APPENDIX 1. Study areas.

We compared above ground biomass from one forest stratum in Indonesia, two forest strata in China, two forest strata in Laos, and four forest strata in Vietnam.

In Indonesia, the study area was located in Kutai Barat District, in the Province of East Kalimantan. Monitoring plots are located in tropical lowland rainforest at 40-500 m.a.s.l. characterised by species of the Dipterocarp family such as *Shorea* spp*.*, *Dipterocarpus* spp*.*, *Anisoptera* spp*.*, and *Hopea* spp*.*, in addition to other high quality timber species. The canopy is 30-40 m tall and maximum DBH is 150-270 cm. Community members and scientists measured one forest stratum of 400 ha, in mainly primary forest in hilly terrain. Slope inclinations ranged between 30° and 70°, and in some areas attained up to 90°. Some areas closer to the village were logged recently and consisted of secondary forest. The area is customary forest of the Batu Majang village. The local community is committed to conserving this forest in order to protect the watershed and their water resources.

In China, the study area was near Man Lin village in Xiangming township of Xishuangbanna Autonomous Prefecture, Yunnan Province. The climate is monsoonal with an average annual temperature of 25° C and an average annual precipitation of 1700 mm. The vegetation is tropical mountain rainforest at around 900-1200 m.a.s.l. The forest is characterised by *Pometia tomentosa*, *Castanopsis* spp., *Dysoxylum gobara* and *Knema cinerea*. The canopy can be divided into 3 layers: the overstory reaches 35m in height and is dominated by *Pometia tomentosa;* the mid-story reaches 25 m and is dominated by *Castanopsis* spp*.*, and *Schima wallichii* while the understory contains a multitude of species, such as *Machilus* spp., *Lithocarpus* spp*., Elaeocarpus* spp., and *Mallotus* spp. Shrub and herbaceous layers at the edges and inside some forest areas are rich in species. Slope inclinations ranged between 30° and 70°, and up to 90° in some areas. Two forest strata were measured. The stratum closer to the village (291 ha) consisted of abandoned shifting cultivation fields and ancient tea trees with an overstory of natural forest. It is classified as collective forest. The second stratum (470 ha) consisted mainly of natural forest on steep to very steep slopes. The area was logged 40-60 years ago. Shifting cultivation was practiced from the 1950s to the 1990s and then gradually abandoned. The forest recovered in steeper areas and is today state forest. Selective harvest of a few valuable timber species is currently taking place but there is hardly any illegal cutting and the forest is in a good condition with profusion of lianas and epiphytes.

In Laos, the study area was located in Ban Sakok village, Viengthong District, Hauphan Province. The climate is tropical monsoon climate with two main seasons: a wet season from May to September and a dry season from October to April. Due to the high altitude, temperatures drop to zero and frost can occur between December and February. The precipitation ranges from 1,600 to 1,800 mm per year, mainly confined to the wet season. Monitoring plots were located in evergreen open and closed broadleaved monsoon forest including patches of evergreen shrub at lower elevations next to old swidden fields east of Ban Sakok village at 600 -1600 m.a.s.l. The canopy was 25-35 meters tall and the maximum DBH were 70 to 90 cm. The forest is characterised by *Castanopsis tribuloides*, *Schima wallichii*, *Quercus kerrii*, *Lithocarpus truncatus*, *Nauclea orientalis*, *Engelhardtia spicata*, *Syzygium cumini*, *Ficus auriculata*, *Palaquium* spp., *Pterospermum* spp., and *Wendlandia* spp. as dominant species. Two strata were surveyed, representing mainly closed forest (100 ha) and open forest (62 ha) with small areas of evergreen shrub forest at lower elevations. Slope inclinations ranged between 0° and 45°, and in some areas up to 60°. The forest areas were not designated as community forest, but the local community did have user rights issued by the local national park authority.

The study areas in Vietnam were located in Con Cuong District, Nghe An Province near Diem and Moi villages. The climate is monsoonal with an average annual temperature of 23.5° C and an average annual precipitation of 1790 mm. The rainy season lasts from April to October with a peak in August to September. Plots were located in secondary evergreen broadleaved forest at 160-460 m.a.s.l. The canopy was 15-25 m tall with maximum DBH of 150-270 cm. Characteristic species were *Cullen corylifolium*, *Ficus racemosa*, *Ormosia balansae*, *Castanopsis indica*, *Vatica subglabra* and *Knema erratica*. Clusters of bamboo were found at the edges and scattered inside the strata covering about 10-15% of the area. The terrain is rugged with slopes ranging mostly from 30^{o} to 60^{o} inclination. All forest strata were degraded to severely degraded. The forestland was allocated to village households in 1999 by the district authorities. Before land allocation to villagers, the forest was managed by the commune and shifting cultivation was common. Since 1999, shifting cultivation has decreased significantly while investment in forest plantations has gradually increased. One forest stratum at Diem village (67 ha) and three strata at Moi village (125, 104, 18 ha) were surveyed consisting of a total of 314 ha. The stratum

in Diem mainly covers open secondary forest that has regenerated since the 1980s. Shifting cultivation and timber extraction is still practiced in some areas. In Moi village, shifting cultivation completely ceased after the land allocation to villagers in 1999 but harvesting of timber still happens. Land cover has gradually changed from swidden fields and fallows to closed secondary forest with most trees more than 10 years old.

In the 'Methods' and this appendix, we have used the term 'closed forest'. Closed forest is defined as > 65% canopy cover and open forest as less than 65% canopy according to the classification by Di Gregorio (2005).

Literature cited

Di Gregorio, A. 2005. *Land cover classification system: Classification concepts and user manual for software – version 2.*Food & Agriculture Organization of the United Nations, Rome, Italy.