

**SADONG  
JAYA**  
A WILDERNESS  
UNVEILED

EDITORS

JAYASILAN MOHD-AZLAN  
ABANG ARABI ABANG AIMRAN  
INDRANEIL DAS

**SADONG  
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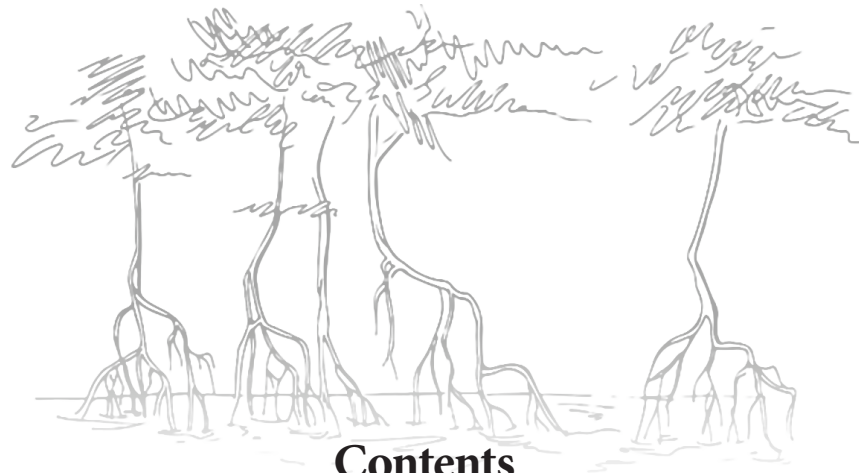
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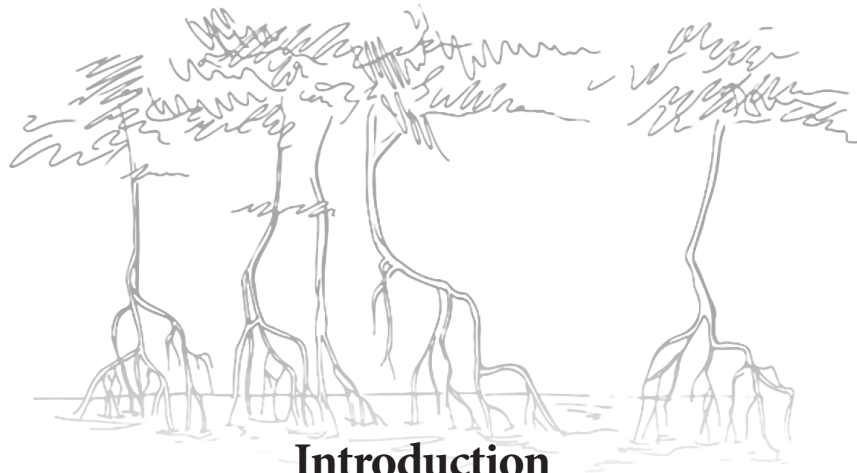
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## **Introduction**

Jayasilan Mohd-Azlan, Lisa Lok Choy Hong and Indraneil Das

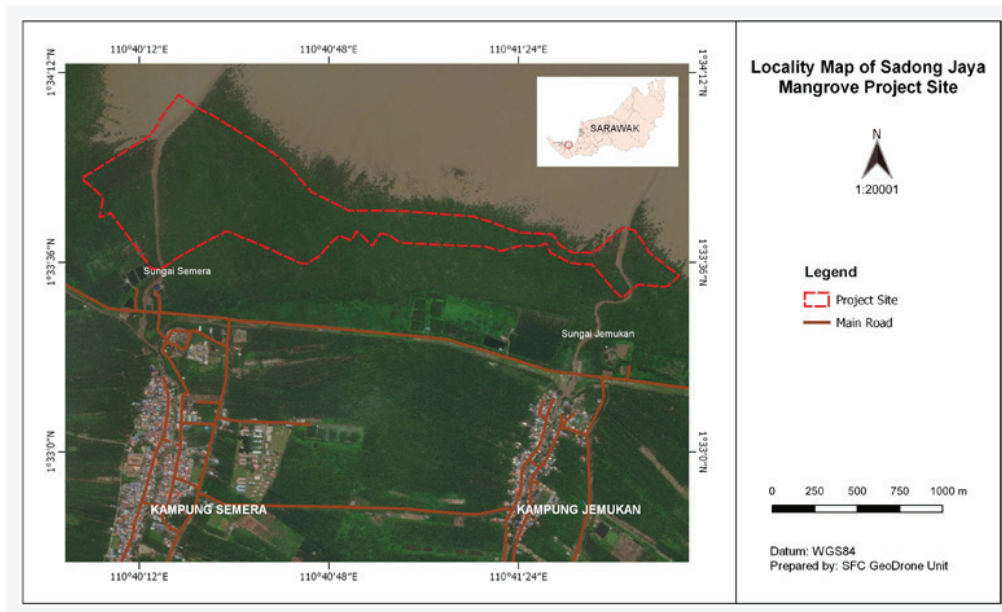
Littoral and alluvial forests are primarily formed along coastlines or riversides that stretch along shores and riverbanks in south-east Asia. The depauperate biodiversity in littoral and alluvial forests, with lower species richness counts compared to other forest types (Ashton *et al.*, 2003) have been of considerable interest, given the vital role played by wetlands as well as their impacts on global warming and flash flood (Yule, 2010). Mangrove forests constitute some of the most threatened habitat in the world, besides being areas of important primary productivity and demonstrate important ecosystem functions, also harbouring a specialised biota. Generally, mangroves characterise sheltered tropical and subtropical coastlines, and mangrove forests contribute 1% of the landscape in Sarawak, with an area 0.09 million hectares. Mangroves, as wetland ecosystems are of substantial economic significance due to their nutrient productivity, as well as ecological function (Ashton and Macintosh, 2002). Nutrient dynamics in the ecosystem are associated with tidal sea water, that transmit to coastal areas and surrounding estuaries (Das 2017; Osland *et al.*, 2017). Mangroves have unique function and structure characteristics. The ecosystem characteristics include relatively simple food webs containing a combination of marine and terrestrial species; nursery grounds and breeding sites for mammals, reptiles and birds; and accumulation sites for sediment, some contaminants, carbon and nutrients. Mangroves also support diversity of unique flora, and fauna as well as serving as breeding and a feeding ground for fish and shellfish (Hwanhlem *et al.*, 2014; Lee *et al.*, 2014). Furthermore, food chains within such ecosystems contribute significantly to the recruitment of adult marine fishes (Sandilyan and Katherisan, 2012).



Diverse forces may act synergistically on human livelihoods (Brodie *et al.*, 2012) and mangrove forests function as the nursery for shrimps, fishes and maintain marine food web which include endemic and threatened species (Ashton and Macintosh, 2002; Sodhi *et al.*, 2004). Timber resources harvested from mangrove forests fulfill requirements for materials used in building, fuel and remedy (Ashton and Macintosh, 2002). Nonetheless, mangrove forests remain underappreciated as wasteland, for often wrongly assumed to be not sustain high biological diversity, and continue to receive less attention from conservation planners, and consequently, have become the prime choice for land conversion (Posa *et al.*, 2011; Yule, 2010). Further, these habitats tend to provide refugia for innumerable generalist species (Ashton *et al.*, 2003; Hoffmann *et al.*, 2010; Posa *et al.*, 2011).

Little is known on the biodiversity of many mangrove habitats and how local human communities perceive and are dependent on these valuable resources. Ellison and Farnsworth (1996) classified anthropogenic disturbances to mangrove forest into four broad categories with a hierarchy of increasing spatial extent and temporal intensity on biological impacts and recovery: 1) disturbances due to extraction of mangrove flora and fauna, 2) pollution, 3) habitat destruction due to land reclamation, and 4) climate change.

A rapid assessment of the biodiversity and social elements was conducted at the Sadong Jaya Mangroves. Sadong Jaya itself is a small village, located within the Asajaya District in Kota Samarahan Division, Sarawak. The relative distance is approximately 25 km (60 minutes-drive) and 68 km (about 90 minutes-drive) from Kota Samarahan and Kuching, respectively. The Sadong Jaya area is predominantly covered by mangrove forest patches, that edge the coastal rivers and open water. Small-scale agricultural lands (including oil palm plantations, orchard and paddy field) fence the outer forest edge. An extensive mudflat borders the coastal shoreline, between Sg. Semera and Sg. Jemukan, Sadong Jaya. The total area of the mangrove forest is approximately 111 ha, with Sungai Semera and Sungai Jemukan being the natural drainage outlets.



**Figure 1.** Map of the Sadong Jaya Nature Reserve and adjacent areas, in western Sarawak

This work comprises the findings from eight specific projects conducted using rapid-assessment techniques to collect information on selected floral and faunal components of Sadong Jaya's biodiversity, with the purpose of developing management plans for the mangrove area and their use of Sadong Jaya.

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