

## CHAPTER 7

### CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

1. Most remnant mature trees did not increase seedling recruitment beneath their crowns, except for *Schima wallichii* (DC.) Korth. (Theaceae).
2. The density and species richness of animal-dispersed seedlings beneath mature remnant trees did not depend on the species of the mature trees. Species with fleshy fruits (e.g. *Callicarpa arborea* Roxb. var. *arborea*) were not necessarily more attractive than those with dry fruits (e.g. *Schima wallichii* (DC.) Korth.).
3. There was no relationship between tree size and seedling density established beneath their crowns. Bigger crowns tended to support a lower species richness of natural seedlings. Size of remnant trees could not predict seedling recruitment under crowns.
4. Growth rates of natural seedlings between beneath tree crowns and in open areas were similar.
5. *Trema orientalis* (L.) Bl. (Ulmaceae) was the fastest growing species of natural seedling.
6. The remnant tree species that was most attractive to birds was *Schima wallichii* (DC.) Korth. (Theaceae).

7. Three bulbul birds, *Pycnonotus aurigaster* (Sooty-headed Bulbul), *P. flavescens* (Flavescent Bulbul), and *P. jocosus* (Red-whiskered Bulbul) were the most important frugivorous birds that dispersed seeds from intact forest into the deforested sites.

### Recommendations

1. Other factors such as forest fire, seed predators, competition with weeds, and pathogens seem to have great influence on natural seedling recruitment. Consequently, further research to accelerate forest regeneration is necessary to find out how to reduce the mortality of natural seedlings.
2. Growth rate of natural trees should be monitored continuously over a longer period to see more indications of differences of seedling recruitment between beneath tree crowns and in open areas.
3. Further research should determine the effects of isolated planted trees on accelerating forest regeneration in deforested areas.
4. Frugivorous birds definitely help to accelerate forest regeneration in disturbed areas by consuming fruits in the forest and depositing seeds under the perch trees. However, more needs to be known about what limit these birds as seed dispersers.
5. Because only a few frugivorous birds help to accelerate forest regeneration in this deforested site, these birds should be protected from hunting.