

HIGH CARBON STOCK APPROACH

HCSA PEER REVIEW REPORT

Company Name: Musim Mas

HCS Assessment Area: PT. Multipersada Gatramegah

Published Date: 19 November 2018

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?

The Carbon Stock Assessment (CSA) of PT MPG Estate I was conducted by Ata Marie on October 2014, while the CSA of PT MPG Estate II was conducted by Aksenta on May 2015. Both Ata Marie and Aksenta were not a HCSA Registered Practitioner Organization and none of the assessors are Registered Practitioner at the time of assessment. However, at the time this report is written, PT Ata Marie and Aksenta have already been listed as a Registered Practitioner Organization.

b) Was the HCS Team Leader a Registered Practitioner?

The HCS Team Leader for Estate I – Alex Thorp is a Registered Practitioner; while the HCS Team Leader for Estate II - Anwar Muzakkir is not a Registered Practitioner.

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

The Estate I Assessment Team are all Registered Practitioners; while Estate II Assessment Team are not Registered Practitioners.

d) Was the HCV assessment judged 'satisfactory' (highest rating) by the HCV Resource Network (HCVRN) Assessor Licensing Scheme (ALS)? (See <https://www.hcvnetwork.org/als/public-summaries>).

PT MPG Estate I: HCV Assessment was done prior to HCVRN ALS establishment (before January 2015).

PT MPG Estate II: HCV Assessment was submitted to HCVRN ALS and declared as satisfactory.

Questions for peer reviewers

(Peer Review Panel: Neville Kemp and Cynthia Chin)

1. Peer Review Summary

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

Finding:

Much improved. The report has to be read in the context of a historical assessment. Both HCS assessments were carried out before the guidelines (version1) were released and publicized widely. Therefore, even though there are major differences in methodology, sequence of process (e.g. participatory mapping of community lands was not carried out before the HCS was sampled and mapped) and patch analysis only recently carried out the results lead to a solid conclusion of available HCS and areas of No-Go (Conserve).

Concerns:

Initial concerns about the calculation of carbon stocks has been adequately addressed and the report improved upon.

This includes the correct representation of processes for initial land cover classification, refined classification (that includes the participatory mapping and land cover categories after field samples were taken) and the patch analysis.

The report describes well the SIA and avoidance of impacts on HCVs and community lands explained well.

Company Responses:

1. a) We have erroneously submitted the initial carbon stock data based on initial stratification instead of the one based on refined stratification. The error has been corrected and the revised carbon stock values are presented in the Summary Report.
- b) Participatory mapping of PT MPG Estate I was conducted in 2015 in Karamuan, Makunjung and Pendreh Village. The areas of PT MPG Estate II were covered in the activity because they are actually located inside the administrative territory of Pendreh Village. The result of participatory mapping shows that the YRF area was actually cultivated land owned by communities. The cultivated land is dominated by old rubber plantation, and some community oil palm. Another round of participatory mapping was conducted in 2018 to meet POIG requirement. Its result supported the finding of the previous participatory mapping. This is why the YRF is not appearing in the final HCS map.
- c) The reason why the scrub areas did not include in the final HCS map because based on the result of the participatory mapping, the scrub areas were predominately by cultivated land (rubber) and other areas such as open land and ex-cultivated areas. Furthermore, scrub areas are not HCS areas following the HCSA toolkit, hence scrub is not specifically marked in the final map.

2. a) The Initial land cover map presented in Figure 15.
- b) The elimination process is described in the HCSA summary report: The first elimination process is the ground truthing/CSA where some forested area is found to be cultivated land or shrub or open land. The second elimination process is the participatory mapping and patch analysis decision tree process which is available in HCSA SharePoint and provided in Shapefile. In the Shapefile we already show the elimination process and we do it step by step following the HCSA toolkit 2.0 on Patch Analysis decision tree.
- c) Participatory mapping was conducted to identify all land that belong to the local communities, the future land use of the land has also been consulted with the land owner during participative mapping. The areas that the land owners refused to be conserved and planned to be developed has been marked as cultivated land. During the patch analysis process, all the cultivated land that has been identified on the participatory mapping has been excluded from the potential HCS areas. This is the major reason why the potential HCS areas reduced from 3,347.35 ha to 1,960.38 ha. The detailed step by step process of the decision tree is available in HCSA SharePoint, provided in Shapefile.

On the minor comment on ambiguity on the actual area, our comment is as follows:

In chapter 1.1 we explained that PT MPG is divided into two estates, namely estate I ($\pm 9,278$ ha) and II ($\pm 3,848.32$ ha) with the total about 13,126.32 ha. In chapter 1.2 we explained that from the 3,848 ha of Estate II, approximately 2,650 ha is ex-HAL which have gone through satellite stratification, CSA and RSPO NPP, so only that area will be covered in this report and throughout this report this area will be referred as Estate II of PT MPG. So, the total area that covered in the report is $9,278 \text{ ha} + 2,650 \text{ ha} = 11,928 \text{ ha}$. What is missing in the report is $3,848.32 - 2,650.00 = 1,198.32 \text{ ha}$ is not mentioned. This area (1,198.32) has been planned to undergo Integrated HCS/HCV assessment by HCSA/HCVRN registered assessor and will undergo RSPO NPP process thereafter. We have included a statement "The balance of area (1,198.32 ha) has been planned to undergo Integrated HCS/HCV assessment by HCSA/HCVRN registered assessor and will undergo RSPO NPP process thereafter" in the Summary Report.

Regarding the table of Initial land use classifications and final classification after field C-stock surveys for each plot as well as the final HCS map including areas that were eliminated through the process, we already uploaded the additional supporting document to the HCSA SharePoint.

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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

Finding:

Yes. Ata Marie has carried out many successful HCS studies in the past and even though this was carried before the guideline was published, the methodology used was consistent.

Aksenta are a credible organisation that is now listed as an HCS Registered Practitioners, so it is assumed that the assessment team did have adequate resources. Areas where a reader may become confused are different methodology (although likely to yield the same result in terms of HCS areas) and less rigorous reporting and data provided to check for accuracy.

Reviewers Recommendation:

None.

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:

Consistency between the 2 assessors could have introduced weakness but the company has calibrated for this and presented a fair report that accurately describes HCS in the area.

Company Responses:

1. The initial classification map developed using the combination of supervised, unsupervised and visual classification and presented in Figure 15 and explained in Chapter 6.4 of the report.
2. The reason why there is an inconsistency has been explained in point 1.1 above. Carbon calculation for Estate II has been corrected in the summary report.
3. We have inadvertently used the initial map as the refined land cover map, which now has been replaced with correct map (see Figure 20).

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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:

FPIC and participatory mapping approaches were clearly stated for both Estates I and II (pp. 16-22 of the summary report). The SIA for Estate I was done in April 2012 while the same was done for Estate II in May 2015. Landscape level participatory mapping was done in November 2017 and 2018 for Estates I and II, respectively; and regular consultations with stakeholders are stated as part of the company's FPIC process. Unfortunately, this was done well after the HCS sampling in the field.

Reviewers Recommendation:

None.

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

Finding:

There was no mention of a tenure study for either estate. However, for Estate I & II, issues on tenure ship were identified and a social management plan has been recommended (Table 2 and p. 25 of the summary report). The report described the participatory mapping process and has a clear map of land cover types at the time of mapping.

Company Responses:

We have included land tenure information for Estate II in Table 3.

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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:

Figures 6 and 7 are the result of the participatory mapping done. Farming activities and intention are clearly detailed, with Table 1 indicating areas of village use (inclusive of overlaps with the company). The recommendations sections for both Estates I and II are adequate to address the threats reflected.

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:

Records of engagement are listed in the appendices of both the SIAs of Estates I and II. Representatives comprised a combination of elected community leaders, community members and government stakeholders. Positive and negative social impacts were recorded in the consultations in both Estates.

Reviewers Recommendation:

None.

- 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:

The company's SOP on FPIC mentions that consent is sought and when given, then further discussions on compensation or *ganti rugi*, etc. are held (p. 16 of the summary report). The participatory process is mentioned in several sections of the report; the process of engagement is on-going, with socialization, sharing and discussions being the mainstay of the engagement.

Reviewers Recommendation:

None.

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

Finding:

The FPIC process was clearly reiterated in the summary report, and the company has their own SOP on the process, which was detailed in pp. 15-16.

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:

HCV assessments were conducted separately for Estates I (2012) and II (2015). The methods used in the assessments were clearly stated in the summary report. The findings are separated into Estates I and II. Tables 4 and 5 list the HCVs identified, along with justification (in the text). Figures 9 and 10 depict the HCV areas identified for both estates respectively.

Company Responses:

The HCV assessment was conducted in April 2012. The results of the HCV are used as baseline information in developing the management & monitoring plan. The management and monitoring plan are prepared together with the consultants in 2012 through a workshop. The program has also been consulted with and approved by communities around the concession of PT MPG in 2012. Since then, PT MPG has implemented programs that have been crafted from 2013-now (2018). PT MPG also conducted yearly review of the programs. In its implementation PT MPG has also conducted stakeholder consultations with surrounding communities periodically to gather input for the evaluation of the implemented management and monitoring programs.

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

- 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:

Estate I was assessed prior to the establishment of the ALS scheme while Estate II has been judged satisfactory by the HCVRN. A cursory review was done for the HCV report for Estate I and it was found that the approach used followed the guidance laid out in the Proforest HCV Toolkit (2003). Each HCV was assessed, and their presence/absence justified according to the definitions in the Toolkit.

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:

This section mentions the results of the Pre-RBA and RBA but does not make reference to the methods used. The patch analysis was thorough and conserved patches were combined and reflected in the overall HCS map in Figure 21.

Reviewers Recommendation:

Make reference to the pre-RBA and RBA methods (minor as all patches outside concession).

Company Responses:

The description of pre-RBA and RBA process has been included on the revised summary report. From the 156 patches identified, there are 6 patches that need to go through Pre-RBA. All the six patches are actually located outside the concession of PT MPG.

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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:

This section emphasizes on the exclusion of HCS areas from land development plans, landscape level management (especially on awareness among communities), socialization of HCV areas and their management; as well as the need for collaboration to address threats.

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:

Yes.

Reviewers Recommendation:

The area of interest is well identified and considers the wider landscape (HCS are identified through landscape).

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

Finding:

Yes.

Reviewers Recommendation:

There is a good explanation of the quality of data sources and their suitability with a good process for filling gaps (cloud and shadow) as well as a comparison between 2014 and 2018 data sources (that is used to justify the gap between data sampling and reporting).

- 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:

A good initial land cover classification.

Company Responses:

We have inadvertently used the initial map as the refined land cover map, which now has been replaced with correct map (see Figure 20).

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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:

With total plot map and correct initial land cover map presented, the plots are adequate to determine potential HCS areas.

Reviewers Recommendation:

Correct initial land cover map presented in the report.

Company Responses:

1. We have inadvertently used the initial map as the refined land cover map, which now has been replaced with correct map (see Figure 20).
2. The actual points plot included in the revised summary report and the Shapefile has been uploaded to the HCSA SharePoint. We also included the Anova test in the summary report under Chapter 7.7.

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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

Finding:

Yes.

Reviewers Recommendation:

The team is qualified. The report has been much improved on second submission.

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

Finding:

Yes. Different allometric equations have been used. The allometric equation used in Estate II does not use tree height nor specific gravity of the wood species and tends to provide a higher estimate of ABG Carbon stocks compared to the used in Estate I (more conservative for HCS).

Reviewers Recommendation:

If the data is available (i.e. specific gravity), using the same equation throughout would be preferable.

Company Responses:

1. The discussions of allometric used in the summary report were presented in Chapter 7.5 and 7.7. In Chapter 7.5 the discussion is aimed to explain the process of the carbon calculation and the type of the allometric used. In Chapter 7.7 the discussion is aimed to explain the formula of the allometric used which is $W = 0.19999 \times D^{2.15}$. Furthermore, the Chapter 7.7 also discuss about the statistical significance test (Anova), hence we prefer to keep the current format.
2. There is no data for the specific gravity for every species. The allometric was taken from credible source.

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

- 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:

Some inconsistencies. The data provided for Estate I is very hard to review, and recalculation cannot be carried out (unlike previous report from the same consultant).

Reviewers Recommendation:

Calculations were calculated for Estate II and the company has explained the variance. The importance of Participatory Mapping before sampling is done in the field is demonstrated here. PM can improve accuracy, save costs of field teams and greatly enhance the HCS results.

Company Responses:

1. The assessor only provides the summary of carbon stock without the detail calculation, nevertheless the summary is sufficient to determine the carbon stock value of each land cover classification.
2.
 - a. The information about the initial land cover and final land cover included in the revised summary report and Shapefile has been uploaded to the HCSA SharePoint.
 - b. The assessor removed the non-HCS strata from the carbon analysis because the non-HCS strata are generally recognized as containing very low levels of biomass. However, they do take sample to those strata to confirm that the stratification is accurate.
 - c. For Estate II, we have inadvertently used the initial map as the refined land cover map, which now has been replaced with correct map (see Figure 20).
3. Calculation of the basal area has been corrected and the result is provided in the revised summary report. The unit has been revised to m^2ha^{-1} .

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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:

Yes, but should include the results of Participatory Mapping in “refined Land Cover Map”.

Initial error in first submission were corrected. Ideally, the “Refined Land Cover Map” should include Participatory Mapping.

Company Responses:

1. The reason why there are errors on the carbon value has been explained in point 1.1. The correct refined land cover map has been used for the carbon calculation.
2. Participatory mapping of PT MPG Estate I was conducted in 2015 in Karamuan, Makunjung and Pendreh Village. The areas of PT MPG Estate II were covered in the activity because they are actually located inside the administrative territory of Pendreh Village. The result of participatory mapping shows that the YRF area was actually cultivated land owned by communities. The cultivated land is dominated by old rubber plantation, and some community oil palm. Another round of participatory mapping was conducted in 2018 to meet POIG requirement. Its result supported the finding of the previous participatory mapping. This is why the YRF is not appearing in the final HCS map.

Final Reviewers Recommendation:

The company has provided explanations and the issues have been resolved.

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:

Still requires clarification.

Reviewers Recommendation:

Company clarified that the revised land use map and Participatory Mapping were used in the patch analysis. However, for Estate II, the HCS was carried out in 2015, and the PM in 2018. Results show that Oil Palm development has taken place and the parties responsible should be clarified in the report. There are some patches outside of cultivated land (as per revised land cover classification map (2015)) that could have been displaced between 2015 and 2018. HCSA need to define when this HCS assessment “took effect” (2015 or 2018 when PM was carried out in Estate II).

Company Responses:

This miss understanding happened because we have inadvertently used the initial map as the refined land cover map, which now has been replaced with correct map (see Figure 20).

Final Reviewers Recommendation:

The company did not resolve the issue of oil palm development within Estate II between 2015 and 2018.

Final Company Responses:

The oil palm was planted by the previous owner (PT HAL) between years 2015 / 2018 in the area that was identified as cultivated land after successfully completed the NPP process in July 2015.

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:

Yes. The decision Tree was used correctly.

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:

See 6.2 above. There is still an anomaly due to the difference between years – 2015 / 2018 in Estate II. The earlier “refined Land Cover map” shows Scrub and YRF - potential areas for HCS patches. PM maps (2018) shows Oil Palm.

Reviewers Recommendation:

More clarity on development dates for oil palm needed

Company Responses:

We have inadvertently used the initial map as the refined land cover map, which now has been replaced with correct map (see Figure 20).

Final Reviewers Recommendation:

This explanation does not answer the issue – when and who developed oil palm.

Final Company Responses:

The oil palm was planted by the previous owner (PT HAL) between years 2015 / 2018 in the area that was identified as cultivated land after successfully completed the NPP process in July 2015.