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2016. **Time for responsible peatland agriculture**.

Time for responsible peatland agriculture

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The 15th International Peat Congress, held in Asia for the first time, brought together industry, policy-makers, and academia to discuss responsible peatland management. In Southeast Asia, peatland management is largely driven by the palm oil industry. After the Congress, misleading reports were published by leading Asian newspapers. They claimed that oil palm plantations on peatland can be viewed as sustainable [e.g., (*1*)] and supported the continuation of business-as-usual peatland agriculture. This is contrary to the opinion of an overwhelming number of tropical peatland scientists (*2*) and the vast majority of science published in the past two decades. Deep, carbon-rich peat deposits are maintained by a combination of steady organic matter inputs and high water tables, which inhibit microbial decomposition (*3*). Conversion of peat swamp forest (the natural vegetation of Southeast Asian peatlands) to agricultural land requires removing vegetation and lowering groundwater tables. The combination of slash and burn techniques and drainage used to prepare peat for agriculture promotes smoldering fires and rapid peat oxidation. Peat fires are globally significant for their greenhouse gas emissions and threats to human health and regional economies (*4*). Peat oxidation leads to high CO2 emissions and land subsidence. As the land surface falls toward river and sea levels, it will be subject to periodic and eventually permanent flooding, limiting future agricultural production (5). Agricultural use of peatlands cannot, therefore, be considered sustainable from either environmental or socioeconomic perspectives. Industry and academia are working together to develop peatland agricultural systems (*6*) that minimize negative environmental and commercial impacts. In the interim, steps should be taken to improve hydrological management of peatlands under agriculture and to implement landscape-scale management planning. Denial of known issues slows progress toward responsible solutions, which are urgently needed to prevent avoidable losses of Southeast Asia's peatlands, as well as global consequences.

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