Peatland in Indonesia

A glance of peatland in Indonesia

Indonesia’s peatlands, which covers 17 - 27million ha, ranks as the fourth largest peatland area in the world after Canada, Russia, and USA (Immirzi & Maltby 1992). Indonesia also holds the largest tropical peatland areas, which comprise of approximately 50% of worlds’ total tropical peatlands.

Peat swamp forest plays a critical role in the economy and ecology of the region by providing timber and non-timber forest products, water supply, flood control repositories for unique important biodiversity and many other benefits. They also play a globally significant role in storing an estimated 120billion tonnes of carbon. This is approximately equivalent to 5% of all global terrestrial carbon.

Lack of knowledge, awareness and technical expertise in terms of ecosystem characteristics and ecological principles as well as lack of stakeholders’ participation has lead to mismanagement of peatlands in Indonesia. Excessive conversion, land and forest burning as well as over exploitation of timber and other non-timber forest products have turned 13million ha of peatlands to unproductive areas that are very susceptible to fires, subsidence and desertification. The alarming extent of peatland degradation has to be considered seriously by all stakeholders.

Despite the attributes of the soil which has been rated as being marginal for agricultural purposes, millions of hectares of peatlands have been cleared and drained for agriculture and plantations. Many of these agricultural programs in peat have ended in failure with the most notable being the Mega-Rice Project in Kalimantan. Under this project, more than 1million ha was cleared and drained for rice cultivation although less than 5% of it was suitable for this purpose. Another example is the agricultural development in tidal areas of peat swamps in Sumatra.
Peat swamp forests under natural conditions are very resistant to fire due to a naturally high water table. They are only vulnerable to above and below ground fires when water levels fall, which is commonly caused by excessive drainage or severe droughts. Since the 1997-1998 fire, there have been regular peat fires in the region during the dry period of more than 2-3 weeks. These fires were intensified during the El Nino years (2002 and 2005) and were reported to have released stored carbon in the peat to the atmosphere, blanketing the region with dense clouds of smoke. Further damage caused by these fires was loss of production (in terms of crop yields, fishing efforts and industrial losses), loss in airline and airport profits, increase in air-pollution related health problems and so on. This has changed the mind-sets of decision-makers with regards to management of peatlands.