HIGH CARBON STOCK APPROACH

HCSA PEER REVIEW REPORT

Company Name: Agro Eastern Plantation
HCS Assessment Area: PT. Kahayan Agro Plantation
27 November 2019

Dear peer reviewers:

Thank you for agreeing to review this HCS study. As you know, we are asking you to do a desk review of the material provided and to highlight any concerns you have about the land cover classification, land-use planning, or consultation processes. We have invited you as an expert in your field, and hope that you will bring your own experience and knowledge to this review to help the company improve its study. We are not asking you to provide a pass/fail decision, just to give your honest opinion and suggestions for changes to the company's plans or activities to ensure that the HCS Approach methodology is implemented correctly. Please refer to the latest HCSA Toolkit as reference.

Some of the issues raised in the review may be complicated and long-standing, especially those related to land tenure and historical conflict with communities. It is not within the scope of the review for you to do hours of research and determine who is at fault, or to examine stakeholder activities outside of the particular concession or plantation which is the subject of the review. Rather we ask that you call attention to topics that need further research or more information from the company, to improve community relations in the future or to reassure external stakeholders that the intent of the HCS Approach is being followed.

Background information to be provided by the HCSA Secretariat:

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, PT Sonokelling Akreditas Nusantara is a registered practitioner organisation.

b) **Was the HCS Team Leader a Registered Practitioner?**
Dandun Sutaryo leder the assessment and he is a registered practitioner under PT Sonokelling Akreditas Nusantara.

c) **Were at least two (2) HCS team members Registered Practitioners?**
Yes. Dandun Sutaryo and Kasuma Wijaya from PT. Sonokeliling Akreditas Nusantara are Registered Practitioners.

d) **Was the HCV assessment judged 'satisfactory' (highest rating) by the HCV Resource Network (HCVRN) Assessor Licensing Scheme (ALS)? (See** https://hcvnetwork.org/find-a-report/**)**
Not applicable. The HCV report was completed prior to HCVRN ALS establishment (before January 2015)

Questions for peer reviewers

(Peer Review Panel: Tri Agus Sugiyanto)

The estimated time to complete each section is noted in parentheses.

1. Peer Review Summary (2 hours, Lead Reviewer)

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

Please refer to the peer review results in this report.

Finding:

1. There is explanation found about Pre-RBA/RBA. HCV map does not provide information of HCV type which found in the locations. Image analysis for stratification land cover is well done. There is HCS area is being excluded because of FPIC and plasma allocation.

2. FPIC: the document mentioned that FPIC is implemented through processes with community. Albeit of some of steps in decision making with community is well explained, but FPIC is also strengthened its process to the details evidences as the result of this principles implementation.

Reviewers Recommendation: None. The report has been revised.

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

Please refer to Section 2 of the Summary Report.

Finding:

Team has a good expertise and sufficiently in forest carbon stock assessment process, but there is an imbalance between other teams, such as in social expertise.

Reviewers Recommendation: None. The report has been updated.

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?

Please review Section 10 of the Summary Report and the peer review results in this report.

Finding:
There is no explanantion process in take and give in Pre-RBA/RBA.
Reviewers Recommendation: None. Indepth study related to take and give are updated in points 6.1 and 6.3.

2.   Social Issues (4 hours)

Please review Section 3 of the Summary Report and please also look at the full HCV report (Section 4) for how HCVs 5 and 6 were assessed.
The HCSA Toolkit provides more information on the expected quality of community consultation and FPIC procedures.

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:
No, the explanation area:
1) FPIC process: There is lack of information on proportion communities who have involved in the process (from each village, and gender representation), it is important to be shown to know that communities voices are well represented in FPIC process; there is lack of explanation of action takes by PT KAP to the rest of villages which have rejected the operations; in AMDAL and SIA documents mentioned about Head of Regency Instruction 19 March 2012 (point 4), there is an absence action plan on this point (to answer community and government demand).
2) Participatory mapping: Does not mention about the process to choose community representative; lack of explanation to determine villages boundary result from participatory mapping.
Reviewers Recommendation: None. The recommendation has been addressed with sufficient evidence.

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

Finding:
Yes, but the process of land tenure study is not provided in the report. There is lack of information of land ownership, tribes composition, land history, and if there any role of migrants and/mixed marriage.

Reviewers Recommendation:
In a separate FPIC document, no short information has been found from the Land Tenure Study (including the history of land ownership / subject and object, and the effect of cultural / tribal acculturation on changes in land ownership). Please add a short information about the history of land ownership of each tribe in the concession. If there are issues / cases / events that affect changes in ownership patterns (eg cultural acculturation due to mixed marriage) then it needs to be explained as well.

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:
No, there is no completed annexes regarding participatory maps that created by communities for all villages. In addition, there is an absence of minimum requirement 0.5 ha per person for future garden explanation. In addition, reviewer found that the reports have mentioned about the activity of community which take house's material, hunts, and take some kind of nature resources from the forest to fulfil their basic need. HCV 5 should be there in the report, if no it should has explanation that the number of resources is not significant to be considered, not only judgement that HCV 5 is no longer as livelihood fulfilment. However, some of communities still worried if they will loose those resources because of PT KAP operations (refers to Minute of Meeting and in the report).

Reviewers Recommendation:
The company's response to recommendations (especially the fulfillment of 0.5 hectares for future land reserves) and claims that "the community is not disturbed by the planned development of PT KAP's oil palm plantations" must have adequate evidence, because if it refers to the MoM that is already available, the community still have consent, thus it is concerning that oil palm companies will enter the area. That is why a clear MoM track is needed (related to the company's response / feedback on these concerns and fears).

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. There is available record consultation in forms of Minutes of Meeting on the propoosed development, and issues/concerns they raised. Community also nominated their own representatives, but there is no evidence on this process.

Reviewers Recommendation: None. Recommendations have been addressed.

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:
No, not all communities views addressed in the plans and implementation of plantation, PT KAP only underlined that if there is adisagreement from community side, they will repeat the discussion for best result of negotiation. There is also letter form several villages that demand Head of Regency support them to not give PT KAP permittion to have operations in their area.

Reviewers Recommendation: None. PT KAP has developed a concrete plan to address communities views explained in the procedure by the concession.

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

Finding:
FPIC is the principles that emphasizes process to have community concerns widely for agreeing particular plan and/case. This process is requires need to be well recorded. In the reports, always mentioned that it involves communities on the process and use FPIC as principles in every discussion. Whereas, there are lots of evidence do not support that FPIC is being conduct transparently, seen by absence/lack of : community representatives nomination process, adequate gender representation nomination, discussion and negotiation process until community agree with PT KAP operations, action plan for communities who rejected PT KAP operations and its effects to total operations area of PT KAP.

Reviewers Recommendation:
N/A. Not all consents, namely community concerns and fears, are followed up with an action plan, because the FPIC MoM contains a summary of "community consent" without a note of feedback from the company. Improvements going forward, for the FPIC MoM should be noted with the model of

"questions and answers" that directly quotes questions, statements, and answers of FPIC participants, not just a summary of participants' statements and questions.

3.   Ecological and Conservation Values (4 hours)

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

Finding:
HCV study summary is well explained in Chapter 4 and provides overview of HCV study and its findings in the concensession. The summary provides total area for each kind of HCV and already serves the maps.

Basically, the summary is clear and accepted. However, there are a few things should be considered, including typing, spacing, and italic formatting. In addition, management reccomendation of the threats are only emphasizing internally scale, and unclear explanation on: the problem to resolve illegal minning and land clearing for gardenning. Also, it is related to integrated management partnership and stakeholder involvement in HCV management (which is unmentioned in the report). Furthermore, maps only displayed general conservation area without details information of HCV type in the shown certain location.

Reviewers Recommendation: None. The report has been revised.

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?

The HCV Report can be found in the SharePoint.

Finding:

HCV assessment has been conducted in 2011 by Aksenta, and exclude in HCV-RN review, so as formatting is not comply with ALS, including:

Information on project status "either include in expansion categorization or greenfield. The information date of production strating activity, the area and date of land clearing." Those informations require to be added in location description in the study (site).

Scoping study has not mentioned in the report.

Location description in general consist of: history concenssion permit acquisition, boundary with location study, location study in Kalimantan map, location study mostly in HPK. Nevertheless, there are some part of explanations that related to landscape and national/regional context which required to HCVRN are not fullfilled as ALS format, such as: (i) landscape boundary, although there was explanation PT KAL and regency landscape; (ii) the existence and condition of protected area in landscape, although there is biodiversity sourced from WWF which eplained mostly regarding series of forest land use change, also it seems difficult to be understand because it does not provide series of land use change in its surrounding; (iv) distribution of sp is important to be provided, biodiversity in the context of national/regional (such as EBA/IBA, the existence of Situs Ramsar, National Park, etc) has not mentioned explicitly, also for biogeograhpic zone characteristics; (v) land use surrounding location study (such as settlement, forestry, farming, infrastructure) has not explained yet briefly and clearly, this is related to land use history and development trends based on regional plan in location study; (vi) socio-economic context was mentioned, but need to be added community economy changes of the establishment of PT KAP, demographic is also in absence.

Found riparian zones that have dense vegetation is uncaptured in HCV 1, how are the steps to classify it?

Lack of land use change maps and IFL information brings reviewer faced difficulties to consider about HCV 2 existence

Justification of HCV 3 has not explained clearly. If the HCV assessment use toolkit of 2008 as the reference, then analysis of HCV should be adjusted accordingly to the toolkit. In case there is another reference, it better to be explained for HCV justification.

Rivers found have width 2-3 metres, justification as HCV 4.3 in unavailable

Reviewers Recommendation: N/A. Explanation to justify the HCV is accepted.

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?

Note that this is a check of procedures, not outcomes. The HCSA Toolkit provides more information on the expected quality of the RBA and the Pre-RBA.

Finding:

There is no explanation regarding Pre-RBA and Rapid Biodiversity Assessment in the document, whereas there are many patches of forest with low priority with size of > 10 hectares that need to be reviewed sequential through Pre-RBA/RBA.

Reviewers Recommendation: None. The study of Pre-RBA for patches according to the standard in toolkit HCS has been conducted.

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:

There are 7 points activities of management and monitoring forest conservation and development in this HCS document. One of the reccommendation is to conduct "HCS socialization to management, workers, village government, and surrounding communities, and colaborative involvement between company management and communities, explain the way how to do it, and what steps do company has to take to control and push down encroachment converted forest to plantation and illegal minning.

The document provided are outside the concession as conservation area.

There are overlapped HCS and HCV area and there is no reccommendation to manage and monitor those area (for example if the HCV area which overlaps with HCS is HCV 1, so how is the management and monitoring has to be conducted?)

Reviewers Recommendation: None. Moving forward, it needs to be added with routine and continuous patrol recommendations.

4.   Image Analysis (6 hours, including land use planning/Decision Tree Section 6 below)

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

The HCSA Toolkit explains how the AOI should be identified.

Finding:

Yes, concession boundary is correct, including buffer area 1 kilometers outside the concession is indentified.

Reviewers Recommendation: N/A

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

The HCSA Toolkit describes the expected quality of the images.

Finding:

Yes, image that has been used is Landsat 8 with 30 metres spatial resollution, recorded in 21 December 2017. This image is fullfiled requirement (<12 months from the observation) and cloud condition < 5 a little bit hazy in eastern of location study.

Reviewers Recommendation: N/A

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?

The HCSA Toolkit provides more information regarding the expected quality of the image analysis.

Finding:

Yes. Vegetation classification in the beginning step with segmentation semi automatically using OBIA, the homogenous of pixels is classified based on criteria. Overall total accuracy is 93%. It is explained that there is error classification in land cover classification as form of forest with medium density and scrub with mixed farmland.

Reviewers Recommendation: N/A

5. Forest Inventory (4 hours)

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.

The HCSA Toolkit describes the expected quality of the forest inventory process.

Finding:

Sampling points is counted base tool winrock calculator. Sampling point realization is 130 plots, but in the table 11 there are 127 plots. Sample plots are round with total 500 m². Initial distribution of sample plots plan is different with the realization in the field, alteration is being done as the limitation of access

Reviewers Recommendation: None. The report has been updated.

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

The HCSA Toolkit describes the expected qualifications of the forestry team.

Finding:

Yes, team has a good qualification, with background education in Bachelor of forestry and biology. Team leader is well experienced in carbon stock analysis in several locations. Other teams are still relatively new, but also experienced related to the forest inventory.

Reviewers Recommendation: N/A

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

The HCSA Toolkit provides more guidance on choosing an allometric equation.

Finding:

Allometric for biomass using formula that being developed by Kettering et al, and converted to carbon stock with IPCC formula of 0,47

Reviewers Recommendation: None. The report has been updated.

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?

The HCSA Toolkit provides more guidance on what statistical analysis should be used.

Finding:
Yes. Carbon calculation methodology and field visit photos is fullfiled (7.5 and 7.6). Carbon stock calculation allometric is appropriate (7.7). It has been conduct for t-test, to identify comparation between forest level and other vegetation level and average sample result is has difference (7.8)

Reviewers Recommendation: N/A

6. Land use planning (6 hours with Image Analysis above)

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?

The HCSA Toolkit provides more guidance on how to incorporate the forest inventory results into the land cover map.

Finding:
No. In the initial classifiaction of the map there was forest (HK2) of 225 hectares in the west of southern (Pictures 19 and 20) and that area has connection with forest landscape that lies outside the concession, but this area become non HCS after patch analysis is being conducted.

Reviewers Recommendation:
Forest of 225 hectares supposed protect as HCS area, because it has core of 92 hectares and directly connected with the forest outside the concession. Development of oil palm plantations, both nucleus and plasma, are not carried out on HCS land. If the community/ cooperation remains in the area, then the company can offer "take and give" as a substitute for the HCS area of the same size. Please add the "take and give" analysis to the area and after that update the map in Figure 28.

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?

The HCSA Toolkit explain how to merge patches and identify the core area.

Finding:
Participatory mapping conducted but there is no total area of the village (indicativelly) inside the concession. Patch and core analysis is being conducted within its connection, but in "take and give" is still confusing. There is HCS area in the initial identification, that become dissapear (become non HCS) after patch analysis process.

Reviewers Recommendation:
"Take and give" area should be mapped with same total area and provide also its description. HCV / HCS areas that are owned by the community must be enclaved by the company and the company must not make the area as a nucleus or plasma oil palm plantation

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?

The HCSA Toolkit explains how to prioritize patches and go through the Decision Tree.

Finding:
14 patch (> 50 from total HCS patches) decision tree result is take and give. Give area is smaller rather than take area. There is HCS area that has been excluded because of FPIC process (217 hectares) and overlapping area as plasma allocation (286 hectares).

Reviewers Recommendation:
Need to provide explanation that HCS area that being excluded will still to be maintained as forest or will develop to be palm oil plantation. The HCS area that has been identified should be maintained broadly and in existence. If it is not possible due to social or other factors, then the area will be "taken and given" in another location (Reviewers Recommendation 6.1). Please send HCS shapefiles before and after "take and give".

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:

In page 44, mentioned that kappa is 73, 6% and in page 83 mentioned that kappa is 88,62%. Total conservation area is 780 hectares (6,58%) is HCV area, HCS and overlap from both of it. It has made land use planning integrated of HCV, HCS and protected area by community. Management and monitoring plan of conservation area need to do participatorily.

Reviewers Recommendation: None. The kappa has been revised in the report.

The following is the kappa value in the Report HCS_Final 28092018.docx (Before revision).

Kelas Tutupan lahan	HDF	LDF	S	SH	OL	AGRI	Total	UA (%)	PA (%)
Hutan Kerapatan sedang (HDF)/HK2	4			2			6	66.67	33.33
Hutan Kerapatan Rendah (LDF)/HK1		9					9	100	100
Belukar (S)			64	6			70	91.43	8.57
Pertanian Campuran (SH)				19			19	100	100
lahan terbuka (OL)					9		9	100	100
Sawit (AGRI)						12	12	100	100
Total	**4**	**9**	**64**	**27**	**9**	**12**	**127**		
Total Nilai *Overall Accuracy*				93%					
Kappa Accuracy						73% (0,73)			

Note: *High Density Forest (HDF), Low Density Forest (LDF), Scrub (S), Open land (OL), Agriculture plantation (AGRI)*

Metode segmentasi multiresolusi dan klasifikasi *nearest neighbor* menghasilkan akurasi kappa sebesar 73,6 % (Koefisien 0.73). besar akurasi kappa 73,6 % membuktikan peta tutupan lahan yang dihasilkan sangat dapat dipercaya.

Laporan Stok Karbon Tinggi (SKT) PT Kahayan Agro Plantation — Page 44

Laporan Stok Karbon Tinggi (SKT) PT Kahayan Agro Plantation — Page 82

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10. Rencana Penggunaan Lahan Indikatif (Land Use Indicative)

10.1. Ringkasan dari Hasil Akhir Verifikasi Lapangan

Hasil analisis tutupan lahan telah dikoreksi dengan melalui analisis KAPPA sebanyak 130 titik sampling. Hasil analisis tutupan lahan menunjukkan nilai akurasi sebesar 92% dengan nilai kappa indeks sebesar 88,62% pada seluruh areal kajian PT KAP yang dianalisis.

10.2. Peta SKT Final