

The Study Report, G-COE Program “Next generation research initiative” in 2007.

1. Project Title, Study Site, Name

Project Title: Livelihoods and worldviews of the Javanese immigrants: A view from “Pekarangan”.

Study Site: Indonesia

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2. Objectives of the Study

In rural areas in Java, villagers have developed complex and diversified land use systems called *Pekarangan* or *Kebun*. These are often mentioned as “home gardens” or “mixed gardens” in which many types of plants coexist in support of various household activities. Villagers can obtain a variety of goods from them, including food, fodder, fuel, and herbs for home consumption, and even some commercial products. In addition to their importance to villagers’ livelihoods, some appreciate their highly sustainable aspects as a production system, such as their rich biophysical, species, and cultural diversity.

There are enormous reports that “traditional” types of farming system have changed due to recent rapid socioeconomic changes in rural areas, which include modernization, commercialization and globalization, and mixed gardens are no exception. How these socioeconomic changes alter mixed gardens is one of the important discussions regarding coordination between rural livelihoods and biodiversity in tropical areas.

Taking the case study of mixed gardens in Lampung, Indonesia, this study examined the trend in the relationship between rural livelihoods and biodiversity.

3. Results and Discussions

Based on field surveys conducted in Feb. 2008, we analyzed the following points: 1) the list of planted species found in the samples of mixed gardens, and the characteristics of vegetation pattern 2) the relationship among commercial crops, the number of species and biomass.

The study found the following three points. Firstly, the mixed gardens in the study area still maintain relatively diversified species compositions and structures, though commercial crops such as coffee and cacao dominate to some extent. Secondly, the number of species in mixed gardens tends to increase as the ratio of coffee trees increases, while it tends to decrease as the ratio of cacao trees increases.

Third, regarding the relationship between household income and the biomass of the mixed gardens (using D²H as a proxy), we could divide the samples into three groups: 1) low income – low biomass group, 2) low income – high biomass group, and 3) high income – middle biomass group.

The above results suggest that the expansion of commercial crops does not necessarily bring about a simple unification of species in mixed gardens. In the case that it does happen, it follows a gradual decline of species, reflecting past land use and the owners' diverse personal preferences. Moreover, it is considered that the expansion of commercial crops affects mixed gardens in two ways: the expansion of coffee with the maintaining species diversity to some extent, and the expansion of cacao with the unification of species.

4. Publication Plan

The analysis done in the report is still preliminary. Further analysis may be able to deepen the discussion above. After some revisions, we are going to contribute to an academic journal within this fiscal year.