

**FORESTRY AND BIODIVERSITY RESEARCH CLUSTER**  
 Head: **PROF. DATIN DR. FARIDAH HANUM IBRAHIM**  
 Leading PTJ: Faculty of Forestry, Universiti Putra Malaysia,  
 43400 UPM Serdang, Selangor  
 Contact: [dean.forr@upm.my](mailto:dean.forr@upm.my) / Tel: 03-89467171

RESEARCH CLUSTER CODE	FB
NO. OF PROGRAMME	3
NO. OF GROUP	10
NO. OF RESEARCH CENTRE	2
SYNOPSIS	<p>This research cluster encompasses inter and intra disciplinary on fundamental and applied research in the fields of forestry and biodiversity, tourism and recreation; and ecosystem services. The goal is to achieve sustainable management of renewable resources, including their economic and societal functions for the well being of mankind. Outcomes will be in the form of new knowledge, innovations and commercialization in line with the New Economic Model for a high income nation.</p> <p><i>Kluster penyelidikan ini merangkumi kajian asas dangunaan yang merentasi pelbagai bidang perhutanan dan biodiversiti, pelancongan dan rekreasi; dan perkhidmatan ekosistem. Matlamatnya adalah untuk mencapai pengurusan mampan sumber yang boleh diperbaharui, termasuk fungsi ekonomi dan masyarakat bagi kesejahteraan manusia. Hasil yang dijangkakan adalah dalam bentuk pengetahuan baru, inovasi dan pengkomersialan selaras dengan Model Ekonomi Baru bagi negara berpendapatan tinggi.</i></p>
DESCRIPTION (with NABC elements)	<p><b>Need</b></p> <ul style="list-style-type: none"> <li>• Societal well being requires systematic approach to address biodiversity and conservation issues</li> <li>• Value both tangible and non-tangible forestry and biodiversity resources</li> <li>• Address recurrent and emerging issues in forestry, biodiversity and climate change</li> <li>• Important for sustainability of renewable resources for the nation</li> <li>• Ecosystem resilience to development</li> </ul> <p><b>Approach</b></p> <ul style="list-style-type: none"> <li>• Inter and intra disciplinary on fundamental and applied research programmes and groups</li> <li>• Local and international collaboration</li> <li>• Systematic, improved, and advance approaches</li> <li>• Economic valuation of resources</li> <li>• Mentoring process</li> <li>• Increase expertise</li> <li>• Community involvements</li> </ul> <p><b>Benefit to UPM</b></p> <ul style="list-style-type: none"> <li>• Efficient use of resources</li> <li>• Better focused research programs and groups</li> <li>• Inculcate research culture</li> <li>• Increased recognition through Intellectual Property</li> <li>• Commercialization of research outcome</li> <li>• Income generation</li> <li>• Well trained human resources</li> </ul> <p><b>Benefit to Society</b></p> <ul style="list-style-type: none"> <li>• Improve quality of life</li> <li>• Economic enhancement of livelihood</li> <li>• Wise use of resources</li> <li>• Knowledge sharing</li> </ul> <p><b>Competitor</b></p> <ul style="list-style-type: none"> <li>• Forest Management - FRIM, Forest Department</li> <li>• Biodiversity – UKM, UM, USM, FRIM</li> <li>• Ecotourism - nil</li> </ul>

## Lampiran A6

Code	Research Programme	Synopsis	Leader of Research Programme	Research Groups
FB01	Biodiversity Conservation and Sustainable Management	<p>Biodiversity Conservation and Sustainable Management (BCSM) involves the process of managing renewable resources to achieve the objectives of management with regard to the continuous flow of desired goods and services. Ultimately, there will be no reduction of its inherent values and future productivity and its undesirable effects on the physical, social and economic environment. As such, BCSM is crucial in enhancing and sustaining long term ecological, economics and social benefits of resource management practices at local, national and global levels. Among the thematic core research areas in this programme include resource assessment; systematics, ecology, forest management, wildlife and biodiversity conservation; forest rehabilitation and restoration; management and sustainable use of timber and non-timber products; forest economics, policy &amp; law; community services; impacts of forestry activities on environment; deforestation and climate change; and forest products development, trade and marketing.</p> <p><b>Keywords:</b> Forest and resource management, sustainability, biodiversity, conservation, forestry, wildlife, ecology, economic, policy and law</p>	<p>Prof. Datin Dr. Faridah Hanum Ibrahim (FOR)</p> <p>dean.forr@upm.my</p>	<ol style="list-style-type: none"> <li>1. Wildlife Research Centre - Prof. Dato' Dr. Abdul Rani Bahaman (RC / FPV)</li> <li>2. Plant and Animal Systematics - Prof. Dr. Umi Kalsom Yusuf (FS)</li> <li>3. Sustainable Forest Management (SFM)- Prof. Dato' Dr. Wan Razali Wan Ahmad (FOR)</li> <li>4. Ecological Studies - Prof. Dr. Ahmad Ismail (FS)</li> <li>5. Forest Products Processing and Utilisation – Prof. Dr. Zaidon Ashaari (FOR)</li> <li>6. Wood and Fibre Based Technology – Dr. Rasmina Halis (FOR)</li> </ol>
FB02	Sustainable Tourism and Recreation	<p>This research program embarks on interpretive product development for both private and government ecotourism facilities.</p> <p>Sustainable tourism and recreation research encompass the following disciplines: entrepreneurship, business, creative economics, ecotourism, marketing, environmental interpretation, wildlife conservation, climate change impact, policies and governance, human dimension, and parks management. The above disciplines shall take</p>	<p>Assoc. Prof. Dr. Azlizam Aziz (FOR)</p> <p>azlizam@putra.upm.edu.my</p>	<ol style="list-style-type: none"> <li>1. Sustainable Tourism and Recreation - Assoc. Prof. Dr. Azlizam Aziz (FOR)</li> </ol>

## Lampiran A6

		<p>advantage of future innovations and technological advancement for sustainable tourism management.</p> <p><b>Keywords:</b> Ecotourism, Interpretive Products, Human Dimension, Wildlife Conservation, Recreation and Creative Economics</p>		
FB03	Tropical Forest Ecosystem Services and Valuation	<p>This research programme focuses on acquiring new knowledge on tropical forest ecosystem processes, services and its threatened resources. It explores relationship between ecosystem functions and disturbances including climate change. Assessment and selection of potential phytoresources for industrial applications will be also be undertaken. Therefore this programme seeks innovative approaches in valuation of ecosystem services in line with the current policies and ecosystem management perspectives.</p> <p><b>Keywords:</b> Tropical Forest, Phytoresources, Ecosystem Services and Valuation</p>	<p>Prof. Dr. Ahmad Ainudin Nuruddin (INTROP)</p> <p>ainuddin@putra.upm.edu.my</p>	<ol style="list-style-type: none"> <li>1. Forest Ecosystem Science - Dr. Seca Gandaseca (RC / UPMKB)</li> <li>2. Phytoresources Selection and Plantation - Prof. Dr. Nor Aini Ab Shukor (INTROP)</li> <li>3. Ecosystem Services and Valuation – Prof Madya Dr. Zaitun Samdin (INTROP)</li> </ol>

Tarikh Kemaskini: 27 Mac 2013