HIGH CARBON STOCK APPROACH

HCSA PEER REVIEW REPORT

Company Name: Goodhope Asia Holdings

HCS Assessment Area: Ketapang region (PT Agrajaya Baktitama, PT Batu Mas Sejahtera and PT Sawit Makmur Sejahtera)

09 July 2019

Background information:

a) Did a Registered Practitioner Organisation lead the HCS assessment? If not, has the organisation which led the assessment started the process of registration?

Yes, Ata Marie is a Registered Practitioner Organisation that led the HCSA assessment.

b) Was the HCS Team Leader a Registered Practitioner?

Yes, Alex Thorp was the Team Leader and is a HCSA Registered Practitioner.

c) Were at least two (2) HCS team members Registered Practitioners?

Yes. Alex Thorp, George Kuru, Dadan Setiawan, Sofyan Iskandar and Dadi Ardiansyah are all HCSA registered practitioners of Ata Marie.

d) Was the HCV assessment judged 'satisfactory' (highest rating) by the HCV Resource Network (HCVRN) Assessor Licensing Scheme (ALS)? (See https://hcvnetwork.org/reports/hcv-goodhope-asia-holdings-ltd-ketapang-region-pt-agrajaya-baktitama-pt-ajb-pt-sawit-makmur-sejahtera-pt-sms-pt-batu-mas-sejahtera-pt-bms-indonesia/)

The HCV report has been submitted and approved "Satisfactory"[1] by HCVRN ALS

[1] Last checked from HCVRN ALS website on 14 June 2019

Questions for peer reviewers

(Peer Review Panel: Robert Heilmayr, Cynthia Chin)

1. Peer Review Summary

1.1. What are the major findings and recommendations from the peer review?

Finding:
The HCSA assessment was well executed and followed most of the procedures outlined in the HCSA toolkit. No fundamental deficiencies were identified in the social (peer review Section 2) and ecological assessments (peer review Section 3). The image analysis (peer review Section 4), forest inventory (peer review Section 5) and land use planning sections (peer review Section 6) did raise some more significant and intertwined concerns. The most significant of these include:

(1) AOI: The determination of the AOI did not meet the requirements of the HCSA toolkit. More details are provided in Section 4.1.

(2) Accuracy assessment: The HCSA report did not provide any measurement of the accuracy of either the initial or final land cover classifications. Such accuracy assessments would dramatically improve the confidence that external audiences will have in the determination of the assessment team. Additional details on this concern are provided in Section 4.3.

(3) Sample design: While the sample design seemed to follow the procedures described in the HCSA toolkit, a concern was raised that the sample design provides sufficient independent samples to fully represent within class variability in carbon densities. Given this concern, the statistical analyses contrasting carbon densities across classes seem somewhat uninformative. More information about this concern is provided in Sections 5.1 and 5.4.

(4) Treatment of mixed agriculture and forest (high) (MAFH) class. Based on a combination of the reported carbon density measurements, satellite imagery and species composition from forest plots, there was a concern that the assessment team was not able to sufficiently distinguish agriculture from young regenerating forests. More details about this set of concerns are provided in Sections 4.3, 5.4 and 6.4.

In addition, the HCSA report should provide more detail in a variety of areas. Sections 2.4, 2.5, 3.1, 5.2, 6.1 and 6.4 of this peer review report highlight areas where additional details would strengthen the assessment report and enable a full review of the HCSA assessment.

Final Reviewers Recommendation:
I believe the assessment team has done a good job addressing the majority of the concerns raised in the review. However, there is still one concern with the assessment team's designation of mixed agriculture and forest classes as "Land potentially available for new development based on negotiation with landowners" at the conclusion of the Integrated Land Use Plan. Given that many of these locations meet the biophysical characteristics of YRF based on the inventory plots (see response to review question 4.3), they should follow the HCS Patch Analysis Decision tree to integrate the participatory mapping results. Based on the reviewer's understanding of the decision tree, these MAFH forests should either be designated as "Indicative conserve" or "enclave" based on the planned use of the land by the community (see response to review question 5.4). Neither of these classes seem to provide a path to development without consideration through the "give and take" process. As a result, the reviewer's opinion is that there is a risk of forest conversion to plantations under the proposed development plan.

1.2. Did the HCS assessment team include or have adequate access to relevant expertise to undertake the HCS assessment?

Finding:
It looks like the assessment team is very qualified and includes the necessary expertise. However, there isn't a lot of information about each team member.

Final Reviewers Recommendation:
Comment resolved. No further recommendations.

1.3. What elements of the HCS Approach still need to be completed in order to create a final land use and conservation plan? Are there aspects which you feel need to be re-done?

Finding:
The assessment team has completed nearly all the required steps of an HCSA assessment. A rigorous accuracy assessment is the most obvious component that seems missing from the current report.

Final Reviewers Recommendation:
Table 20 provides an accuracy assessment of the initial land cover classification. However, I still don't see an accuracy assessment of the final land cover classification as required in the HCSA Toolkit (Module 4, Figure 7).

2. Social Issues

2.1. Does the summary provided in Section 3.1 adequately represent and explain the community engagement, FPIC processes, and participatory mapping activities carried out?

Finding:
Yes. Consultations were done with all 18 households, using the FPIC process. The summary of the social engagement reflects the details in the sections for HCVs 5 and 6 of the full HCV assessment reports. Participatory mapping activities were conducted. Overall, the communities appear to be satisfied with the measures taken by the company in engaging them and relations are good, even though there is no specific complaints mechanism that has been agreed to between communities and company.

Reviewers Recommendation:
None.

2.2. Has a tenure study been completed and has it been vetted by independent social experts?

Finding:
Land tenure data were collected throughout the community engagement process and especially during the participatory mapping processes and follow-up ICLP consultations. Most of the land in the area of interest is controlled by individuals and family groups. A total of 1,982 ha of communally controlled land was identified. There is a good level of detail on land tenure information collected.

Reviewers Recommendation:
None.

2.3. Is there a participatory land use map and does it contain the key components of community land use including the minimum requirement of 0.5 ha per person for future garden areas?

Finding:
Participatory mapping activities were reported throughout the summary report, HCV assessment full report and details of community land use can be found in the SIA reports. No specific map for participatory mapping was produced. However, the results of the activity are reflected in Figure 8 of the HCV assessment report, where different uses by the communities are delineated (e.g. cultivation land, mixed garden, rubber, etc.). Table 17 of the summary report shows the calculation of land requirement based on the guidance figure and compares it with land availability. Land requirement for food security is estimated to be 13,086 ha. For villages where data is complete, data implied that the license area covers 5% of the total village land and is concluded that land availability outside the license boundary is sufficient for village food security.

Reviewers Recommendation:
None.

2.4. Is there a record of consultation with affected communities and FPIC processes on the proposed development, the HCS Approach and issues/concerns they raised? Did the community nominate their own representatives?

Finding:
Yes, details of the meetings are found in the SIA reports and also the HCV assessment report. These include comments from the community representatives verbatim. The processes of FPIC were applied, by proxy implying that the community representatives were expressing the views of their communities.

Final Reviewers Recommendation:
The response given by the company reflects the efforts made to explain the assessment process. In addition, land tenure is mostly on an individual ownership basis, hence nomination of representatives is deemed unnecessary.

2.5. Were their views addressed and reflected in the plans and implementation of the plantation? Is there specific reference to the customary owners being made aware that they can say no to the development and they have the right to independent legal representation with regard to their agreements before they sign (to meet the 'prior informed' test)?

Finding:
There was no specific reference to this. However, it was made quite clear that the communities had extremely good relations with the company, and that the company's engagement processes were deemed satisfactory by the community themselves.

Final Reviewers Recommendation:
The explanation on land tenure and efforts mentioned in Section 2.4 is sufficient to address the recommendation.

2.6. What recommendations do you have for any improvements regarding community consultation and negotiation of Free, Prior and Informed Consent?

Finding:
Overall this section is clear and summarise all the key points required. FPIC processes are found in greater detail in the HCV assessment report and SIA reports.

Reviewers Recommendation:
None

3. Ecological and Conservation Values

3.1. Does the summary provided in Section 4.1 of the Summary Report adequately represent the findings of the HCV study?

Finding:
Yes. Table 12 of the summary report lists HCVAs (2,889 ha) and HCVMAs (3,267.9 ha), along with a map of all HCVs 1-6 (Figure 10). Original HCVAs and HCVMAs were slightly larger than the final recalculation. Key threats, along with management and monitoring prescriptions are detailed in Table 18; and are a succinct summary of the details found in the HCV assessment report. Threats were assessed using the 5S Framework and TNC's Participatory Conservation Planning guidelines. The management recommendations and monitoring were presumably based on the outcomes of these assessment methods and are adequate, assuming that ground implementation will be carried out by the company.

Company Responses:
Table 1 and Map 2 describe the reduction in the HCS Study area from an initial area of 34,644 ha to a final study area of 24,830 ha (as instructed by Goodhope). The HCV assessment carried out by Remark Asia covering a combined area of 30,070 ha. The recalculation of HCVAs and HCVMAs purely reflects the reduction in the assessment area down to 24,830 ha – i.e. removal of HCVAs and HCVMAs that are outside the final assessment area.

Final Reviewers Recommendation:
Table 1 and Map 2, as well as the clarification above are accepted as response to the recommendation.

3.2. If the HCV assessment was not judged satisfactory (highest rating) by the ALS scheme of the HCVRN (as noted in the introductory information from the HCS Secretariat – please see page one of this document), please do a cursory review of the HCV report as it relates to HCVs 1-4. Do you have any general comments on the quality of the site description, the analysis of the landscape and national or regional context, or the methods used to undertake the HCV study? Were the determinations of the absence/presence and extent of HCVs 1-4 well-justified? Are the HCV management and monitoring maps accurate?

Finding:
The HCV was judged satisfactory by the HCVRN.

Reviewers Recommendation:
None.

3.3. Please review Section 9.2 of the Summary Report. Was the methodology used for the Pre-RBA and the Rapid Biodiversity Assessments (if any) satisfactory? Did the RBA(s) reveal any significant biodiversity values that should have been captured in either the HCV assessment but were not, or warrant protection?

Finding:
Yes. Patch analysis followed the HCS toolkit. The analysis showed that patches are generally small, with most not more than 50 ha and the largest being over 460 ha. A total of 61 ha of pre-RBA assessed area was recommended for conservation mainly because they are adjacent to rivers. Results of the patch analysis are detailed in Tables 29 through 31.

Reviewers Recommendation:
None.

3.4. Are the forest conservation management and monitoring activities outlined in Section 10.3 adequate? Do they take into account forests and protected areas outside the concession?

Finding:
A participatory management and monitoring approach between the company and local communities is emphasised. Future threat of deforestation is high as demand for cultivation land is expected to increase. The recommendation for a decision to be made on whether to halt timber production completely or to allow limited control of it is sound and timely. There is clear emphasis on integrating HCS and HCV considerations into management and monitoring. This should be done through the development of a participative forest management and monitoring plan and socialising it among key stakeholders. A framework of this monitoring plan is also suggested.

Reviewers Recommendation:
None.

4. Image Analysis

4.1. Please review Section 6.1 of the Summary Report. Was the Area of Interest correctly identified?

Finding:
Section 6.1 of the HCSA Report states that the AOI is defined as the total area (24,853 ha) of the AJB, BMS and SMS concessions. However, the current HCSA toolkit, Module 4, states that the AOI "must include the development area and also the broader landscape adjacent to the development area." In addition, the toolkit notes that "the boundary of the AOI must be aligned to either administrative or natural boundaries, for instance hydrological catchments or other landscape units. Rationale for the determination of the boundary must be provided." It appears that the HCSA assessment was conducted over too small an AOI and that, as a result, carbon estimates for different strata might be biased.

Final Reviewers Recommendation:
If the assessment team conducted the land cover classification over the entire "broader landscape" described in Section 1.3.2, and illustrated by the black box in Figure 7, I'd encourage them to add a note to that effect to section 6.1.

4.2. Please review Section 6.2 of the Summary Report. Were the images used of adequate quality, including resolution and date?

Finding:
Section 6.2 of the HCSA report describes the imagery used for the land cover classification. The assessment team used a combination of Spot 7 and Landsat 8 imagery from 2017. These data meet the resolution and recency requirements specified by Module 4 of the HCSA toolkit.

Reviewers Recommendation:
None.

4.3. Please do a quality check using the images provided in 6.3. Was the initial vegetation classification done properly? Do the land cover areas in the tables in Section 6 look reasonable? Are there any obvious errors in classification?

Finding:
The approach taken for the initial vegetation classification seems like it may deviate from the HCSA toolkit Module 4 in several ways:

1) Visual interpretation:
The HCSA module requires that initial classification be completed using either clear decision rules or machine learning algorithms. Visual reinterpretation and reclassification are permitted but should be undertaken as a complement to the automated object-based classification. In contrast, this HCSA assessment states that it used manual methods to interpret the high-resolution imagery, and a combination of supervised and unsupervised methods to classify the Landsat imagery. There is insufficient detail to be able to determine whether the approach to classification is fully consistent with the HCSA methods.

2) Accuracy assessment:
The HCSA toolkit notes that "An independent accuracy assessment and verification of the classification results with reference data is an essential component of the processing chain." Currently the report doesn't seem to include any formal accuracy assessment. The authors should present clear accuracy matrices based on the preliminary land cover classification (using photointerpretation) and the final land cover classification (using ground truth data).

3) MAFH:
The assessment team included large areas of Mixed Agriculture and Forests – High (MAFH) in its land cover maps. I am somewhat worried that this class isn't be correctly integrated into the HCSA. These regions have statistically insignificant carbon differences from the young regenerating forests, and, according to forest inventories, often have less than 50% basal area of planted species. Based on the HCSA toolkit module 4, table 1, it seems like these plots should be included as YRF rather than as a plantation or agriculture class. Furthermore, based on the satellite imagery, it seems very difficult to visually distinguish these regions from other YRF and forest classes. For example, in the Southwestern parcel of PT SMS, the forest canopy looks fairly uninterrupted, but the vegetation classification indicates three different land use classes. Ground truth points would increase confidence in these classifications, but there was no field sampling conducted in this region.

Final Reviewers Recommendation:
The assessment team posits that the MAFH class represents areas that are not natural forest. However, several plots are composed primarily of native vegetation with no old rubber (e.g. plots 2-7, 3-15). In addition, some plots contain large specimens of endangered, endemic species (e.g. plot 1-4). For these areas, I am under the impression that the indicative Land Cover Classification (Module 4) should recognize these areas as potential HCS forests. To ensure that community lands are not designated as HCS conservation areas without community consent, the decision tree (Module 5) provides a method for the integration of the participatory mapping (see additional discussion in response to peer review section 5.4).

5. Forest Inventory

5.1. Please review Sections 7.1 and 7.2 of the Summary Report. Were the sample plots selected, set up, and measured properly? Please check the inventory plot layout for adequacy.

Finding:
Many of the statistical methods used in the HCSA Toolkit assume an independent sample of plots. However, the authors use a sampling approach in which they sample narrowly spaced plots along a relatively small number of transects. In general, it would be difficult to imagine that the plots falling along a single transect are independent of each other. As a result, I worry that the authors dramatically underestimate the within-class variability of carbon density. For example, the carbon density measurements for the forest class are all generated from two transects. While these transects contain a total of 32 plots, each transect covers a linear distance of about 1.125 km. It is very difficult to imagine that such a small area would be representative of all the forests located within this landscape. Furthermore, this makes it difficult to use the field plots for ground-truthing the final land cover classification since only a very small portion of the map contains ground truth plots. That said, I worry that the current Toolkit's language doesn't discourage this approach and I have seen a similar sampling approach taken in other HCSA assessments. While scientifically problematic, this approach may be acceptable according to the HCSA toolkit.

Final Reviewers Recommendation:
We accept that the current assessment should not be held to a higher bar than outlined in the HCSA toolkit. We encourage the HCSA to explore the scientific integrity of this commonly used sampling design in future revisions to the Toolkit.

5.2. Please review Section 7.3 of the Summary Report. Was the forest inventory team qualified?

Finding:
The forest inventory team looks like it is composed of all the necessary specialists, however the report does not provide many details on the professional experience of the team members.

Final Reviewers Recommendation:
Comment resolved. No further recommendations.

5.3. Please review Section 7.4 of the Summary Report. Was the allometric chosen adequate?

Finding:
The assessment uses appropriate allometric equations in line with the requirements of the HCSA Toolkit.

Reviewers Recommendation:
None.

5.4. Please review Sections 7.5, 7.6, 7.7 and 7.8 of the Summary Report, and do a cursory review of the forestry data and statistical analysis. Are there any obvious errors in the raw forestry data? Are there any flags where a result does not seem consistent with your rough interpretation of the land cover image? Do the final carbon classes seem accurate given what is known about other forests in the region?

Finding:
Given the sampling concerns raised in section 5.1 of this peer review report, I am concerned that the statistical analysis presented in section 7.7 does not provide meaningful comparisons of the carbon differences across land cover strata. In addition, related to section 4.3 of this peer review report, I am somewhat surprised that some MAFH plots were not reclassified as HCS strata based on the observed forest composition. Plots 1-4 and 1-9 (among others) provide examples where I think the basal area of cultivated species is less than 50% of the total basal area of the plot, however I admit that I am not an expert on the species that are cultivated in agroforestry in this landscape.

Final Reviewers Recommendation:
I still struggle to accept that the MAFH class should be designated as “indicative develop” as the current assessment determines. I acknowledge that the HCSA methodology seeks to ensure that forests which are part of long-term production cycles “are not classified as HCS forest without their consent via FPIC.” Nevertheless, this doesn’t mean that the locations can be used for plantation development. Specifically, the HCSA toolkit module 5 notes that “Forest gardens, ‘swidden fallows’ and future farm lands that are areas fundamental to meeting basic food security are identified and recorded on maps, both for communal lands and individually claimed and used areas. If these areas are located within the proposed development area for plantation, then they will be enclaved and excluded from being categorised as HCS forest and from plantation development, unless they are negotiated to have a different status as part of the ‘give and take’ process.”

I believe the pre-RBA portion of the decision-tree emphasizes the intent of the combination of participatory mapping and forest assessment (HCSA Module 5, Figure 18). From my understanding, this process would necessarily prevent these types of plots from being classified as indicative develop. Given that (1) many of these plots meet the biophysical criteria necessary to be classified as forest; and (2) the assessment team argues that these locations have evidence of ongoing community usage, the question becomes whether the community wants to continue using the patch. If the community wants to use the patch, the patch must be enclaved for their use. If not, the required RBA should acknowledge the presence of an endangered species. Given that many inventory plots (e.g. 1-4, 1-15, 2-4, 2-9, 3-13) indicate the presence of endangered species (e.g. *Shorea Stenoptera*), and nearby patches would presumably be good habitat for these species, the patch must be designated as indicative conserve. There doesn't appear to be any path through the decision tree in which the plot would end up as indicative develop.

6. Land use planning

6.1. Please review Section 8.1 of the Summary Report. Was the initial vegetation classification map adequately calibrated and adjusted to take into account forest inventory results?

Finding:
Section 8.1 presents the final land cover classifications but doesn't describe the process of how the inventory results were used to update the initial vegetation classification. How many plots were found to differ from the original classification? How was this used to more systematically revise the broader maps? The shapefiles provided with the assessment only seemed to include the final land cover classification (v10) rather than the initial classification, so I was unable to determine adjustments that were made in light of the field data.

Final Reviewers Recommendation:
Thank you for providing the additional map of the initial land cover classification. I'll note that it appears that this shapefile is missing data on some portions of the concessions. I'm also a bit confused about how some regions were reclassified when no forest inventory data was collected in those regions. For example, fairly large portions of PT AJB were re-classified from YRF to MAFH in locations that were not near any forest inventory plots. Was this purely based upon the participatory mapping process?

6.2. Please review Section 9 of the Summary Report. Was participatory mapping data used in step one to identify community lands that should be enclaved? Were patches merged correctly? Was the core area correctly identified? Was the connectivity analysis done correctly?

Finding:
The assessment team seems to have carefully followed the HCSA Toolkit's decision tree. Participatory maps were used to enclave areas critical for food security. The correct parameters were used for the connectivity analysis and the results look reasonable.

Final Reviewers Recommendation:
Comment resolved. No further recommendations.

6.3. Please review Section 9 of the Summary Report, and select a few sample patches to test that the Decision Tree was used correctly. Were the patches correctly identified as High, Medium, or Low Priority? Was the Patch Analysis done according to the HCS Approach Decision Tree?

Finding:
Patches were correctly identified into priority categories and the patch analysis carefully followed the HCSA Toolkit's decision tree.

Reviewers Recommendation:
None.

6.4. Please review Sections 10.1 and 10.2 of the Summary Report. Were the final integrated conservation and land use planning steps completed to maximize the ecological and social viability of the conservation areas (HCV, HCS, peatland, riparian zones, customary forest, etc)? Were the results of the final ground verification (if any) adequately incorporated into the land use plan and final HCS map?

Finding:
Section 10 does not provide any specifics on how data from the final ground verification changed the land use plan – was an additional ground verification completed? My biggest concern about the final ICLUP hinges around the Mixed Agriculture and Forest (high) class. Based on carbon density, satellite imagery, and species composition from forest plots, I struggle to see what the distinct line is separating this class from YRF. As a result, I'm concerned that these regions weren't included in the connectivity decision tree, nor were they considered for HCS inclusion.

Final Reviewers Recommendation:
Responses were provided in sections 4.3 and 5.4.