTECTION AND CONSERVATION OF BIODIVERSITY OUTSIDE THE PERMANENT FOREST ESTATES (PFE) IN SABAH: WHAT ARE THE POSSIBILITIES?**

**S.Z.S. Abdullah\*, I.P.H. Sunjoto, R. Anthony, A. Hastie & M. Luin**

*Sabah Forestry Department*

*\*Email: SitiZubaidah.Abdullah@sabah.gov.my*

#### **ABSTRACT**

The loss of forested areas (deforestation) and the deterioration of forest quality (forest degradation) are the main factors for biodiversity loss. In general, as official reported in Forest Resource Assessment 2020 - Malaysia Report by the Ministry of Natural Resources and Environmental Sustainability, (NRES) the rate of loss of forest cover in Malaysia for the period of 2015-2020 is approximately 70,000 ha annually. While for Sabah, the loss of forest cover for the same period is estimated at about 241,500 ha. As of 2022, Sabah still retains 4,606,475 ha or 63% of its land area under forest cover. This is comprising of the permanent forest estates or PFE (Forest Reserves, State's Parks, Wildlife Sanctuaries and Wildlife Conservation Areas) and State land (including alienated land), whereby about 750,000 ha (~16.3%) are forest areas that are located outside of the permanent forest estates. The rapid development of State land and alienated land to generate socio-economic returns has contributed to the loss of biodiversity, especially areas that are still forested. From the aspect of compliance with the Sabah legislation, so far, the control mechanism for land development is through the approval and implementation of the Environmental Impact Assessment (EIA). However, it still fails to curb the issue of destruction and loss of biologically diverse forested areas on government and private land. This paper discusses on what are the challenges in protecting and conserving biodiversity outside of the permanent forest estates in Sabah, with suggestions of the future management and conservation strategies.

**Keywords:** Biodiversity conservation, protected areas, conservation strategies



Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

● Sub-Theme 1: Policy & Governance Framework

### **PAPER 4: SABAH TIMBER LEGALITY ASSURANCE SYSTEM (TLAS): STRATEGIC APPROACH TOWARDS EUROPEAN UNION DEFORESTATION REGULATION (EUDR) COMPLIANCE**

**R.M. Mijol, D. Balingi & C. Billy**

*Sabah Forestry Department*

#### **ABSTRACT**

The Sabah Timber Legality Assurance System (TLAS), established in 2009, ensures timber products from Sabah are harvested, processed, and traded in compliance with local laws and international standards. This paper outlines the Sabah Forestry Department's strategic approach to the European Union Deforestation Regulation (EUDR). In June 2024, the Sabah Forestry Department collaborated with the EU to align TLAS with the EUDR and incorporate sustainable elements through the EU Corporate Sustainability Due Diligence Directive (CS3D). This alignment aims to meet stringent EU trade regulations by mitigating deforestation risks and promoting sustainable corporate behavior throughout the global value chain, addressing social and environmental impacts. The revision of the Sabah TLAS will include key alignments, such as being deforestation-free after 31<sup>st</sup> December 2020, ensuring products comply with national legislation, providing geolocation of production plots, consulting with indigenous peoples, and complying with relevant legislation, including land use rights, environmental protection, labor rights, and Free, Prior, and Informed Consent (FPIC). The update process involves consultations and training with timber stakeholders, ensuring readiness to meet new standards. By integrating EUDR and CS3D requirements, Sabah not only aims to enhance the marketability and credibility of its timber products but also to safeguard its forests for future generations and contribute to global efforts to combat climate change and protect biodiversity.

**Keywords:** Sabah Timber Legality Assurance System, European Union Deforestation Regulation, Climate Change

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

● Sub-Theme 2: International Cooperation & Partnership

### PAPER 1: PEMERKASAAN KONSERVASI BIODIVERSITI DI LANDSKAP CENTRAL FOREST SPINE SEMENANJUNG MALAYSIA

**R. Roslan<sup>1</sup>, A.M. Ahmad Fadzil<sup>1</sup>, R. Aldrich<sup>1</sup>, T. Rusli<sup>2</sup>, S.K. Syed Mohd  
Adzha<sup>1\*</sup>, M. Mohd Fauzan<sup>1</sup> & M. Dionysia<sup>1</sup>**

*<sup>1</sup>Jabatan Perhutanan Semenanjung Malaysia*

*<sup>2</sup>Jabatan Perhutanan Negeri Perak*

*\*Emel: syed\_adzha@forestry.gov.my*

#### ABSTRAK

Hutan di Semenanjung Malaysia berkeluasan 5.72 juta hektar mempunyai ekosistem yang sangat kompleks dan kaya dengan kepelbagaian biologi. Pembangunan sosioekonomi yang pesat melibatkan pembukaan dan penukaran kawasan berhutan kepada guna tanah lain menyebabkan fragmentasi hutan yang menyumbang terhadap isu roadkill, konflik manusia-hidupan liar dan konservasi biodiversiti. Rancangan Fizikal Negara telah mengutarakan isu ini dan mengambil langkah supaya *Central Forest Spine* ditubuhkan sebagai tulang belakang Kawasan Sensitif Alam Sekitar. Justeru, Pelan Induk Rangkaian Ekologi *Central Forest Spine* 2010 telah diluluskan oleh Mesyuarat Jemaah Menteri pada 1 April 2011 dan merupakan pelan jangka panjang perancangan strategik bertujuan untuk menyambung kembali, mengekalkan dan memelihara serta memulihara kawasan kompleks hutan yang terpisah agar wujud satu rangkaian fizikal hutan yang bersambungan di seluruh kawasan *Central Forest Spine*. Pelaksanaan pelan induk ini telah mendapat sokongan dan peruntukan kewangan daripada Kerajaan Persekutuan, Kerajaan Negeri, agensi antarabangsa dan tempatan yang merangkumi pembiayaan bagi aktiviti kajian flora dan fauna, pemulihan habitat, pembangunan modal insan, peningkatan sosioekonomi masyarakat setempat, peningkatan kesedaran awam dan pembangunan infrastruktur. Pelan Induk Rangkaian Ekologi *Central Forest Spine* 2010 telah berhadapan dengan isu kebolehlaksanaan dan Pelan Induk Rangkaian Ekologi *Central Forest Spine* 2022 yang baharu sebagai hasil kajian semula telah dilancarkan pada 22 Mac 2023. Kertas ini menjelaskan pelbagai kejayaan pelaksanaan Pelan Induk Rangkaian Ekologi *Central Forest Spine* 2010 serta cabaran dan hala tuju inisiatif Pelan Induk Rangkaian Ekologi *Central Forest Spine* 2022 dalam memperkasa konservasi biodiversiti di landskap *Central Forest Spine*.

**Keywords:** *Central Forest Spine*, konservasi biodiversiti, konflik manusia-hidupan liar, Pengurusan Hutan Secara Berkekalan

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

- Sub-Theme 2: International Cooperation & Partnership

### PAPER 2: OVERVIEW OF INTERNATIONAL COLLABORATION AND PARTNERSHIPS WITH THE FOREST DEPARTMENT SARAWAK

**Mohizah M. , E. Jugi & S. Ripot**

*Forest Department Sarawak*

#### ABSTRACT

This paper provides an overview of the international collaborations and partnerships involving the Forest Department Sarawak. As a crucial player in forest management and conservation in Sarawak, the Forest Department Sarawak engages with various global and regional organizations to address pressing environmental challenges. This overview provides the primary objectives, scope of collaboration, output and outcome of these international collaborations, which include enhancing forest management practices, conserving biodiversity, and mitigating climate change. Key partners such as the International Tropical Timber Organization (ITTO), Forest Global Earth Observatory (ForestGEO), Food and Agriculture Organization of the United Nations (FAO), United Nations Development Programme (UNDP), German Technical Cooperation (GTZ) and Global Environment Facility (GEF) are discussed, along with significant projects like the Heart of Borneo Initiative, Sustainable Management of Peatland in Malaysia (SMPEM) and Sustainable Use of Peatland and Haze Mitigation in ASEAN (SUPA). The paper also discusses the challenges faced in these partnerships, such as coordination issues and funding constraints, and highlights opportunities for strengthening collaborations and leveraging advanced technologies. By analysing the impact of these international efforts, this overview underscores the importance of global cooperation in advancing sustainable forest management and achieving long-term conservation goals in Sarawak.

**Keywords:** Forest management, conservation, global partnership

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

- Sub-Theme 2: International Cooperation & Partnership

### **PAPER 3: INTERNATIONAL COOPERATION AND PARTNERSHIP IN UTILISING REMOTE SENSING TECHNIQUES FOR ENHANCED ASSESSMENT OF FOREST RESOURCES AND ECOSYSTEM HEALTH**

**J.J. Sikui\*, C.J. Wong, S.J. Mianus, S.T.L. Tsen & R. Nilus**

*Sabah Forestry Department*

*\*Email: joseph.sikui@sabah.gov.my*

#### **ABSTRACT**

Forests play a definite role as substantial carbon sinks. Tropical deforestation, particularly in regions like Sabah, poses a significant global threat with substantial environmental and socio-economic impacts. While approximately 63% of Sabah's land mass is still forested, assessing and monitoring such a vast area is deemed to be spatially challenging. This research introduces an innovative approach to enhance forest resources and ecosystem health assessments through advanced remote sensing techniques. Leveraging technologies such as UAVs, LiDAR, multi-spectral imaging, and geospatial analyses, we aim to improve current evaluation methods for forest resources and key ecosystem health indicators. Furthermore, this research explores the crucial role of international cooperation in strengthening forest management by facilitating expertise and data sharing among stakeholders. Specifically, collaborations with WWF and ANRICA within the Tabin Landscape demonstrate the potential of integrating local knowledge and on-the-ground efforts with advanced remote sensing technologies for improved forest resource assessment. This paper demonstrates the importance of leveraging remote sensing technologies with international collaboration and partnership as a way forward in better assessment of forest resources and ecosystem health while promoting sustainable forest management.

**Keywords:** Remote sensing, ecosystem health, forest resource assessment

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

- Sub-Theme 2: International Cooperation & Partnership

### PAPER 4: WWF'S CONTRIBUTION IN SUPPORTING FOREST CONSERVATION IN SABAH AND BEYOND

**H. Chan, R. Jumin, F. Mohd Noor, C. Cheah, M. Donysius, G. Davies,  
J. Hon & C. Chin**

*WWF-Malaysia*

#### ABSTRACT

Malaysia's forests are critical for combating biodiversity loss and the climate crisis. For the past few decades, they face ongoing threats from unsustainable logging, deforestation and agricultural expansion. At the 1992 Rio Earth Summit, Malaysia committed to maintaining at least 50% of its total land mass as forest cover. This nation's commitment for 50% forest cover is enshrined in the National Forestry Policy 2021. Today, more than half of Malaysia is forested, amounting to 18.2 million hectares. Of this, Sabah and Sarawak account for 12.5 million ha representing 68.4% of Malaysia's remaining forest cover. The state policies of Sabah and Sarawak is to maintain forest cover at 50% and 57%, respectively of their total land mass. In Peninsular Malaysia, the forest cover is 43.4% of its land mass, and there is the policy to increase it to 50%. The National Policy on Biological Diversity has a target for 20% of the country's land surface and inland waters to be conserved as protected areas or managed using other effective area-based conservation measures by 2025. Sabah has a policy to fully protect 30% of its natural forests and is on track to meet this goal with a current 27%. The policies to prevent deforestation are enhanced by making certification mandatory in the forestry and oil palm sectors where new deforested areas beyond a certain timeline are ineligible for certification. Building on these and more progressive policies initiated by the Malaysian government, WWF-Malaysia embraces a ten-year strategy spanning 2021-2030 to develop solutions that could contribute towards solving global issues.

Day 1: 29<sup>th</sup> October 2024 (Tue)

## ABSTRACTS

- Sub-Theme 2: International Cooperation & Partnership

### PAPER 4: WWF'S CONTRIBUTION IN SUPPORTING FOREST CONSERVATION IN SABAH AND BEYOND

**H. Chan, R. Jumin, F. Mohd Noor, C. Cheah, M. Donysius, G. Davies,  
J. Hon & C. Chin**

*WWF-Malaysia*

This includes strategies on forests conservation with three major aspirations: i) Half of Malaysia has natural forests which have legal protection; ii) One million hectares restored as forest habitats; and iii) All timber, palm oil and rubber produced sustainably. In Sabah, WWF-Malaysia adopts the Living Landscapes Approach (LLA) to attain these aspirations. The LLA provides an integrated landscape management system that promotes balanced biodiversity conservation and sustainable development through three pillars of Protect, Produce and Restore. The outcome is a consensus-built District Plan legislated by law. On the ground implementation, with its three pillars, the LLA aims to protect intact forests, wildlife and water catchment; restore habitats for ecological connectivity and riparian reserves; and promote sustainable production systems, such as sustainable oil palm production and agroforestry. Through this integrated approach, WWF facilitates collaboration between governments, local communities, and private enterprises to maintain forest ecosystems while enhancing livelihoods. This collaborative effort is supported by multinational corporations including HSBC, Unilever, Beiersdorf and Evonik, and is promoted through multi-country programme such as the Asia Sustainable Palm Oil Link (ASPOL) Programme.

**Keywords:** Forest, wildlife, Water catchment, restoration, corridor, Sustainable Production, certification, Living Landscape Approach, Protect, Produce and Restore, international cooperation and partnerships

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 3: Climate Change Mitigation & Adaptation

### **PAPER 1: RESTORATION, RECLAMATION AND REHABILITATION OF DEGRADED FOREST AREAS IN PENINSULAR MALAYSIA: ISSUES, CHALLENGES AND WAY FORWARD**

**M.R. Endot\*, N.L. Muhamad Nor@Fakru & M.K. Anuar Rahim**

*Forestry Department of Peninsular Malaysia*

*\*Email: mohdridzuwan@forestry.gov.my*

#### **ABSTRACT**

The Restoration, Reclamation and Rehabilitation of Degraded Forest Areas in Peninsular Malaysia Program (3RSM) was implemented in the Eleventh Malaysia Plan (RMK-11) and continued in the Twelfth Malaysia Plan (RMK-12). The 3RSM Program is a high-impact project to restore degraded forest areas due to natural disasters such as floods, landslides and other anthropogenic impacts with the planting of suitable local forest tree species. The 3RSM Program also supports the Malaysia's Greening Agenda and the country's international commitment to maintain at least 50% of our land mass under forest cover as pledged at the 1992 Earth Summit in Rio de Janeiro, Brazil. It is a long-term action to ensure the conservation and preservation of the national forest continuously in line with Sustainable Development Goals (SDGs) and the requirements of Sustainable Forest Management (SFM). After going through various issues and challenges in the implementation of the 3RSM Program, a lot of experience and lessons learned has been successfully collected to be used as a reference and way forward for improving its implementation in the future. The main issues and challenges faced in the previous implementation such as project implementation problems at site, monitoring problems, lack of new technology and innovation in project implementation and the absence of a specific silviculture regime for the 3RSM Program will be given more specific emphasis and priority with find the best solution in terms of continuously increasing adequate allocations, establish a silviculture regime for the restoration of degraded forest areas and explore new technologies and innovations that are viable and creative to be able implementation and monitoring in the field effectively in terms of time, cost and manpower in the future.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

- Sub-Theme 3: Climate Change Mitigation & Adaptation

### **PAPER 1: RESTORATION, RECLAMATION AND REHABILITATION OF DEGRADED FOREST AREAS IN PENINSULAR MALAYSIA: ISSUES, CHALLENGES AND WAY FORWARD**

**M.R. Endot\*, N.L. Muhamad Nor@Fakru & M.K. Anuar Rahim**

*Forestry Department of Peninsular Malaysia*

*\*Email: mohdridzuwan@forestry.gov.my*

The main issues and challenges faced in the previous implementation such as project implementation problems at site, monitoring problems, lack of new technology and innovation in project implementation and the absence of a specific silviculture regime for the 3RSM Program will be given more specific emphasis and priority with find the best solution in terms of continuously increasing adequate allocations, establish a silviculture regime for the restoration of degraded forest areas and explore new technologies and innovations that are viable and creative to be able implementation and monitoring in the field effectively in terms of time, cost and manpower in the future. All this effort through the 3RSM Program is very significant to realize and achieve the net zero carbon target by 2050 and all degraded forest areas are restored and return to the climax ecosystem for the well-being of life.

**Keywords:** 3RSM Program, degraded forest areas, natural disasters, anthropogenic impacts, planting of suitable local forest tree species, Sustainable Development Goals, Sustainable Forest Management, issues and challenges, way forward, net zero carbon target by 2050, return to climax ecosystem, well-being of life.



Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 3: Climate Change Mitigation & Adaptation

### PAPER 2: FOREST CARBON INITIATIVES IN SARAWAK: A MILESTONE FOR SUSTAINABLE FOREST MANAGEMENT AND CLIMATE MITIGATION

**M. Demies\*, M.H. Mohamad\* & R.J Alek\***

*Forest Department Sarawak*

*\*Email: malcoma@sarawak.gov.my, mohamahm@sarawak.gov.my, ricky1@sarawak.gov.my*

#### ABSTRACT

The Forest Department Sarawak has been a leader in implementing forest carbon initiatives to combat climate change and promote sustainable forest management. These initiatives aim to tackle deforestation and forest degradation, both major contributors to greenhouse gas emissions. A significant milestone was the amendment to the Forests Ordinance on 19 May 2022, which included special provisions for carbon stocks in section 70. This amendment facilitates the execution of a forest carbon activity program that aligns with international standards. To further support these efforts, the Forests (Forest Carbon Activity) Rules 2022, effective from 1 January 2023, were formulated through a series of workshops. Additionally, the Policy Direction for Forest Carbon Activities in Sarawak, approved on 30 January 2023, provides a framework for implementing these activities and advancing the state's forest carbon market. These initiatives are anticipated to create a new revenue stream for Sarawak through carbon trading, offering a financial incentive to monetize forest resources and promote sustainable practices. The forest carbon initiatives represent a crucial step towards mitigating climate change and enhancing sustainable forest management in Sarawak. The revision of the Forests Ordinance, along with the establishment of the Forests (Forest Carbon Activity) Rules 2022 and the Policy Direction, are pivotal in the state's development of forest carbon projects. Carbon trading not only generates revenue but also supports local communities and the conservation of Sarawak's natural resources.

**Keywords:** Forest Carbon, climate change, sustainable forest management

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

- Sub-Theme 3: Climate Change Mitigation & Adaptation

### **PAPER 3: NATURE-BASED SOLUTIONS (NBS) AS NATURAL FIXES: TRENDSETTING IDEAS IN HARNESSING NATURE TO COMBAT CLIMATE CHANGE IN SABAH**

**R. Anthony\*, A. Hastie, J. Pirin, K.H. William**

*Sabah Forestry Department*

*\*Email: Rosila.Anthony@sabah.gov.my*

#### **ABSTRACT**

The Sabah Forestry Department emphasises that effective forest protection and conservation go beyond tree planting, advocating for all-encompassing approaches like Nature-Based Solutions (NBS). These revolutionary strategies mitigate climate change by harnessing nature's power, focusing on protecting pristine forests, restoring degraded areas, sequestering carbon, enhancing biodiversity, and increasing resilience to climate impacts. NBS is just one of the many approaches the department uses to ensure forests continue to provide vital environmental and social benefits for future generations. The department values a diversity of perspectives, recognising that no single idea holds a monopoly in the ever-evolving forestry landscape. Collaboration is also key, as the department has established impactful partnerships over the years, which have been essential in addressing complex forestry issues, fostering innovation, and securing the financial support needed for successful conservation outcomes. In Sabah, the two forest-based carbon projects are the INFAPRO Rehabilitation of Logged-over Dipterocarp Forest with Face the Future and the Kuamut Rainforest Conservation Project with Permian Global. These Projects are integral to Sabah's broader conservation and climate mitigation efforts.

**Keywords:** Nature-based Solutions (NBS), Climate Change, Forest-based Carbon

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

- Sub-Theme 3: Climate Change Mitigation & Adaptation

### **PAPER 4: KUAMUT RAINFOREST CONSERVATION PROJECT (KRCP): SABAH AND MALAYSIA'S FIRST NATURE BASED CLIMATE PROJECT**

**I. Wong Abdullah**

*CEO Malaysia, Permian Global*

*\*Email: [IvyWong@PermianGlobal.com](mailto:IvyWong@PermianGlobal.com)*

#### **ABSTRACT**

The Kuamut Rainforest Conservation Project is a public-private partnership that is protecting and restoring 83,381 ha of tropical rainforest in Tongod and Kinabatangan district, Sabah. By preventing the emissions from logging that would have happened in the absence of the initiative, the project is making a significant contribution to global climate action. Through the protection of an important biodiverse ecosystem, the projects is sustaining the habitats of many threatened and endangered species. And with close collaboration and support of local communities, it is improving well-being and sustainable livelihood opportunities for people living near the protected forest area. The project is a partnership between Sabah Forestry Department, Rakyat Berjaya, a subsidiary of Yayasan Sabah, and tropical forest project developer, Permian Global, with operational support from the South East Asia Rainforest Research Partnership (SEARRP) and the community-based organisation, PACOS Trust. The design, operational activities, and impacts of the project have been validated against the science-based and globally recognised Verra Verified Carbon Standard (VCS) and the Climate, Community and Biodiversity (CCB) standard. It has been developed on a 30-year license, having first registered in 2016, with the option to renew for another 30 years, in 2045. Project additionality is explicitly demonstrated by preventing continued commercial logging and instead, manage the area for protection. Had the project not intervened, the resulting carbon emissions over this period would have contributed 16,291,488.57 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) to the atmosphere in the period 2016 - 2045.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 3: Climate Change Mitigation & Adaptation

### **PAPER 4: KUAMUT RAINFOREST CONSERVATION PROJECT (KRCP): SABAH AND MALAYSIA'S FIRST NATURE BASED CLIMATE PROJECT**

**I. Wong Abdullah**

*CEO Malaysia, Permian Global*

*\*Email: IvyWong@Permianglobal.com*

Through a close public-private partnership, the project has been designed to be credible, transparent, and equitable to all stakeholders, especially the communities living outside, but adjacent to the project area. The voluntary carbon market increasingly demands high quality carbon credits that not only demonstrate verified climate benefits but also delivering impactful improvements to community wellbeing and safeguarding biodiversity.

**Keywords:** Carbon, partnership, climate

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 4: Biodiversity Conservation

### **PAPER 1: NILAI HUTAN SEBAGAI PENAPIS DAN PEMBERSIH AIR SEMULAJADI: KAJIAN KES DI HUTAN SIMPAN BELUM, PERAK**

**I. Zahari<sup>1</sup>, M.A.M. Basri<sup>2</sup>, M.S. Sofiyon<sup>3</sup>, T.T.I Marina<sup>1\*</sup>, A.W. Azni  
Rahman<sup>2</sup>, A.Norliyana<sup>4</sup>, M. Zulnaidah<sup>1</sup> & M.T. Fekri<sup>1</sup>**

*<sup>1</sup>Ibu Pejabat Jabatan Perhutanan Semenanjung Malaysia,*

*<sup>2</sup>Jabatan Perhutanan Negeri Perak,*

*<sup>3</sup>Universiti Malaysia Terengganu,*

*<sup>4</sup>Institut Penyelidikan Perhutanan Malaysia*

*\*Emel: marina@forestry.gov.my*

### **ABSTRAK**

*Millenium Ecosystem Assessment (MEA)* menerangkan peranan dan fungsi ekosistem ini kepada kehidupan. Perkhidmatan ini mempunyai kaitan yang kuat terhadap keseimbangan kesejahteraan manusia terutama kepada isu keselamatan (keselamatan air bersih), bencana, sumber yang mencukupi, keperluan hidup dan kesihatan. Salah satu manfaat hutan di kawasan tadahan air untuk kualiti air adalah mengurangkan kos rawatan air. Konsep perkhidmatan adalah mudah di mana air yang mengalir atau menyerap masuk melalui hutan dan ekosistem semula jadi yang lain cenderung untuk menjadi kurang tercemar daripada air dilepaskan oleh pertanian, landskap bandar atau perindustrian. Oleh itu, ia memerlukan rawatan lebih sebelum ia selamat untuk menjadi bekalan. Proses yang dipanggil *water purification* tetapi secara semula jadi ini adalah aspek ekosistem paling berharga daripada perkhidmatan ekosistem, di mana air yang melalui ekosistem yang baik dan kurang tercemar akan mempunyai kos dirawat air yang kurang.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 4: Biodiversity Conservation

### PAPER 1: NILAI HUTAN SEBAGAI PENAPIS DAN PEMBERSIH AIR SEMULAJADI: KAJIAN KES DI HUTAN SIMPAN BELUM, PERAK

I. Zahari<sup>1</sup>, M.A.M. Basri<sup>2</sup>, M.S. Sofiyah<sup>3</sup>, T.T.I Marina<sup>1\*</sup>, A.W. Azni  
Rahman<sup>2</sup>, A.Norliyana<sup>4</sup>, M. Zulnaidah<sup>1</sup> & M.T. Fekri<sup>1</sup>

<sup>1</sup>Ibu Pejabat Jabatan Perhutanan Semenanjung Malaysia,

<sup>2</sup>Jabatan Perhutanan Negeri Perak,

<sup>3</sup>Universiti Malaysia Terengganu,

<sup>4</sup>Institut Penyelidikan Perhutanan Malaysia

\*Emel: marina@forestry.gov.my

Penilaian ekonomi boleh membantu dalam memahami kos ekonomi kehilangan atau kekurangan (*economic costs of losing or degrading*) perkhidmatan pengawal seliaan air di hutan melalui Pendekatan Pendekatan Kos (*cost-based approach*). Kajian yang dijalankan di Hutan Simpan Belum mendapati nilai marginal perkhidmatan penapisan air yang dibekalkan oleh kawasan tadahan air adalah RM1,873,377.77/tahun. Nilai marginal didefinisikan sebagai nilai tahunan khidmat Hutan Simpan Kekal (HSK) terhadap pengurangan kos rawatan air. Daripada jumlah bayaran tahunan tersebut, nilai marginal satu hektar bagi perkhidmatan penapisan air oleh Hutan Simpan Belum adalah RM1.93/hektar/tahun. Bagi bayaran satu meter air terawat, nilai bayaran adalah bersamaan RM1.08/m<sup>3</sup>.

**Kata kunci:** penilaian ekonomi, fungsi hutan sebagai penapis air

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 4: Biodiversity Conservation

### PAPER 2: BIODIVERSITY RESEARCH AND CONSERVATION IN PERMANENT FOREST ESTATE (PFE) SARAWAK

**S.P. Runi\*, M. Paulus, B. Halipah, D.C. Aurelia, O. Khairunnisa\*, I. Nur Bazilah, S.K.F. Aileen, M.S. Noorhana, J. Nur Safinas, R. Haniza, S. Siti Hanim, X.Y. Teng, B. Vilma, C.Y. Ling, C.M.N. Linna, S. Julia, M.D. Bibian, S.H. Ng, A. Dayang Nuriza & J. Noraini**

*Forest Department Sarawak*

*\*Email: runisp@sarawak.gov.my, khairuno@sarawak.gov.my*

#### ABSTRACT

Sarawak encompasses an area of 12.4 million hawith 3.9 million hectares designated as Permanent Forest Estates (PFEs) as of 2023. In-line with Sarawak's Post-COVID Development Strategy (PCDS) 2030, the forestry sector aims to achieve global recognition for its sustainable management of tropical forests and biodiversity conservation, while promoting the rapid growth of the timber industry. Under Sarawak Government funded project (12<sup>th</sup> Malaysian Plan), Forest Department Sarawak has been allocated a total of RM13.9 million to carry out in PFEs areas. In addition, the Department also received funding from Federal Government under RMK-12 and international agencies such as JICA (SATREPS- PUBS), and GEF-IFAD. The aim of these research projects is to support environmental sustainability, biodiversity conservation, and to gain world recognition in sustainable forest management. In conclusion, the findings from these activities will significantly contribute to big data and reference collections for biodiversity. This will facilitate the development and implementation of policies and accelerate the process of gazetting PFEs.

**Keywords:** research, biodiversity conservation, sustainability

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 4: Biodiversity Conservation

### PAPER 3: SABAH'S PLANT CONSERVATION JOURNEY IN SAFEGUARDING THREATENED PLANT SPECIES

**A. Damit\*, J.T. Pereira & J.B. Sugau**

*Sabah Forestry Department*

*\*Email: Alviana.Damit@sabah.gov.my*

#### ABSTRACT

Over the past five years, the Sabah Forestry Department has conducted a collaborative project with Botanic Gardens Conservation International (BGCI), aimed at completing conservation status assessments for Sabah's plant species. This effort has resulted in the assessment, submission, and publication of the status for approximately 400 species on the IUCN Red List of Threatened Species. Thereafter, threatened species requiring protection and conservation measures have been identified and prioritised. About 70% of Sabah's endemic tree species, which is more than 200 species, fall into threatened categories, comprising 39 Critically Endangered (CR), 26 Endangered (EN), and 139 Vulnerable (VU) species. This paper will highlight the conservation initiatives funded by The National Conservation Trust Fund for Natural Resources (NCTF) focusing on targeted threatened species in recent years. Successful establishment of in situ monitoring plots and ex situ collections have been achieved for the endangered *Phyllanthus rufuschaneyi*. Search operations have been conducted for critically endangered and rare species, *Elaeocarpus pinosukii* and *Ilex mesilauensis*, at their recorded single locality, which has undergone significant habitat change. Unfortunately, these search operation efforts did not yield success, potentially heightening the risk of their extinction. In addition, baseline data surveys have been conducted in situ for seven hyper-endemic species at Marai Parai, western Kinabalu Park. These initiatives underscore the need for substantial resources, including funding, manpower, and technical expertise, to effectively carry out conservation activities on varying scenarios of many threatened species in Sabah.

**Keywords:** Threatened plants, plant conservation, IUCN Red List, Sabah



Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 4: Biodiversity Conservation

### PAPER 4: FOREST GENETIC RESOURCE MANAGEMENT THROUGH DNA TECHNOLOGY

**K.K.S. Ng<sup>1\*</sup>, C.H. Ng<sup>1</sup>, L.H. Tnah<sup>1</sup>, N.F. Zakaria<sup>1</sup>, C.T. Lee<sup>1</sup>, N.N. Alias<sup>1</sup>, S. Mahruji<sup>2</sup>, K. Perdan<sup>2</sup>, M.Z. Abdul Kadir<sup>2</sup>, K.M. Mamat<sup>2</sup>, S.M. Abu Bakar<sup>2</sup>, M.S. Mohd Supian<sup>2</sup>, M.R. Ramli<sup>2</sup>, A.R. Mahli<sup>2</sup>, B. Diway<sup>3</sup>, A. Denel<sup>4</sup>, E. Khoo<sup>5</sup>, J.T. Pereira<sup>5</sup> & S.L. Lee<sup>1</sup>**

*<sup>1</sup>Forest Research Institute Malaysia*

*<sup>2</sup>Forestry Department of Peninsular Malaysia*

*<sup>3</sup>Forest Department Sarawak*

*<sup>4</sup>Sarawak Forestry Corporation*

*<sup>5</sup>Sabah Forestry Department*

*\*Email: kevin@frim.gov.my*

#### ABSTRACT

Illegal harvesting of forest resources is a major threat to the sustainability of forest ecosystems. At the Forest Research Institute Malaysia (FRIM), comprehensive DNA barcoding and profiling databases of important forest plant species have been developed since 2009 for species identification, timber tracking and source of origin verification. At present, a total of 366 populations throughout Malaysia and about 15,000 individual samples were used to establish the species, population and individual identification databases. The species identification database enables the taxonomic classification of a suspected timber, while the population identification database can reveal the source of origin up to population level. If DNA profile of a suspected timber matches that of its original stump, the individual identification database can estimate the probability of a random match using a subpopulation-cum inbreeding model to rule out the possibility of matching by chance. Four standard operating procedures (SOPs) for DNA forensics in wood tracking have been developed to facilitate the use of these databases.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 4: Biodiversity Conservation

### PAPER 4: FOREST GENETIC RESOURCE MANAGEMENT THROUGH DNA TECHNOLOGY

K.K.S. Ng<sup>1\*</sup>, C.H. Ng<sup>1</sup>, L.H. Tnah<sup>1</sup>, N.F. Zakaria<sup>1</sup>, C.T. Lee<sup>1</sup>, N.N. Alias<sup>1</sup>,  
S. Mahruji<sup>2</sup>, K. Perdan<sup>2</sup>, M.Z. Abdul Kadir<sup>2</sup>, K.M. Mamat<sup>2</sup>, S.M. Abu  
Bakar<sup>2</sup>, M.S. Mohd Supian<sup>2</sup>, M.R. Ramli<sup>2</sup>, A.R. Mahli<sup>2</sup>, B. Diway<sup>3</sup>, A.  
Denel<sup>4</sup>, E. Khoo<sup>5</sup>, J.T. Pereira<sup>5</sup> & S.L. Lee<sup>1</sup>

*<sup>1</sup>Forest Research Institute Malaysia*

*<sup>2</sup>Forestry Department of Peninsular Malaysia*

*<sup>3</sup>Forest Department Sarawak*

*<sup>4</sup>Sarawak Forestry Corporation*

*<sup>5</sup>Sabah Forestry Department*

*\*Email: kevin@frim.gov.my*

Together with the SOPs, these DNA databases significantly enhance the capacity of forest officials to curb the problem of illegal logging, while supporting the industries through plant species authentication. Furthermore, these databases have also been used to develop various conservation and management guidelines to strike a balance between conservation and utilisation of forest genetic resources.

**Keywords:** DNA barcoding, DNA profiling, Short tandem repeat (STR), DNA forensics, conservation genetics

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 5: Plantations In Forests & Beyond

### PAPER 1: STATUS LADANG HUTAN DI SEMENANJUNG MALAYSIA

**M.R.C. Abdullah & A. Draman\***

*Jabatan Perhutanan Semenanjung Malaysia*

*\*Emel: asri\_draman@forestry.gov.my*

#### ABSTRAK

Program Pembangunan Ladang Hutan telah dibangunkan bagi mengurangkan tekanan terhadap sumber bekalan kayu terutamanya daripada Hutan Simpanan Kekal yang semakin meningkat dan perancangan perlu dilakukan bagi meningkatkan bekalan kayu kayan di masa hadapan. Sejarah pembangunan ladang hutan di Semenanjung Malaysia telah bermula pada sebelum tahun 1950an dan beberapa plot percubaan ladang hutan telah berjaya diwujudkan dengan hasrat untuk meneroka potensi beberapa spesies kayu tropika eksotik dan asli terpilih yang cepat tumbuh untuk ditanam dalam bentuk ladang. Bagi menjayakan program pembangunan ladang hutan, kerajaan telah menetapkan dasar-dasar yang menyokong pembangunan ladang hutan melalui Dasar Perhutanan Negara 1978, Dasar Perhutanan Negara 1978 Pindaan 1992, Dasar Perindustrian Kayu Negara (NATIP 2009-2020), Dasar Perhutanan Semenanjung Malaysia, Dasar Perhutanan Malaysia dan Dasar Agrikomoditi Negara 2021 – 2030. Pemilihan spesies adalah berdasarkan beberapa kriteria penting seperti cepat membesar dan mampu mencapai saiz berukuran kayu balak kecil dalam tempoh 15 tahun, kayu yang sesuai untuk dijadikan bahan kegunaan am, mudah ditanam sebagai spesies ladang hutan, dan mudah untuk mendapatkan bekalan anak pokok atau biji benih bagi menjayakan program ini. Sehingga Disember 2023, seluas 144,651.64 hektar telah ditanam dengan pelbagai spesies cepat tumbuh di dalam Zon Pembangunan Ladang Hutan dalam Hutan Simpanan Kekal di Semenanjung Malaysia. Pelbagai usaha telah dilaksanakan oleh pihak kerajaan dan pihak berkepentingan dalam menjayakan program pembangunan ladang hutan.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 5: Plantations In Forests & Beyond

### PAPER 1: STATUS LADANG HUTAN DI SEMENANJUNG MALAYSIA

**M.R.C. Abdullah & A. Draman\***

*Jabatan Perhutanan Semenanjung Malaysia*

*\*Emel: asri\_draman@forestry.gov.my*

Isu-isu seperti konflik pengurusan ladang hutan oleh Kerajaan Persekutuan dan Kerajaan Negeri, penyelarasan tanggungjawab di antara agensi, komitmen penanaman oleh pengusaha, kawalan perosak dan penyakit pokok, bekalan bahan tanaman yang berkualiti, keperluan pekerja mahir dalam sektor ladang hutan, kekurangan pengalaman dan modal pusingan dan keperluan dasar European Union Deforestation-Free Regulation (EUDR) yang perlu diselesaikan bagi memastikan kejayaan pembangunan ladang hutan. Inisiatif untuk melaksanakan moratorium penubuhan ladang hutan dalam Hutan Simpanan Kekal di Semenanjung merupakan satu komitmen Kerajaan Persekutuan dan Kerajaan Negeri bagi memastikan pembangunan ladang hutan, selari dengan dasar dan objektif penubuhan Zon Penubuhan Ladang Hutan dalam Hutan Simpanan Kekal dengan mengambil kira kepentingan sosioekonomi dan khazanah kepelbagaian biologi negara serta menjamin kestabilan alam sekitar.

**Kata kunci:** Ladang Hutan, Zon Pembangunan Ladang Hutan

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 5: Plantations In Forests & Beyond

### PAPER 2: ADVANCING THE GREENING SARAWAK INITIATIVE: DIVERSE STRATEGIES IN MONITORING FOREST PLANTATION DEVELOPMENT

**A.L. Eveleen\*, K.M.F. Mostafa, B. Rohanie, S.L. Pang, R. Biha@Baher & S. Zarina**

*Forest Department Sarawak*

*\*Email: eveleeal@sarawak.gov.my*

#### ABSTRACT

The 'Greening Malaysia: 100 million Tree Planting Campaign' was launched on January 5<sup>th</sup>, 2021 with a target of planting 100 million trees nationwide by 2025. The Ministry of Natural Resources, Environment, and Climate Change initiated the campaign as part of the national agendas for addressing climate change, preserving the country's biological diversity, and improving the quality of the environment and livelihood of people. In line with this campaign, the YAB Premier of Sarawak announced that the state government aims to plant 35 million trees by 2025 under its Greening Sarawak Campaign initiatives, with forest plantations being one of the key components. Sarawak embarked on its Forest Plantation efforts in 1997, aiming to reduce pressure on natural forests while ensuring the sustainable supply of raw timber. To ensure the success of forest plantation development, the Forest Department Sarawak (FDS) has paved diverse strategies to monitor planting progress closely. These strategies include regular audits and field monitoring, enforcing the half-yearly report submission by LPF holders to track progress, and addressing any deviations from Tree Planting Plans (TPP); as well as other comprehensive approaches that will be further elaborated in this paper. The paper will also highlight FDS's strategies for leveraging advanced technology and intensifying the research and development (R&D) program in forest plantations through scientific research, research collaboration, and technology transfer. Through these strategic approaches and unwavering commitment, Sarawak achieved its goal of planting 35 million trees a year ahead of the target, with inclusive participation from multiple stakeholders.

**Keywords:** Greening Sarawak, 100 million Tree Planting Campaign, Forest Department Sarawak (FDS), forest plantation, License for Planted Forest (LPF)

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 5: Plantations In Forests & Beyond

### PAPER 3: PROMOTING TREE PLANTING BY SMALLHOLDERS AND LOCAL COMMUNITIES AS AN IMPORTANT SOURCE OF WOOD FOR THE TIMBER INDUSTRY

K.N.K. Pang\*, V.S. Guanih, K. Kimjus, F.Y. Chong, I.B. John, J. Jumain & M. Ajik

*Sabah Forestry Department*

*\*Email: [kelvinkatnyen.pang@sabah.gov.my](mailto:kelvinkatnyen.pang@sabah.gov.my)*

#### ABSTRACT

This 12<sup>th</sup> Malaysia Plan (RMK12) project seeks to encourage tree planting among smallholders and local communities as a vital source of timber for the wood industry. The initiative focuses on distributing 50,000 seedlings throughout the duration of the project to smallholders and local communities with land below 10 acres, provided they can demonstrate proof of land ownership. This initiative promotes various species, including Batai, Binuang, Laran, *Eucalyptus pellita*, *Swietenia macrophylla*, and *Terminalia copelandii*. The recommended spacing for most species is 6m x 6m, though adjustments can be made based on specific conditions. As of July 2024, a total of 38,482 seedlings have been distributed to 82 smallholders. Participants receive not only the seedlings but also consultation on forest plantation practices, with the goal of supporting forest plantation development across the state.

**Keywords:** smallholder, local communities, Batai, Binuang, Laran, *Eucalyptus pellita*, *Swietenia macrophylla*, *Terminalia copelandii*

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

- Sub-Theme 5: Plantations In Forests & Beyond

### PAPER 4: CURRENT STATUS AND CHALLENGES OF FOREST PLANTATIONS

**R. Khan**

*Group Chief Executive Officer  
Jawala Inc./Jawala Plantation Industries Sdn Bhd*

#### ABSTRACT

The Sabah Government has launched the FOREST PLANTATION DEVELOPMENT ACTION PLAN 2022 – 2036 back in March 2022. A target was set to develop 400,000 hectares of forest plantation or Industrial Tree Plantation (ITP) of which about 177,000 hectares from the Forest Management Units (FMU) have been developed since 1997. The main purpose of the development of ITP is to reduce or relief the pressure on our natural forest. The action plan hopes to create value addition, new export earnings and creation of employment. It also covers the social well-being of the rural communities. However, production volumes of ITP in Sabah has only reached a range of 200,000 cubic metres per annum inclusive of volumes produced from areas outside of the FMU. Production of tropical logs range at about 1 million cubic metres per annum translates to a ratio of tropical logs to ITP logs at 83:17 %. The Jawala experience demonstrates that it is possible to reverse this ratio. The Sabah Forestry Department has set the right policy to develop only degraded forest for ITP development. The potential production from the 400,000 hectares on a ten-year rotation has the capacity to produce 6 to 8 million cubic metres per annum from a yearly harvest of 40,000 hectares with targeted yields of 150 to 200 cubic metres per hectare. Should these expected yields be achieved, this can result in the replacement of 200,000 to 400,000 hectares of annual harvest of tropical logs versus only 40,000 hectares for ITP. There are various challenges hindering the development of ITP and one of the most common problem faced by other industries such as oil palm are workers. The biggest challenge of all is financing a project with a long gestation period.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 5: Plantations In Forests & Beyond

### PAPER 4: CURRENT STATUS AND CHALLENGES OF FOREST PLANTATIONS

**R. Khan**

*Group Chief Executive Officer  
Jawala Inc./Jawala Plantation Industries Sdn Bhd*

The ITP project requires solid financial planning where detailed ground planning covering infrastructure, strong research and development programmes and the right technology to ensure maximum productivity to meet financial obligations and the total viability of the project. There are financing schemes available but as stated, detailed planning is crucial to ensure a profitable and sustainable investment. It is critical to relook at the financial and economic viability of the ITP project in Sabah. Are the operators or licensees operating at the right scale or the question to ask is what is the right, viable and sustainable scale? It is critical to note that Sabah will be competing regionally. This paper has taken Vietnam as the most apt example on what makes a successful ITP and wood industry. While it is heartening to note that Sabah has taken serious steps to boost ITP production, It is disheartening to note that just twenty five years ago Vietnam was importing *Acacia mangium* wood from Pitas and Bengkoka in Sabah. Today, Vietnam has developed 4 million hectares of ITP with an annual production of 30 million cubic metres of mostly Acacia wood. This paper will demonstrate how ITP plays a crucial role in our quest to fight climate change leading to greater conservancy, sustainability and renewability of Sabah's forest resources. This paper also demonstrates the low hanging fruit in poverty eradication through ITP. The potential revenue and contribution to Sabah's gross domestic product stated here can be a reality if there was a concerted effort to change past methods and system that have not worked and that we are ready to embrace changes to ensure that we have a competitive advantage. The sacrifices from both the regulators and licensees will be enormous. It is Jawala's mission to replace and substitute the utilisation of tropical timber.

**Keywords:** Forest plantation, sustainability, wood industry



Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 6: Community Involvement & Stakeholders

### **PAPER 1: MOUNTAIN CLIMBING RISK ASSESSMENT AND MANAGEMENT FRAMEWORK AS A RISK REDUCTION AMONG CLIMBERS IN MALAYSIA**

**M.Y. Md Yusop<sup>1\*</sup>, M.I. Muhamad Sa'ed<sup>1</sup>, M.R. Baharudin<sup>2</sup> & R. Ismail<sup>3</sup>**

*<sup>1</sup>Forestry Department of Peninsular Malaysia*

*<sup>2</sup>Faculty of Medicine and Health Sciences, Universiti Putra Malaysia*

*<sup>3</sup>Faculty of Medicine, Universiti Kebangsaan Malaysia*

*\*Email: yussainy@forestry.gov.my*

#### **ABSTRACT**

Mountain climbing, trekking and hiking are terms that often used by outdoor recreation enthusiasts in Malaysia. The segregation depends on the distance, difficulty and technicality of the activity involved. In general, altitude scaling activities in Permanent Reserved Forests (PRFs) in Peninsular Malaysia is classified as mountain climbing. Between the year 2017 to 2021, there has been 1,413 cases of people reported missing and injured in the PRFs. In order to suppress the number, Malim Gunung Perhutanan (MGP) was introduced by the Forestry Department Peninsular Malaysia (FDPM). They are trained with the knowledge and skills in navigating and reaching the summits of mountains and back safely. MGP was introduced into the Malaysian mountain landscape in 2020 and until now 1,877 trained individuals have been registered as MGP. They have in-depth knowledge of the local terrain, weather conditions, potential safety and health hazards, and its risks. In order to formulate the framework, FDPM gathered expertise from related agencies combined with the department and MGP on-ground experience on mountain climbing management.

Day 2: 30<sup>th</sup> October 2024 (Wed)

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*<sup>2</sup>Faculty of Medicine and Health Sciences, Universiti Putra Malaysia*

*<sup>3</sup>Faculty of Medicine, Universiti Kebangsaan Malaysia*

*\*Email: yussainy@forestry.gov.my*

Safety and health risk assessment and management is crucial for planning mountain climbing activities to ensure specific risk factors for the chosen trails and appropriate strategies to mitigate those risks are identified. Critical elements in the framework accounted for weather conditions, terrain difficulty, equipment reliability, and individual hiker's emotional and physical capabilities. The framework is an important tool for the department to identify the type of training needed ensuring MGP do have the necessary knowledge, skills, and attitude to handle situational-related scenarios through a systematic approach. Thus, this paper highlights a comprehensive framework which contribute to the development of Mountain Guide Risk Assessment and Management Guideline (MoGRAM).

**Keywords:** Mountain climbing, Malim Gunung Perhutanan, Risk Management

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 6: Community Involvement & Stakeholders

### PAPER 2: PENGURUSAN DAN PEMBANGUNAN PERHUTANAN SOSIAL DI SARAWAK

**A. B. Abang Nuradzizi\*, J. A. Silvester, D. Liam, K. Siti Rohaiya, P. Rudy, K. Nyareng, K. Tingsa, L. Mallwaldron, U. Arwel, S. Syarini, M. Abdul Gani & J. Suliman**

*Forest Department Sarawak*

*\*Emel: nuradzb1@sarawak.gov.my*

#### ABSTRAK

Perhutanan sosial adalah salah satu fungsi utama Jabatan Hutan Sarawak. Terdapat lima (5) pendekatan utama dalam melaksanakan fungsi ini iaitu program komunikasi, pendidikan dan kesedaran awam (CEPA); peningkatan pendapatan dan taraf hidup komuniti; pembangunan modal insan; kerja – kerja sosial dan khidmat komuniti; serta perhutanan tani dan perhutanan bandar. Pendekatan ini seiring dengan aspirasi kerajaan seperti Post Covid – 19 Development Strategy 2030 (PCDS 2030). Usaha perhutanan sosial di Sarawak ini telah meningkatkan kesejahteraan hidup komuniti yang tinggal di kawasan sekitar kawasan Hutan Simpan Kekal (Permanent Forest Estates, PFE) hasil daripada aktiviti melibatkan komuniti dengan kursus, program dan projek pembangunan yang berimpak positif.

**Kata kunci:** Perhutanan sosial di Sarawak, kesejahteraan hidup komuniti, Hutan Simpan Kekal

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 6: Community Involvement & Stakeholders

### **PAPER 3: ASSESSING ECOLOGICAL INTEGRITY AND ECOSYSTEM SERVICES FOR SUSTAINABLE MANAGEMENT OF FOREST, INCORPORATING COMMUNITY INVOLVEMENT**

**E.B. Johnlee\*, R. Nilus, J.J. Sikui, S.J. Mianus, C.J. Wong, E.K.M. Dyi, J.T. Pereira, J.J. Lucas, P.M.S Salam, R. Japir, S.T.L. Tsen, R.L. Odong, J. Kijin, S. Sabran, M.A.F. Suis & S. Dullah**

*Sabah Forestry Department*

*\*Email: ElneBetrece.Johnlee@sabah.gov.my*

#### **ABSTRACT**

The social dimension of forestry is critical in harmonising efforts towards sustainability. This study, which focuses on understanding the ecological integrity and ecosystem service (ES) supply, is a significant step towards empowering communities and bringing stakeholders together to achieve sustainable livelihoods, conservation of natural resources, and ecosystem stability. Rapid multidisciplinary research was conducted to study the ecological integrity, identify the ES present in the Tondulu Sub-Catchment Area, Kawang FR and Tawai FR, and assess the value of these services to the local community. The study revealed that various types of land covers in the forest are significant biophysical structures in the sites, providing favourable habitat for many observed high conservation value attributes, including endemics and threatened species. Equally, the conducive soil physical and chemical conditions could support the site's ecosystem function. Finding also indicate that the presence of selected bioindicator species helps to determine the supporting and regulating services at the sites. Participatory Rural Appraisal (PRA) approach including household survey, focus group discussion and key informant interview involving 515 households residing within and adjacent to the sites revealed that the community valued a wide range of forest ecosystem services including provisional, regulating, and cultural values.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

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*Sabah Forestry Department*

*\*Email: ElneBetrece.Johnlee@sabah.gov.my*

Development plans were perceived as one of the major threats to the ecosystem. Furthermore, the capacity of the area in delivering ES was assessed using the Potential Supply of ES Matrix and the overall result is further strengthened through Geographic Information Systems (GIS) applications. This information can help to integrate the ES concept and directly address community needs in the revision and implementation of forest management plans.

**Keywords:** Ecosystem Services, Ecological Integrity, Sustainability, Participatory Rural Appraisal, Potential Supply of ES Matrix, Forest Management, Geographic Information Systems, Local Community

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 6: Community Involvement & Stakeholders

### PAPER 4: SOCIAL FORESTRY IN DERAMAKOT FOREST RESERVE AND ITS SOCIAL IMPACT ASSESSMENT

**R.A. Martin<sup>1\*</sup>, J. Kissing<sup>1</sup>, E.B. Johnlee<sup>1</sup>, M.F. Tarmiji<sup>1</sup> & G.J. Lunkapis<sup>2</sup>**

*<sup>1</sup>Sabah Forestry Department*

*<sup>2</sup>RICE Institute*

*\*Email: RickyAlisky.Martin@sabah.gov.my*

#### ABSTRACT

Sustainable Forest Management is crucial for maintaining healthy, productive forests that provide environmental, social, and economic benefits for present and future generations. It involves managing forests in a way that balances the needs of local communities, the economy, and the environment, while ensuring the long-term viability of forest ecosystems. Deramakot Forest Reserve (DFR) is an example of a well-managed forest that demonstrates the benefits of sustainable forestry, as it has maintained its biodiversity and ecological integrity while providing resources for local communities. A Social Impact Assessment (SIA) was conducted at DFR to identify local communities and other stakeholders that are directly affected by the DFR forestry operations, to assess the social impacts on individuals, groups, and communities as a result of changes arising from forestry operations in DFR and to recommend mitigating measures for identified impacts. The research methods consisted of three major stages including grounding the issues (literature review), capturing the realities by fieldwork (focus group discussion and interview) and conceptualizing and visualizing the findings into context and perspective, by analysing the primary and secondary data.

Day 2: 30<sup>th</sup> October 2024 (Wed)

## ABSTRACTS

● Sub-Theme 6: Community Involvement & Stakeholders

### PAPER 4: SOCIAL FORESTRY IN DERAMAKOT FOREST RESERVE AND ITS SOCIAL IMPACT ASSESSMENT

**R.A. Martin<sup>1\*</sup>, J. Kissing<sup>1</sup>, E.B. Johnlee<sup>1</sup>, M.F. Tarmiji<sup>1</sup> & G.J. Lunkapis<sup>2</sup>**

*<sup>1</sup>Sabah Forestry Department*

*<sup>2</sup>RICE Institute*

*\*Email: RickyAlisky.Martin@sabah.gov.my*

Through a thematic analysis, eight keyword themes were identified to represent concerns and factors affecting local communities at DFR including demography and community, socioeconomic, culture and *adat*, heritage and landmarks, infrastructures, livelihood options, tourism potentials and access and services. The findings show a comprehensive understanding of each village's unique characteristics and potential areas of impact, the strengths and challenges faced by each community, and all relevant aspects of the village life allowing for a holistic assessment that can inform targeted interventions and policy making.

**Keywords:** Social Forestry, Sustainable Forest Management, Deramakot Forest Reserve, Social Impact Assessment, Thematic Analysis, Focus Group Discussion

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We look forward to continued collaboration in future initiatives as we strive to safeguard our natural heritage for generations to come.





**THANK YOU**



- **M** MFC-20
-  Sabah Forestry Department
-  @sabahforestrydepartment

