Arboriculture in equatorial archipelago: sustainable agriculture in indonesia / Mohammad Hasroel Thayib

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Abstrak

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Rapid decrease in soil fertility follows clearing of forests in the humid tropics and main processes triggered by the removal of vegetation cover are reviewed. The soil of forests, cleared to provide land for cultivation of annual foodcrops are clearly showing a decrease in fertility. This unfortunate phenomena occur mainly in areas of the Indonesian Archipelago located within a belt consisting of areas with 12 months of rainfall and monthly means of 75 and more millimeters. Monocultural cultivation of annual crops in these areas is likely to deplete soil of its fertility and unless flooded field techniques of cultivation is involved, it might seem very unlikely that in the future, the use of annual food crops to cultivate cleared forest lands, such as of common practice today, could be maintained without sacrificing soil fertility and destruction. In many parts of the Archipelago, deforestation of areas to cultivate annual foodcrops is likely to invite processes leading to the fatal destruction of its soil. Unless arboriculture (tree cultivation), imitating tropical rainforest forests, is practiced to produce food, replacing the present traditional production of staple food starch by annual crops, the degradation of the environment will continue ending in an unsustainable, profitable agriculture. A perennial tree likely to become on of the best candidate for this purpose is the sagopalm. Metroxylon spp., an incredibility potent starch producer. The capacity and possibility of this starch producing parennial to fulfill the growing needs of food are reviewed here. Sagopalm plantations, or rather forests, covering a total area of not more than half the size of West-Java, would theoretically be sufficient to continually supply food starch to free no less than 400 million population from hunger. The advantages and superiorities of the sagopalm cultivation compared to other food-starch annual cultures are also discussed.