

**WATER RESOURCE ASSESSMENT OF SUNGAI PENDIKAR IN PULAU  
SEBATIK, SABAH.**

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**DISERTASI INI DIKEMUKAKAN UNTUK MEMENUHI SEBAHAGIAN  
DARIPADA SYARAT MEMPEROLEHI IJAZAH SARJANA MUDA KEPUJIAN**

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## ABSTRACT

One of the most important elements in developing an area is a reliable water supply. In Pulau Sebatik, water supply is an essential and critical issue as there is not enough water supplies to fill the demand for the settlers there. A study was carried out to assess the water resources at Sungai Pendikar to find another reliable water supply for the settlers in the island. All the sub catchments and major rivers in the island were demarcated and the land covers were classified. Analyses of water quality and water quantity were done at three water sampling stations based on their land cover classes. Fourteen sub-catchments were successfully delineated from the topography map and six different land cover classes were classified from Landsat TM 2003 satellite image which are: (i) bare lands, (ii) degraded forest and scrub, (iii) large scale agriculture, (iv) primary or largely undisturbed forest, (v) rural areas and (vi) wetland-undisturbed. The length of Sungai Pendikar is 59.97 km with the total acreage of 1930 hectares. Station 1 which (wetland-undisturbed) and station 2 (degraded forest and scrub) are classified under the class III which defined as water supply with extensive water treatment, aquaculture of tolerant species and livestock consumption. Station 3 (large scale agriculture is classified under class IV and categorized as irrigation. All of three stations are having low discharge estimation and enough for the settlers in Pulau Sebatik. The results of the study determine that the water resources at Sungai Pendikar are reliable as the water supply for the settlers with extensive care of the water quality.

