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Interactive comment on "Change in tropical forest cover of Southeast Asia from 1990 to 2010" *by* H.-J. Stibig et al.

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Point 1

We agree that specifically for Indonesia an intermediate assessment would have been of interest, however, from this study we cannot provide 5-year figures and trends.

Our study targets the reference years 1990, 2000 and 2010, and mainly the regional scale. At regional scale we could not implement the 5-year assessment (e.g. 2005) because of limited data availability (over insular SE-Asia for 2005), but also because of the workload involved.

We exceptionally display a national example in the case of Indonesia, because there is such a high number of sampling units, and the impact on the sub-region may be of

interest to the reader.

Point 2:

We agree that e.g. a stratified random selection of sampling units would have increased the sampling efficiency.

However, we decided for systematic sampling design, because (i) it can be more easily linked to existing, usually systematic sampling designs of national inventories, (ii) it provides a stable basis for follow up assessments, not too much affected by land cover change, and (iii) it is easier to implement (see also FAO&JRC, 2012).

We will better highlight in chapter 2.1 that the systematic scheme is

"...permitting easy future repetition as well as linkage to national forest inventories, which are based on systematic sampling in most tropical countries (FAO & JRC, 2012)."

Given the high number of sampling units and the regional extent of the exercise, we do not expect a bias due to the systematic distribution of our sample units (as might have to be expected at country level with much less sampling units).

Overall, potential disadvantages of systematic sampling in terms of efficiency may be balanced-out by the advantages mentioned above.

Point 3:

Under 'adding a forward-looking dimension' we refer to the contribution of the expert consultation, where also change processes in early stages or due to start were considered, e.g. processes that are not yet visible on satellite imagery, and therefore information pointing at future potential developments.

We will better clarify in Chapter 2.3 that:

"This information complements our assessment and adds a forward looking dimension on change processes by including processes in very early stages and not yet visible

by remote sensing."

Point 4:

Figure 7 was produced independently from our assessment, in the context of expert consultation, and by manual and approximate delineation of area locations and extents at regional scale. Fig. 7 relates to processes and trends at larger scale, whilst compared to that, our remote sensing assessments (Fig. 4) are rather point assessments (in space and time) of 'visible' impacts only. This explains why there are differences for some locations.

For example in case of selective logging traces might be not yet or not any more visible on satellite imagery, whilst the experts may still have indicated a process of logging 'ongoing', but there would be no 'change' indicator from our remote sensing screening.

We point at such differences in the text of the discussion, e.g.

"Our analysis of visible change patterns (Fig. 4) did not show major logging indicators in continental Southeast Asia, probably because forest cover is already fragmented and signs of logging are less visible in the deciduous and frequently logged-over forests on the continent."

Interactive comment on Biogeosciences Discuss., 10, 12625, 2013.