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An Initial Assessment of the Potential Contibution of 'Community Empowerment' to Mitigating the Drivers of Deforestation and Forest Degradation, in Giam Siak Kecil-Bukit Batu Biosphere Reserve

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Abstract : Indonesia has experienced annual forest fires that have rapidly destroyed and degraded its forests. Fires in the peat swamp forests of Riau Province, have set the stage for problems to worsen, this being the ecosystem most prone to fires (which are also the most difficult, to extinguish). Despite various efforts to curb deforestation, and forest degradation processes, severe forest fires are still occurring. To find an effective solution, the basic causes of the problems must be identified. It is therefore critical to have an in-depth understanding of the underlying causal factors that have contributed to deforestation and forest degradation as a whole, in order to attain reductions in their rates. An assessment of the drivers of deforestation and forest degradation was carried out, in order to design and implement measures that could slow these destructive processes. Research was conducted in Giam Siak Kecil–Bukit Batu Biosphere Reserve (GSKBB BR), in the Riau Province of Sumatera, Indonesia. A biosphere reserve was selected as the study site because such reserves aim to reconcile conservation with sustainable development. A biosphere reserve should promote a range of local human activities, together with development values that are in line spatially and economically with the area conservation values, through use of a zoning system. Moreover, GSKBB BR is an area with vast peatlands, and is experiencing forest fires annually. Various factors were analysed to assess the drivers of deforestation and forest degradation in GSKBB BR; data were collected from focus group discussions with stakeholders, key informant interviews with key stakeholders, field observation and a literature review. Landsat satellite imagery was used to map forest-cover changes for various periods. Analysis of landsat images, taken during the period 2010-2014, revealed that within the non-protected area of core zone, there was a trend towards decreasing peat swamp forest areas, increasing land clearance, and increasing areas of community oil-palm and rubber plantations. Fire was used for land clearing and most of the forest fires occurred in the most populous area (the transition area). The study found a relationship between the deforested/ degraded areas, and certain distance variables, i.e. distance from roads, villages and the borders between the core area and the buffer zone. The further the distance from the core area of the reserve, the higher was the degree of deforestation and forest degradation. Research findings suggested that agricultural expansion may be the direct cause of deforestation and forest degradation in the reserve, whereas socio-economic factors were the underlying driver of forest cover changes; such factors consisting of a combination of socio-cultural, infrastructural, technological, institutional (policy and governance), demographic (population pressure) and economic (market demand) considerations. These findings indicated that local factors/problems were the critical causes of deforestation and degradation in GSKBB BR. This research therefore concluded that reductions in deforestation and forest degradation in GSKBB BR could be achieved through 'local actor'-tailored approaches such as community empowerment

Keywords : Actor-led solution, community empowerment, drivers of deforestation and forest degradation, Giam Siak Kecil – Bukit Batu Biosphere Reserve
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