Introduction
Watershed management has been a major topic for the last decade related to the issues of "deforestation" and "reforestation". Recent studies have given options in the forms of farmer-managed agroforestry for maintaining the hydrological functions. This raises questions on what is the best implementation and what is the best management scenario to achieve both the desired land cover functions and profitability to the farmers.

The complexity of growth under mixed-tree stands of an agroforestry requires an integrated model to predict the prospects and sustainability of a plot design in an agroforestry scenario. A Spatio-Temporal Explicit Individual Forest Simulator (SExI-FS) was developed as a model tool for predicting the dynamic growth of mixed-tree stands and gives the information of its potential productivity and other aspects regarding the tree growth competition.

Objective and Methods
The objective of this research is to explore the plot design of agroforestry implementation and predict the performance and productivity of each species component. The species tested are the combination of Rubber (Hevea brasiliensis) with Durian (Durio zibethinus) and Acacia mangium. In this case study, the performance of Rubber under domination of Imperata ciliaris was also explored.

Various planting designs are evaluated using SExI-FS software (http://www.worldagroforestrycentre.org/sea/Products/AFModels/sexi) parameterized with experimental data from Indonesia and Vietnam.

Rubber and Durian
Durian (Durio zibethinus) is the common fruit species in Southeast Asia and has been cultivated both as monoculture and also as intercropping with other fruit and wood species. The productivity of durian integration with other tree species has not been known much.

Yields of different plot design scenarios are shown in Figure 8. Here Durian yield is higher in Regular plantation scenario and lower in Randomized scenario, while Latex yield shows opposite result, lower in Regular plantation and higher in Randomized scenario. Both are on the same yield ratios in Clustered scenario. In Regular plantation, Durian is seen to have a more space ratio compared to Rubber, here Durian can grow better. In Random plantation, Rubber gains advantages for its higher growth rate to more competitive to Durian. On the other hand, for Clustered scenario, although the trees are randomly distributed but they are clustered by species, so the competitions are more within the species.

Rubber and Acacia
Acacia mangium has been selected among other fast-growing species for its better ability to compete with Imperata. This case study presents the performance of Acacia and Rubber (with Imperata) on different management scenarios.

The complexity of growth under mixed-tree stands of an agroforestry requires an integrated model to predict the prospects and sustainability of a plot design in an agroforestry scenario. A Spatio-Temporal Explicit Individual Forest Simulator (SExI-FS) was developed as a model tool for predicting the dynamic growth of mixed-tree stands and gives the information of its potential productivity and other aspects regarding the tree growth competition.

Conclusion
The plot design of an agroforest of has effects the performances of the trees. At the same time it also affects the yield of the tree production. Species selection is also important for designing the plot scenario.

Other scenarios can be simulated based on local preference, and it is possible to include other profitable fruit species in the plot. Plot management scenario is site specific. Under SExI-FS users may define tree-by-tree management scenario. Farmers will likely have their preferences regarding the scenario suitable to their plots, therefore the recommendation should be confirmed to the farmers and it should take into account the local condition.