 Community forest committees directly involved in the project reported moderate added benefits. “The FA trained us about REDD+ and now they support us with equipment and money for patrols” (Group Discussion KT 28 March 2016). “If we can get help from the government to protect [the forest] it is better for us” (Group Discussion KT 30 March 2016). In terms of the community’s ability to protect the CF area, “REDD+ does not change much for us, only that we get training, equipment, and patrol money, not enough money though. It doesn’t replace money we can make doing other things, so it’s hard to get people to patrol. It only pays for our gas” (Group Discussion 29 February 2016). When asked directly about conflicts involving REDD+, people reported conflicts with illegal loggers, companies, elites, NGOs, or neighbors, not with REDD+, except that it did not do enough. It did not solve their problems with forest protection or getting support from the Forest Administration to arrest loggers or evict encroachers, “we call them [the FA]. Sometimes they come, but mostly not” (Group Discussion KT 29 March 2016). Neither did it capture all the CFs in the area, and the excluded CF committees wished they too would receive the benefits (Meeting, Prey Lang Working Group, 16 August 2016).

This site was purposefully chosen for REDD+ because of its high deforestation rate [71]. The project uses a simple system for measuring carbon and deforestation through a projection scenario based on historical deforestation data. Success demonstrates less deforestation than projected (Interview FA 5 September 2016). The T-REDD project documents give thoughtful attention to the challenges of REDD+ and attempt to foster community empowerment. Household uses of the forest, like shifting cultivation or charcoal production, are explicitly not considered part of the deforestation problem and community capacity to “keep the forest” is honored. T-REDD aims to, “assist community forests to scale up their forestland management area to cover the remaining permanent forest estate... legalized as parts of the provincial and commune land-use planning framework” [72].


As the law stands at the time of this writing, however, citizens do not have the authority to patrol the larger PLWS protected area. “They give us the CF to protect while they cut the Prey Lang as they like... even the police go too” (Group Discussion KT 28 February 2016); “they take trucks every day along the new road... into the forest” (Group Discussion KT 29 February 2016). “If they give us authority, we can protect it [PLWS],” people say, “it has use for us—this is our resin forest” (Group Discussion KT 28 February 2016). The T-REDD project description cannot contain all the contradictions and pitfalls of REDD+ projects described above, but those it can transform suggest that that climate change policies may benefit from non-market approaches, and that effective REDD+ implementation should not degrade and at least marginally benefit local economies.

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7. Think Biotech Cambodia, co. ltd.

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 Think Biotech was established as a public-private partnership between the Forest Administration of Cambodia and the Think Biotech Cambodia, co. Ltd. in December 2010. Think Biotech is a subsidiary of the Hanwha corporation that specializes in the manufacture of explosives and military equipment. Before 2010, the Think Biotech Cambodia, co. Ltd. was not listed in Hanwha's annual report and Hanwha had no experience in forestry initiatives [72].

Nonetheless, in Article 2 of the sub-decree signed by MAFF, it states that Think Biotech will establish an A/R project that will “improve soil fertility through reforestation and biodiversity conservation... [and will be] part of Clean Development Mechanisms or other mechanisms that contribute to the reductions of greenhouse gas emissions and climate change mitigation” [40]. The conflict drivers in this case are the other objectives in Article 2 that include, “to stop slash and burn activities, and... illegal claims to trees...” [40]. The project deliberately alters the local economy in ways that also increase pressure on the PLWS outside the project boundary by pushing subsistence and market activities deeper into the forest.

In June 2012, the company began operations in Kampong Cham commune, Sombor District, Kratie province. Unlike in Kampong Thom, there was a period of 10 years between the slowdown in Forest Concession activity and the rise of ELCs, during which time freelance logging rose considerably. Even so, when TB came in 2012, traditional livelihoods of shifting cultivation, wet-rice agriculture, and resin collecting were the primary economic activities (Group Discussion KR 13 February 2015). As is typical of ELCs in Cambodia, TB started operations with no community consultation. At first people thought the excavators were for road development, it then became clear that they were making a business and some people took small jobs creating the tree nursery or other buildings (Interview Mr. Som No 15 February 2016).

The director of TB stated that he knew there were people living inside the concession boundaries (Interview TB 1 November 2016). The commune chief confirmed this as well, but suggested that the company cleared community land because they did not recognize it; community land for shifting cultivation looked like degraded forest (Interview KR 14 February 2015). The company signed an agreement with MAFF to begin operations in 2012 and hired CES co. Ltd. (Phnom Penh, Cambodia) to conduct an environmental impact assessment (EIA). This assessment was completed in February 2013 and the project was found to have “a lot of problems” and “would be bad for the community” (Interview CES 8 November 2016). This information was shared with the MoE and with the company. According to an unpublished report by NGO Forum, the project would affect approximately 1900 families, 4412 hectares of rice fields, 3534 hectares of plantation land, 5970 hectares of community forests, 5 hectares of spirit forests, and 5 hectares of burial grounds (“NGO Forum” notes 17 November 2015).

After the negative EIA in May of 2013, company bulldozers began clearing community lands along the old road. During this clearing, 178 households lost nearly 1000 hectares of farm and shifting cultivation land. Strong community protests kept the company from clearing more land (Interview community rep. 14 February 2015), but there remain 400 hectares of disputed

land inside the company boundaries (Interview commune chief KR 3 February 2015). In addition to community rice fields and farm lands, the company cleared nearly 5000 ha of forest land in the southern end of their project next to the affected villages (**Figure 5**, red deforested area). In so doing, they cleared the forest right up to the banks of the streams. The effects of this on rain-fed streams are visible (**Figure 7**). The sun exposure kills fish eggs in the streams and causes them to dry completely when the rains stop (Field Notes, personal communication, Mr. Som No 6 August 2016).



Figure 7. Stream O Sro Lork in the rainy season, 9.7.2016. Photo by Seay Monyrath.

At peak production, the company employed approximately 800 workers earning between 150–180 USD per month (Interview KR 16 February 2016), which is well below the 250–300 USD people report from tapping resin and selling market crops (Field Notes Steung Treng 19 December 2016, see also [73]). The commune chief sees the benefit of the jobs (Interview 16 February 2015), but was not pleased that the promised road was never built (Field Notes, personal communication Mr. Nak Virak 9 February 2016). The only roads built by the company were for company use and community members had to protest to gain access (Group Discussion KR 14 February 2016). Since February 2016 the company has been quiet. They laid off most of their workers and the saw mill stopped operations. In September 2016 there were about 200 workers planting saplings, many of whom are migrants (FN KR 7 September 2016).

While in the south the company seems quiet, in June of 2016 they conducted a public consultation in Steung Treng with about 100 members of the soon to be affected community. A local researcher accompanied company representatives and provincial and national level ministry officials on their mission to mark the TB boundary. At the most isolated edge of the project bordering the PLWS they placed company boundary markers and drew a map. While

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mapping this territory, the researcher informed the officials they will need a map of community holdings to conform to Order 01 guidelines that require companies to develop around, and not through, community lands. The Forest Administration representative told him, "We don't have to

follow the rules of Order 01, this is not an ELC. It's a government partnership" (Action Research Interview ST 18 August 2016). Since the boundary mapping, community researchers have mapped 15 of the 19 resin forests in use at the present time (**Figure 8**). Q ≡

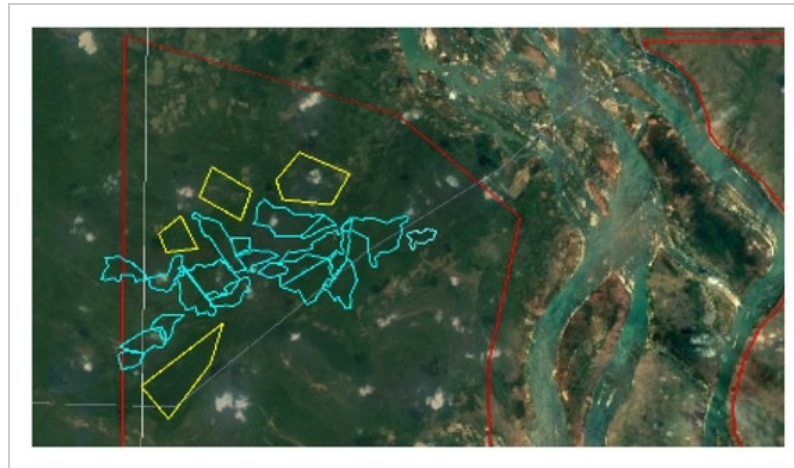


Figure 8. Community resin forest shapefiles. Red is project boundary, white N-S line is PLWS boundary, white E-W line is provincial boundary (Steung Treng to the north, Kratie to the south). Blue are mapped forests and yellow are remaining areas to be mapped. GoogleEarth screen shot by author.

That the company moved to map and begin developing the northernmost region of their project could be because they have cleared the area in the south right up to the boundary of the southernmost CF that is inside the concession (**Figure 9**). In many ways the company is frustrated with this project as well. The CFs inside project boundaries were a surprise according to the company director, and his face was visibly concerned when the author showed him the mapped boundaries of resin forests inside "his" company boundaries (Interview TB 1 November 2016).

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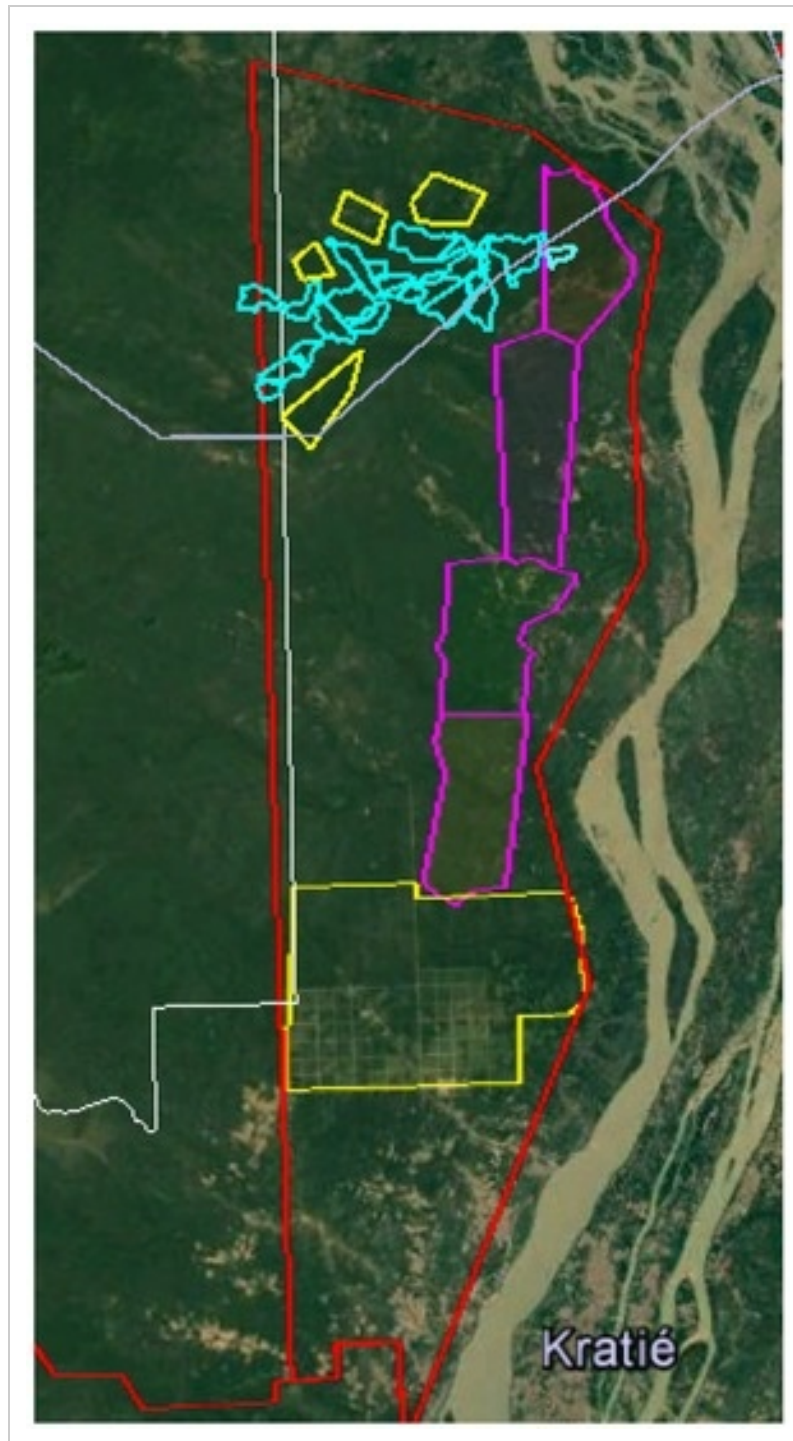


Figure 9. Google Earth screen shot with shape files. Pink are CFs and yellow is cleared company area as of September 2016. Affected area boundaries created using GPS data points collected by PLCN and author in September 2016. CF shape files are from Cambodia’s Forest Administration (FA).

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The situations on the ground at the TB project site differ widely from those at the T-REDD site. Most importantly, the evacuation of local subsistence practices was explicitly part of the project’s goal. There are many other factors that contributed to the conflict-heavy implementation of this project, these include the lack of community consultation, ignoring EIA recommendations, **Accept (/accept cookies)**

clearing community land holdings, providing undesirable jobs, and restricting access to company roads. The company is actively avoiding the CF area inside their project, which is commendable, but are surprised and dismayed by the presence of community holdings inside their northern boundary. This issue is currently under negotiation.

8. Discussion

The evidence presented in this study shows two governance strategies for CCM projects as well as the social, economic, geographic, and historical circumstances of the people and the regions in which each operates. Through this analysis, focused on the potential for decreasing the incidence of conflict in CCM policies, some fundamental differences between the projects are visible. First, in the project with little conflict, both project documents and implementation practice were focused on granting tenure rights and management responsibility to participants. By contrast, in the conflict-heavy project, the language of the project documents, the implementation of project activities, and the voices of company representatives were all directed at divesting communities of their rights and responsibilities. Second, the conflict-light scenario is not focused on monetary trade or profit, a source of regular conflict in REDD+ case studies [74]. Communities know exactly what to expect from this initiative. It is not a lot and the \$50/month does not compensate them for their time, but it covers the costs of patrolling. The TB project gives rise to multiple financial conflicts beyond clearing village resources for company profits: the wages are low, salaries are often late, large lay-offs have occurred, and locals accuse the company of selectively logging high-value timber from the deep forest.

These data suggest that conflict-light CCM projects can be implemented with close attention to the relationship between selective project outcomes and the physical, social, and economic landscape in which it is implemented. The evidence from these two case studies suggests that the TB restoration project is not executed in the best landscape for an industrial tree plantation and that both the social and physical landscape is better suited for a REDD+ project under the Korea-Cambodia MoU for enhancing forest resources and mitigating climate change. First, it is in an area populated with people actively protecting the forest and using the forest for subsistence. Second, it is in a remote area with very little infrastructure, which adds to transport costs for industrial production and limits encroachment, enhancing conservation. Third, it is covered with forest that in many parts of the project area is quite dense and diverse.

There is very little support for creating industrial timber plantations in already forested landscapes. Guidelines insist that AFR activities should be on degraded forest land [26], but the practice of labeling rich forest as degraded forest is widespread [75], with profoundly negative effects on social and ecological communities [28,39]. Increased deforestation beyond project boundaries is a recorded effect of forest-conversion for development. **Accept (accept cookies)**