Underutilized fruit trees in agroforestry systems in Central and North Sumatra: Opportunities and challenges

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Background
Indonesia is widely known for its tropical fruit diversity. The 329 fruit tree species (native and introduced) described from Indonesia (Rifai, 1986), belong to 61 plant families and 148 genera. Uji (2007) reported 226 fruit species native from Indonesia, while most of them (203 species) are tree species. Only 62 tree species have been ‘domesticated’ (with recognized sources of germplasm), including 18 endemic species and 4 rare species. Four genera were categorized as having high economic value and were listed as fruit tree species: Mangifera, Garcinia, Nephelium and Durio (Winaro, 2000). Durian is one of the most popular fruits amongst all. It is a nutritious fruit which contains carbohydrate, minerals, vitamins, but no cholesterol.

Durian is categorized as an underutilized fruit (Narendra et al., 2012), as its potential contribution to market or household economy is not fully exploited (Aboba et al., 2007). The fruit production of Sumatra island mostly comes from smallholder farmers, who planted or managed fruits trees in agroforestry systems. Objective of the study was to assess the limiting factor of productivity of underutilized fruits, durian in particular and look for the challenges to improve sustainable fruit production.

Survey Location

Climate anomaly in year 2010-2011 is suspected to be the cause of overall drop in fruit production in Indonesia in that year.

Tree garden management in Indonesia has various system and design, each with their own purposes and rationales.

The results in the graph show that to increase fruit productivity, research should be done to determine the best fruit trees can be planted in the landscape of Indonesia in that year.