

Summary Report of SEIA and HCV Assessments PT Megasurya Mas Jayapura Regency, Papua Province

Executive Summary

PT Megasurya Mas which located at Soskotek Village Kaureh District and Pagai Village Airu District, Jayapura Regency - Papua Province, is one of palm oil plantations companies that adopted the sustainable palm oil practices based on RSPO New Planting Procedures which was enforced on 1st January 2010. As part of a sustainable palm oil management, PT Megasurya Mas has conducted the Social Environment Impact Assessment (AMDAL), High Conservation Value (HCV) identification and Social Impact Assessment (SIA). The HCV and SIA assessment were conducted from 11th February 2013 – 13th March 2013 by Aksenta; the key consultants conducting these assessments have been accredited and approved by RSPO.

The Permitted Area (Izin Lokasi) was approved on 9th May 2011 by Jayapura Regent Decree (Surat Keputusan Bupati Jayapura) No 119 Year 2011 ± 21,776 ha. The Consent License (Izin Prinsip) for PT Megasurya Mas was approved on 30th May 2011 by the Investment Coordinating Board Papua Province No 525/ 237 with total area 21,776 ha. The proposed project area of PT Megasurya Mas has been released from Production Forest area, can be converted to oil palm plantations and was approved on 21st February 2012 by the Minister of forestry Republic of Indonesia (Keputusan Menteri Kehutanan) No SK. 111/MENHUT-II/2012. The Social Environment Impact Assessment (AMDAL) was approved by AMDAL Commission of Jayapura Regency No 660.1/01-ANDAL/XII/2012 dated 7th December 2012. Environmental Feasibility of Oil Palm Plantation Development Plan and Mill Processing was approved by Regent of Jayapura Decree (Surat Keputusan Bupati Jayapura) No. 3 Year 2013. The Environmental Permit (Izin Kelayakan Lingkungan) was approved by Regent of Jayapura Decree No. 6 dated on 16th January 2013. The Plantation Permit (Izin Usaha Perkebunan, IUP) was approved on 11th April 2013 by the Investment Coordinating Board Papua Province (Badan Koordinasi Penanaman Modal) Nomor : 04/94/IUP/PMDN/2013; the total area is 13,389.60 ha.

Based on Permitted Area (Izin Lokasi) boundary and map of Forest & Water Bodies (2012), HCV assessment indicated that the concession areas of PT Megasurya Mas is under Area for Other Uses (Areal Penggunaan Lain, APL). The Social Environment Impact Assessment (AMDAL) report also indicated the project area is logged-over ex-convertible production forest (HPK). The Permitted Area of PT Megasurya Mas consists of the logged over area (±10,061 ha), (SK.111/MENHUT-II/2012 The release of the convertible production forest) and primary forest (± 2,000 ha). Primary forest in the Decree (SK.111/MENHUT-II/2012) will serve the purpose as wildlife corridors, habitat of protected flora and fauna and also buffer zone of the conservation area. The said primary forest area has been included into the HCV area. The Report of Evaluation on Land Suitability for Oil Palm

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Plantation by consultant (Aksenta) indicated that the soil of project site comprised of mineral soil 96.3% and peat soil 3.7%.

Permitted Area still holds important HCV biodiversity elements, i.e. species that are globally endangered, endemic species or distribution-limited and natural ecosystems that are threatened with extinction. There are five types of HCV identified in the PT Megasurya Mas, i.e. HCV 1, HCV 3, HCV 4, HCV 5 and HCV 6. The identified HCV area was $\pm 2,785.9$ ha or $\pm 20.8\%$ of the total Forest Released area (Pelepasan Kawasan Hutan) of PT Megasurya Mas. The important elements of HCV 1 are a. conservation areas within or adjacent to the Permitted Area PT. Megasurya Mas (HCV 1.1), b. Threatened and endangered species (HCV 1.2), c. Endemic species and restricted range (HCV 1.3), d. Areas that contain habitat of temporary use by species or congregations of Species, such as reproduction and population genetic enrichment (HCV 1.4). The elements of HCV 3 cover the natural ecosystems that are endangered/ threatened like Peat Swamp Forest with still good condition. Key elements of HCV 4 cover water catchments area at hilly area, water source and temporary water catchments area (HCV 4.1), erosion control and sedimentation area (HCV 4.2) and area providing barriers to destructive natural fire (HCV 4.3). HCV 5 covers area fundamental to meet basic needs of local communities. HCV 6 covers area that is sacred to local community.

The presence and development of oil palm plantations in the Permitted Area will have impact on the livelihood of the local community: 1) Changes in land tenure and land use. 2) Open the accessibility to the public and trade flows of forest products. 3) Substantial funds for the community as a result of land compensation, 4) potential rift between tribes / clans and communities because of social resentment.

Positive perception of most people as well as good communication support from on-site company staff have make the risk of social problem relatively low. The social risks that need attention are the risks related to issues, either given issue or a new issue arise due to the presence of the company. Some potential risks to be anticipated are: Dispute by the younger generation on the agreement taken by the current generation, Ddisturbance by community or tribe/ clan who does not have the right on compensation, and social rift due to lack of credible institutions and mutual understanding in managing smallholder scheme (Financial).

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Scope of SEIA and HCV Assessment

General Data of the Company

| | | |
|--------------------------------------|---|---|
| Company Name | : | PT Megasurya Mas |
| Company Address | : | Jl. Tambak Sawah Nomor 32 Desa Tambakrejo Kecamatan Waru, Kabupaten Sidoarjo, Propinsi Jawa Timur, Indonesia |
| Deed of Establishment | : | No. 8 dated on 08 th January 1992, Notary Tjitra Sasanti Djarmiko, S.H. |
| Adjustment Article of Association | : | No. 5 dated on 28 th December 2009 Notary Tjitra Sasanti Djarmiko, S.H. |
| Capital Status | : | Domestic Investment (Penanaman Modal Dalam Negeri, PMDN) |
| Type of business | : | Oil Palm Plantation & Processing |
| Status of concession land | : | Permitted Area (Izin Lokasi) (No. 119 Year 2011, dated 9 th May 2011) Consent License (Izin Prinsip) (No. 525/237 dated on 30 th May 2011) Release of Forest Area (No SK.111/MENHUT-II/2012 date on 21 st February 2012). AMDAL (SEIA) (No. 660.1/01-ANDAL/XII/2012 dated on 7 th December 2012) Environmental Feasibility of Oil Palm Plantation Development Plan and Processing (No 3 year 2013 dated on 15 th January 2013). Environmental Permit (Izin Kelayakan Lingkungan) (No 6 Years 2013 dated on 16 th January 2013). Plantation Permit (Izin Usaha Perkebunan) No. 04/94/IUP/PMDN/2013 dated on 11 th April 2013. |
| Contact person | : | Mr. Go Swee Aun |
| Geographic Location | : | District of Kaureh and Distrik of Airu. Jayapura Regency, Papua Province. |
| Surrounding Entities | : | North : Protected Forest East : Protected Forest West : Area for other uses (APL, PT Siringo Ringo) South : Wildlife Conservation Area Mamberamo Foja. |

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The scope of Social and Environment Impact Assessment (AMDAL) of PT Megasurya Mas covers the social entities within the Permitted Area (Izin Lokasi). Geographically, the High Conservation Value assessment covers the Permitted Area (Izin Lokasi) of PT Megasurya Mas and its surrounding area. HCV assessment in this unopened area (landbank) are intended to comply with the requirements of the RSPO Criterion 7.3 about New Planting Procedures (NPP). The maps shown are the release of forest area map, based on Forest Decree Release (Surat Keputusan Pelepasan Kawasan Hutan) No. SK.111/Menhut-II/2012.

Based on the scope of the activity stages, HCV study of PT Megasurya Mas is a full assessment, assessment process which comprised of all stages in HCV identification: (i) *desktop study, pre-assessment*, (ii) planning of field activities, (iii) implementation of field activities: HCV Identification, access the current status and the landscape context, and (iv) Report preparation of HCV assessment result.

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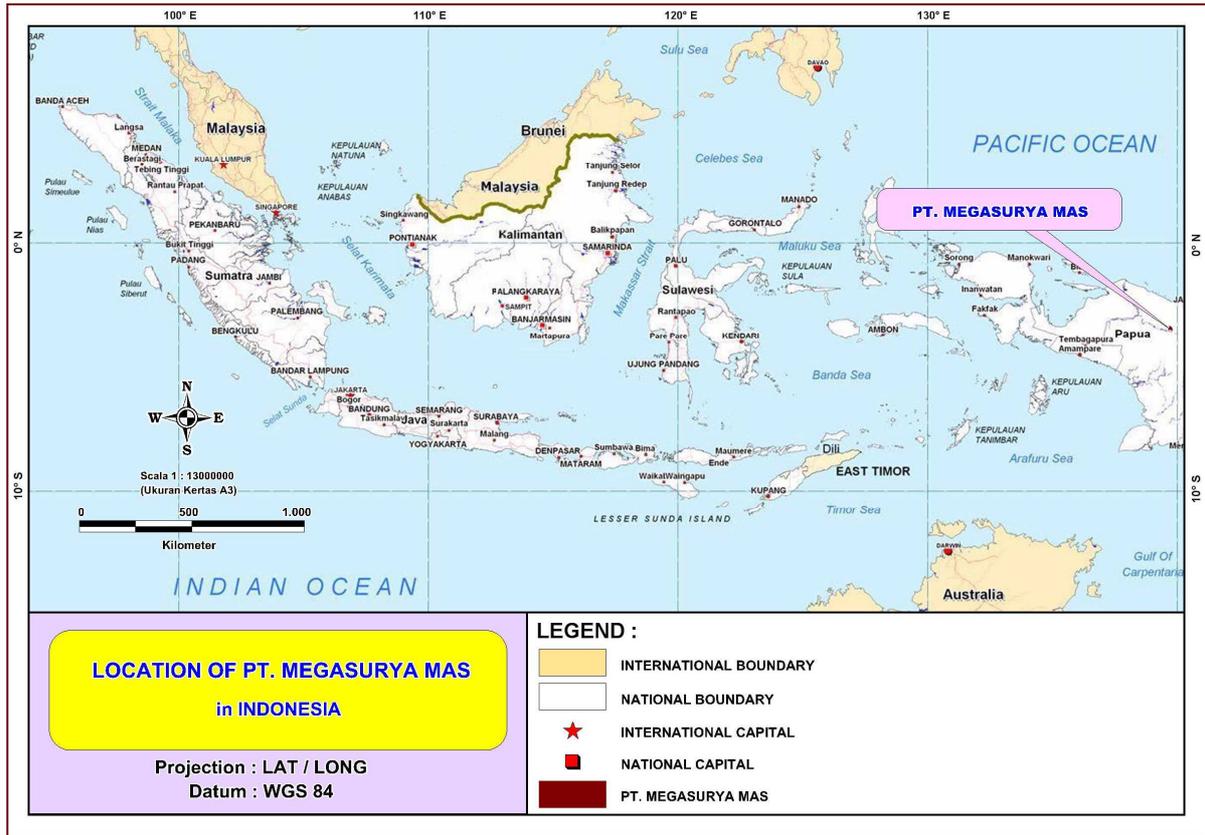


Figure 1. Location of PT Megasurya Mas in Indonesia

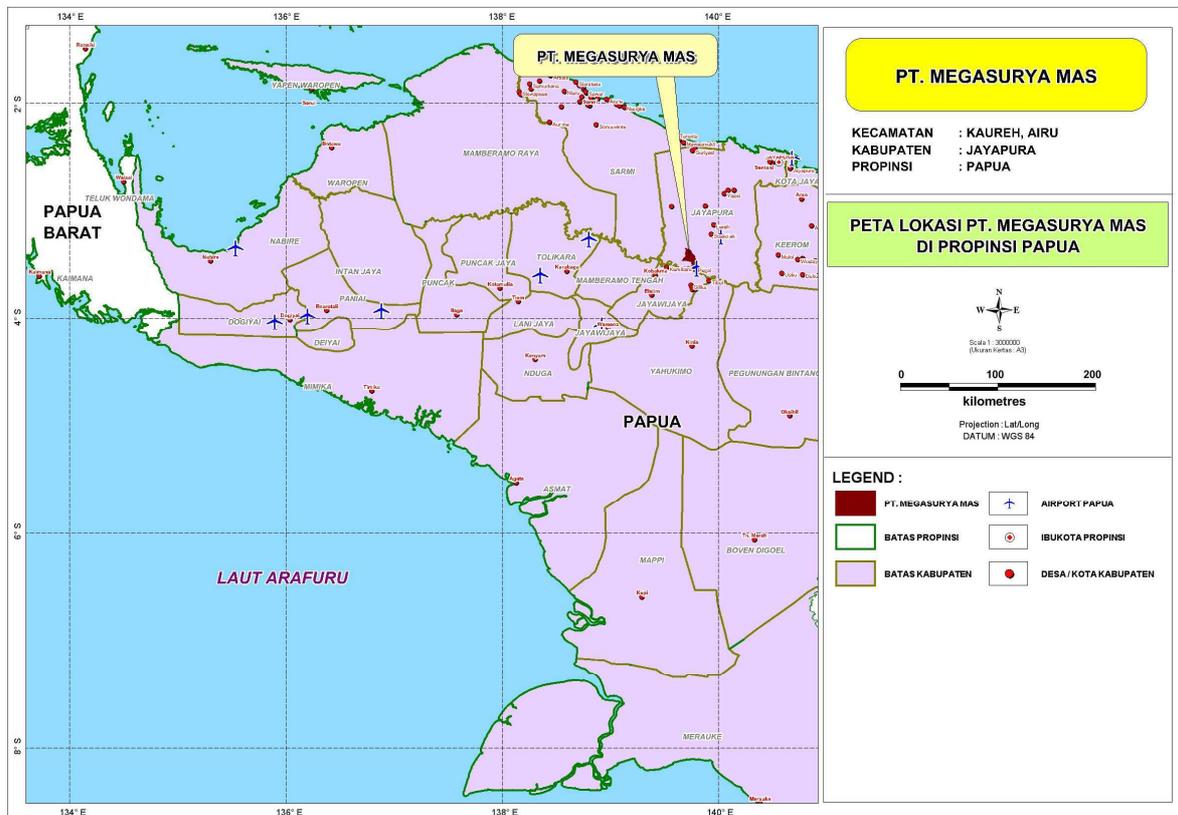


Figure 2. Location of PT Megasurya Mas in Papua Province

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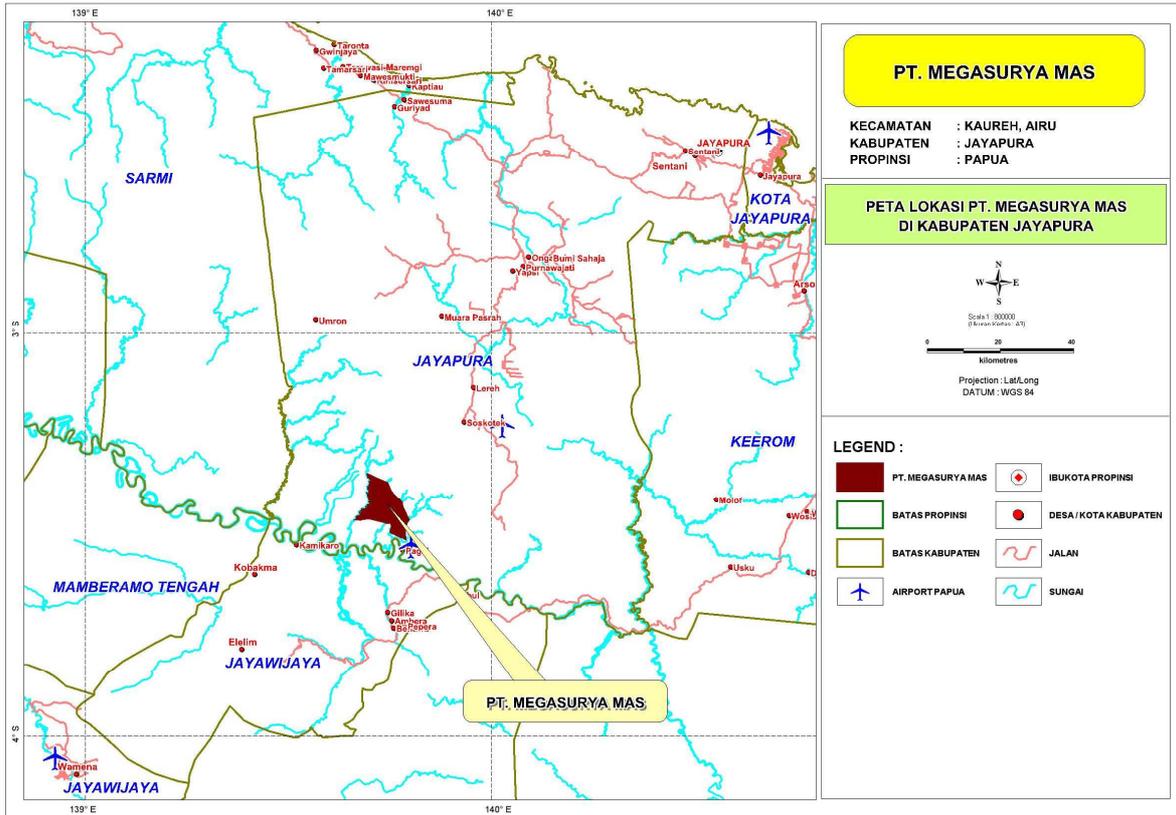


Figure 3. Location of PT Megasurya Mas Jayapura Regency

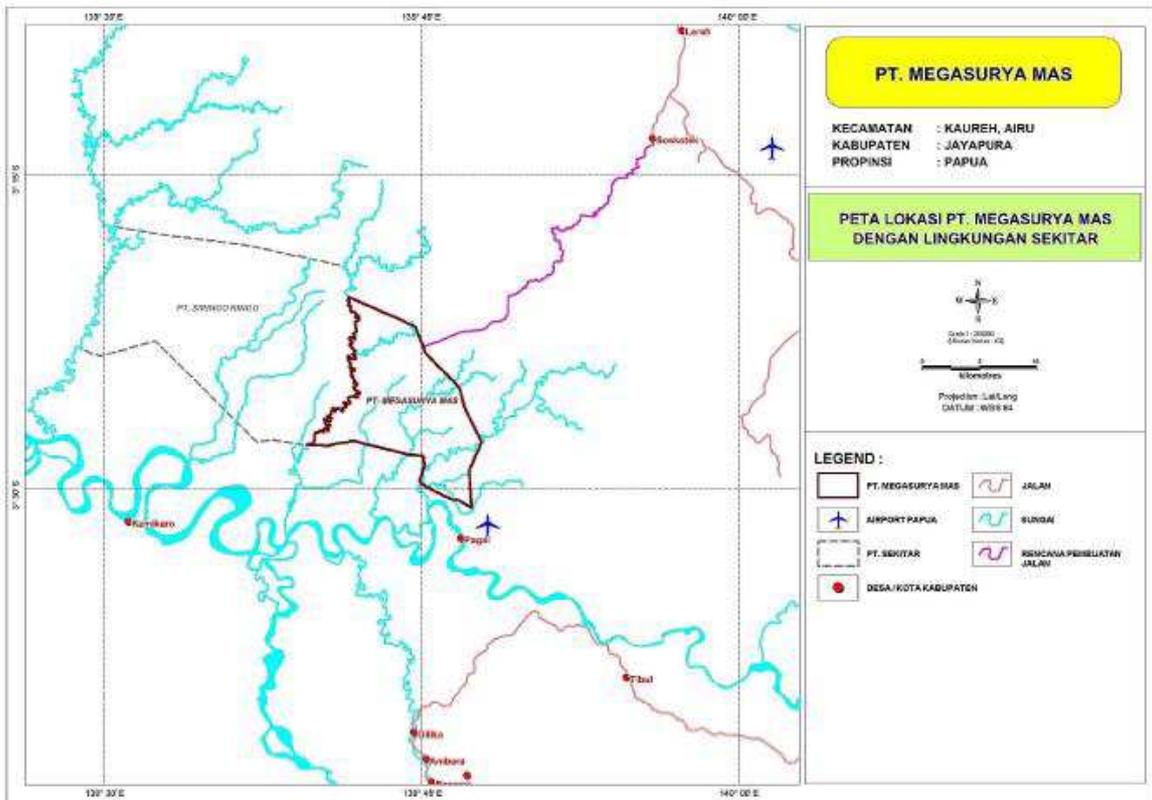


Figure 4. Location of PT Megasurya Mas and its surrounding entities

Permits

The permits that have been obtained by the company include Permitted Area (Izin Lokasi), Consent License (Izin Prinsip), Release of Forest Area (Pelepasan Kawasan Hutan), Social Environment Impact Assessment (AMDAL), Environmental Permit (Izin Kelayakan Lingkungan) and the Plantation Permit (Izin Usaha Perkebunan). The followings are the list of the licenses and recommendations:

Table 1. Types of permits and recommendations of PT Megasurya Mas

| No. | Licenses and recommendations | Issued by | Number and date | Note/ Ha |
|-----|---|--|--|------------------------|
| 1 | Deed of Establishment | Notary Tjitra Sasanti Djatmiko, S.H | No. 8 dated on 08 th January 1992 | |
| 2. | Amendment to Article of Association | Notary Tjitra Sasanti Djatmiko, S.H. | No. 5 dated on 28 th December 2009 | |
| 3. | Taxpayer Notification Number | Tax Serve Office (Direktorat Jenderal Pajak) | 01.546.053.8-641.000 | Registered 25-02- 1992 |
| 4. | Permitted Area (Izin Lokasi) | Regent of Jayapura (Bupati Jayapura) | No. 119 dated on 9 th May 2011 | 21,776 ha |
| 5. | Consent License (Persetujuan Prinsip Izin Usaha Perkebunan) | Investment Coordinating Board Papua Province | No. 525/237 dated on 30 th May 2011 | 21,776 ha |
| 6. | Release of Forest Area | Minister of forestry Republic of Indonesia | No. SK.111/MENHUT-II/2012 dated on 21 st February 2012 | 13,389.60 ha |
| 7. | AMDAL (Social Environment Impact Assessment) | AMDAL Commission | No. 660.1/01-ANDAL/XII/2012 dated on 7 th December 2012 | |
| 8. | Environmental feasibility license | Regent of Jayapura | No 3 dated on 15 th January 2013 | |
| 9. | Environmental permit | Regent of Jayapura | No 6 dated on 16 th January 2013 | |
| 10. | Plantation Permit (Izin Usaha Perkebunan) | Investment Coordinating Board Papua Province | 04/94/IUP/PMDN/2013 dated on 11 th April 2013 | 13,389.60 ha |

Area and time-plan for new plantings

The proposed new planting area by PT Megasurya Mas is in the location of Permitted Area (Izin Lokasi) which has obtained 'release of forest land', Plantation Permit (Izin Usaha Perkebunan) and also agreed by the land owners through the Free Prior Informed Consent Process (Report on Process of FPIC – Free Prior Informed Consent). Land development and planting of oil palm will begin in 2014 following the procedures of the RSPO New Planting Procedures (NPP).

Assessment Process and Procedures

SEI Assessment

Assessors and their credentials:

The Social Impact Assessment of PT Megasurya Mas was carried out by Aksenta which located at Jl. Gandaria VIII/10, Kebayoran Baru, Jakarta 12130; Telephone/fax: +62 21 739-6518, E-mail: aksenta@aksenta.com. The key consultants conducting these assessments have been accredited and approved by RSPO. The team members are:

1. **Andri Novi**, a Literary from Padjajaran University, Bandung with science culture literature and linguistic culture. Experienced in Participatory Action Research and Community Development. Participate as a consultant, facilitator and trainer in programs such as Partnership Program for Development (YAPPIKA and CUSO), Building Institutions for Good Governance Conference (ICMA-USAID), Local Governance Support Program (USAID), Health Services Program (USAID) and Cities Poverty Eradication Programme. Involved in program and project management of natural resources such as Berau Forest Management Project, Berau Forest Bridging Project, South Central Kalimantan Production Forest Project, Multistakeholder Forestry Programme and Forest Certification Training Project (TNC & WWF). Accredited by the RSPO as Discipline Specialist with specialization HCV 5 and 6. contact: andri.novi@aksenta.com
2. **Eko Cahyono**, completed his study at the Ushuluddin Faculty, Islamic University of Yogyakarta (2004) and Master of Science at Rural Sociology graduate Bogor Agricultural University (2012). Becoming a Teacher Team (Diploma Bogor Agricultural University) and teaching assistant at the Faculty of Human Ecology Bogor Agricultural University (2011-2012), courses Social Change, Collaborative Management of Natural Resources, and Social Research Methodology. From 2007-present, a researcher and facilitator empowering rural communities in Sajogyo Institute and a researcher (freelance) in the study of socio-agrarian countryside in some other institutions, the Foundation Silvagama, PSP3-IPB, STPN-Yogya, PSB-IPB, etc.. Some research results published in the media / journals / books (Kontan, Seputar Indonesia, Basis Journal, Journal of Politica, Journal Renai). As an independent consultant, he is experienced in conducting social assessment and facilitation of community development-related themes rural sociology, poverty, agrarian, conflicts, social movements and political ecology. Contact: eko.cahyono@aksenta.com
3. **Sabeni**, completing undergraduate studies at the Faculty of Forestry, Bogor Agricultural University. In the course of his career was never away from the things related to the environment, forestry and natural resources. His interest in social development, especially in the processes of community development, he has enriched the sharper will analyze the social impact of the

presence of a project. He has extensive expertise and experience in the field of conservation and social-participative decision making, as well as a trainer for the analysis of environmental processes and environmental audits. He is experienced in conducting social analysis in the forestry sector, especially for industrial plantations, and is currently in the process of registration as a disciplin Specialist RSPO accreditation. In this assessment it conducted a study in social institutions and policies. contact: sabeni@aksenta.com

4. **Wahono**, completing undergraduate education Faculty of Agriculture, Plant Protection Bogor Department of Agricultural University. His experience in the field of agriculture and rural environments do with IPM-FAO, Nastari Institute and the People's Coalition for Food Sovereignty through social studies, sustainable agriculture and environmental health as well as info-mobilization for community development. He deepened his expertise in bio-ecology by following Certificate Course for Conservation Biology and People on the Landscape, Center of Environmental Research and Conservation (CERC), Columbia University, New York City. As an independent consultant he experienced in rural social studies, community facilitation and field surveys related to capital socio-ecology, sustainable livelihood and community development. His role in this study was as Chairman of the Social Impact Assessment. Contact: wahono@aksenta.com

Assessment Methods (Data sources, data collection, dates, program, and visited places)

Consistent with the assessment model, and considering the time limit available, SIA assessment using the principles of the methodology of rapid rural appraisal (RRA). One of the principles used in the RRA SIA study is the principle of triangulation (round triangle / check and recheck). This triangulation principle includes three things:

- 1) The composition of the multi-disciplinary team of researchers with scientific.
- 2) Observation units were purposively selected through three types of strata, categories or classes.
- 3) Methods, tools or techniques used in data collection were also done with a variety of techniques. The SIA study using the technique of literature studies, in-depth interviews, Focus Group Discussion (FGD) and observations on the ground (List of stakeholders in a participatory process contained in **Appendix 1**).

The methods and techniques applied in the Social Impact Assessment were:

1. **Literature Study**; this method was used for the purpose of gathering the understanding on the socio-context and environmental aspect of the location which was evaluated. It was carried out in the early phase-before going to the field and at the result analysis phase.

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2. **Dialogue;** this method was used to identify the nature of the relevant parties, identify the potential issues to impact, gathering information about expectations, ideas, and opinions to bring the solutions for the actual issues. The process was carried out through the meetings both in formal and in non-formal sequence with definite topics (Focus Group Discussion),
3. **Field Observation;** this method was used to understand directly the actual facts which will be indicator of the issues and social impact happened,
4. **In-depth Interview;** it was used to get a deeper understanding about the issues. It was done in-depth by interviewing the key socialite who will act as respondents. The criteria of choosing the respondents were based on the knowledge possessed or their direct experience over the impact or impacts,

The stages in the Social Impact Assessment, are as follows;

- Secondary data analysis (pre-ground)
- Socialization of SIA to the to the management, management unit and staff of the company through presentation and discussion.
- Field Assessment, conducted through interviews and discussions.
- Consult internal and external stakeholder representatives through group discussion.
- Review of relevant documents
- Convey the preliminary result of the study to the management, management unit and staff of the company through presentation, discussion and input

The data obtained from the documents and the field are then processed and analyzed in accordance with the facts and the findings of field resources and supporting field data. The approaches used in this study consist of participatory, consultative and in rapid approach, then part of the analysis process was also carried out with the community. Participatory analysis is conducted primarily with regard to socio-economic conditions in the Permitted Area or around the location of PT Megasurya Mas Summarized the effect of the issue on the ground, and then analyzed using the framework of livelihood sustainability or pentagon capital. 1) *Human capital*, 2). *Natural capital*, 3). *Social capital*, 4). *Physical capital*, and 5). *Financial capital*. Social impact and potential risks assessment arising from the development of oil palm plantations are analyzed with several analysis tools besides stakeholder analysis and social risk analysis.

HCV Assessment

Assessors and their credentials

The HCV assessment in the Permitted Area (Izin Lokasi) of PT Megasurya Mas was carried out by the RSPO accredited assessor. The HCV assessment was conducted from 14th February – 13th March 2013 in the Permitted Area (Izin Lokasi) of PT Megasurya Mas was carried by Aksenta, located at Jl. Gandaria VIII/10, Kebayoran Baru, Jakarta 12130; Telephone/fax: +62 21 739-6518, E-mail: aksenta@aksenta.com. Key consultants from Aksenta have been accredited and approved by RSPO. The team members are:

1. **Resit Sozer**, Master's degree in Tropical Ecology at the University of Amsterdam (UvA). Expertise and experience in the field of wildlife management; study habitat and population, as well as wildlife conflict mitigation. Currently, in addition to consulting with HCV, manage wildlife rescue center in Sukabumi. Competence in the assessment of HCV has been recognized by the RSPO and the entry in the list of RSPO HCV Accredited Assessor - Team Leader, and in charge of identifying HCV 1, 2, and HCV 3. Contact: resit@aksenta.com.
2. **Andri Novi**, a Literary from Padjajaran University, Bandung with science culture literature and linguistic culture. Experienced in Participatory Action Research and Community Development. Participate as a consultant, facilitator and trainer in programs such as Partnership Program for Development (YAPPIKA and CUSO), Building Institutions for Good Governance Conference (ICMA-USAID), Local Governance Support Program (USAID), Health Services Program (USAID) and Cities Poverty Eradication Programme. Involved in program and project management of natural resources such as Berau Forest Management Project, Berau Forest Bridging Project, South Central Kalimantan Production Forest Project, Multistakeholder Forestry Programme and Forest Certification Training Project (TNC & WWF). Accredited by the RSPO as Discipline Specialist with specialization HCV 5 and 6. Contact: andri.novi@aksenta.com.
3. **Fersely G. Feliggi**, Bachelor of Geophysics and Meteorology, F-MIPA, Bogor Agricultural University. Active in assessment related to meteorology, climatology and hydrology. Experienced in the field of mapping, spatial analysis, and remote sensing applications for natural resource management, water resource management and watershed management (DAS), and environmental risk assessment. In this study he identifies and handles affairs HCV 4 GIS. Contact: getsa@aksenta.com.
4. **Yanto Ardianto**, graduated from agrometeorology IPB, he is now working as GIS officer. His part of job that frequently done related to the spatial modeling to hydrology and agriculture and the analyze system to development the system. The activities that he has done are the system arranging of budget planning information in the Direktorat Jenderal RLPS Forest Department,

the Arranging of Spatial Decision Support System to land use arranging (Central Java Province), the Arranging of IWMS (Industrial Waste Monitoring System) to The Ministry of State For The Environment, Critical Land's mapping in the area of BP DAS Sadang, South Sulawesi. In this study he identifies and handles affairs HCV 4 GIS. contact: yanto@aksenta.com.

Assessment Methods (Data sources, data collection, dates, program, and visited places)

Geographically, the High Conservation Value assessment covers the Permitted Area (Izin Lokasi) of PT Megasurya Mas. HCV assessment in this unopened area (landbank) and are intended to comply with the requirements of the RSPO Criterion 7.3 about New Planting Procedures (NPP). The maps shown are the map based on Forest Release Decree (Surat Keputusan Pelepasan Kawasan Hutan) No. SK.111/Menhut-II/2012.

Based on the scope of the activity stages, HCV study of PT Megasurya Mas is a full assessment, assessment process which comprised of all stages in HCV identification: (i) *desktop study, pre-assessment*, (ii) planning of field activities, (iii) implementation of field activities: HCV Identification, access the current status and the landscape context, and (iv) Report preparation of HCV assessment result.

Field surveys were conducted from 14th February – 13th March 2013, with assistance of PT Megasurya Mas management team. Total sites visited during the assessment process were as much as 166 points with 160 miles trails survey. The distribution of sites visited during the HCV assessment is shown in **Figure 5**.

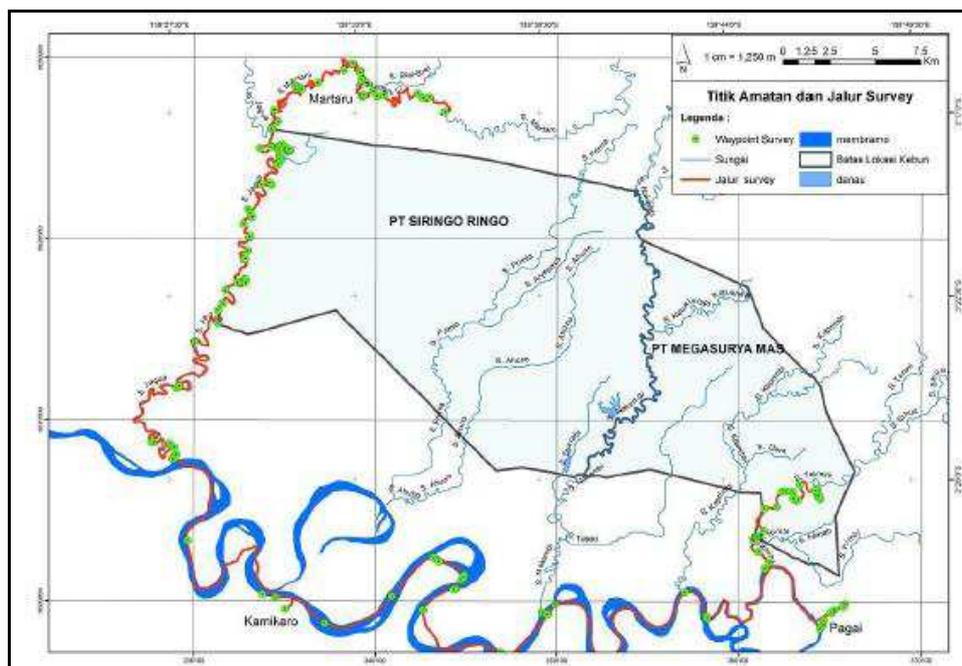


Figure 5. Distribution of the observation spots

The understanding and scope of HCV for the oil palm plantation sector refers to the HCVF definitions which apply to the forestry sector. The Identification of High Conservation Value in Indonesia was developed by the Konsorsium Revisi HCV Toolkit Indonesia (2008), *The High Conservation Values Forest Toolkit* (ProForest, 2003); *Good Practice Guidelines for High Conservation Value Assessment: a Practical Guide for Practitioners and Auditors* (ProForest, 2008). Other references are such as IUCN, CITES, and other guidelines as well as the relevant laws of Indonesia were also subjects of consideration in HCV Assessment of PT Megasurya Mas.

Table 2. The main sources of data and information assessment HCV

| HCV Type | The main sources data |
|----------|---|
| HCV 1 | <ul style="list-style-type: none"> • Peta Penunjukan Kawasan Hutan dan Perairan Provinsi Papua (Kementerian Kehutanan, Direktorat Jenderal Planologi Kehutanan, 2012). • Tutupan lahan dari citra satelit Landsat ETM+ 7 SLC-Off (USGS, 2012). • Burung-burung di Mimika (van Balen et al. 2005). • Freshwater Fishes of the Timika Region (Allen et al. 2000). • Keystone Species Papua. Indonesia Biodiversity CHM, http://www.indonesianchm.or.id • Kura-kura dan Buaya Indonesia & Papua Nugini, dengan Catatan mengenai Jenis-jenis di Asia Tenggara. IUCN, ITB dan World Bank (Iskandar, D.T., 2000). • Status Keterancam Species, sumber: www.iucnredlist.org, Downloaded in January 2012. • Appendices I, II and III, valid from 3 April 2012. UNEP, Geneva, Switzerland. Downloaded in 1 October 2012. (CITES, 2012). • The Ecology of Papua. The Ecology of Indonesia Series, Volume V & VI. Periplus Edition, HK. (Marshall A. J. & Beehler, B. M. 2007). • Endemic Bird Area Factsheet: Sumatera and Peninsular Malaysia (BirdLife International, 2012). Downloaded from http://www.birdlife.org on 29/08/2012. • Important Bird Areas in Asia: Key Sites for Conservation. (Birdlife Conservation Series No. 13. Cambridge, UK. (Birdlife International, 2004) • Area Ramsar di Indonesia, sumber: http://www.ramsar.org/cda/en/ramsar-pubs-notes-anno-indonesia/ |
| HCV 2 | <ul style="list-style-type: none"> • The Ecology of Papua. The Ecology of Indonesia Series, Volume V & VI. Periplus Edition, HK. (Marshall A. J. & Beehler, B. M. 2007). • Tutupan lahan dari citra Landsat ETM+7 tahun 2012. • Area Ramsar di Indonesia, sumber: http://www.ramsar.org/cda/en/ramsar-pubs-notes-anno-indonesia/ • Terrestrial Ecosystems of New Guinea. WWF, http://wwf.panda.org |
| HCV 3 | <ul style="list-style-type: none"> • The Ecology of Papua. The Ecology of Indonesia Series, Volume V & VI. Periplus Edition, HK. (Marshall A. J. & Beehler, B. M. 2007). • Tutupan lahan dari citra Landsat ETM+7 tahun 2012. • Peta-peta Sebaran Lahan Gambut dan Kandungan Karbon di Pulau Papua (Wetlands International, 2006) • Indonesia Biodiversity CHM, http://www.indonesianchm.or.id • Heathland; Terrestrial Ecosystems of New Guinea. WWF, http://wwf.panda.org |
| HCV 4 | <ul style="list-style-type: none"> • Tipe genetik pola curah hujan di Indonesia (Winarso dan Mc.Bride, 2002). • Data curah hujan di wilayah kajian dan sekitarnya tahun 2002-2011 (TRMM). • Data iklim di wilayah kajian dan sekitarnya tahun 1979-2010 (NCEP CSFR) |

| HCV Type | The main sources data |
|-----------------|--|
| | <ul style="list-style-type: none"> • Peta sistem lahan (RePPProT, 1989). • Data Digital Elevation Model Shuttle Radar Topography Mission (USGS, 2000). • Tutupan lahan dari citra satelit Landsat 7 ETM+ tahun 2000 dan 2009 SLC-Off (USGS). • Peta Jenis Tanah (Tim Soil Survei Aksenta, 2013) • Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Surveys (Soil Conservation Service USDA, 1975) • Section 4: Hydrology In National Engineering Handbook (SCS USDA, 1972) • Peta Indikatif Penundaan Pemberian Izin Baru Pemanfaatan Hutan, Penggunaan Kawasan Hutan, dan Perubahan Peruntukan Kawasan Hutan dan Areal Penggunaan Lain (Revisi III) - Lembar 3312 dan 3412 (Kementerian Kehutanan, 2012) • Peta Luas Sebaran Lahan Gambut dan Kandungan Karbon di Pulau Papua (Wetlands International, 2006) • Peta Daerah Aliran Sungai Mamberamo (BP DAS Mamberamo, 2008) • Peta Batas sub DAS (hasil pengolahan yang dilakukan oleh tim berdasarkan data DEM-SRTM) • Peta Jaringan Aliran Permukaan (hasil pengolahan yang dilakukan oleh tim berdasarkan data DEM-SRTM) • Peta Sebaran Curah Hujan Wilayah (hasil pengolahan yang dilakukan oleh tim berdasarkan data curah hujan TRMM) • Peta Sebaran Evapotranspirasi Potensial (hasil pengolahan yang dilakukan oleh tim berdasarkan data curah hujan TRMM dan data iklim NCEP CFSR) • Peta Sebaran Limpasan Permukaan (hasil pengolahan yang dilakukan oleh tim berdasarkan data curah hujan TRMM, penutupan lahan dan jenis tanah) • Peta Kelas Lereng (hasil pengolahan yang dilakukan oleh tim berdasarkan data DEM-SRTM). • Peta Tingkat Bahaya Erosi (hasil pengolahan yang dilakukan oleh tim berdasarkan data kelerengan, jenis tanah, dan tutupan lahan). • Ecohydrology of The Mamberamo Basin: An Initial Assessment of Biophysical (Murdiyarso and Kurniyanto, CIFOR, 2008) • River Corridor Protection Guide. Fluvial Geomorphic-Based Methodology to Reduce Flood hazards and Protect Water Quality (Vermont Agency of Natural Resources, 2008) • Fire Management Today Vol 64: 1 (USDA Forest Service, 2004) • Peat Moisture dan Water Level Relationship in a Topical Peat Swamp. Journal of Applied Sciences 6 (11): 2517-2519 (Nuruddin et. al., 2006) • Where the Land and Water Meet: A Guide for Protection and Restoration of Riparian Areas (USDA NRCS, 2003) • Managing Riparian Widths (Price et. al., 2004) • Lahan Gambut: Potensi untuk Pertanian dan Aspek Lingkungan (Agus dan Subiksa, ICRAF, 2004) |
| HCV 5 and HCV 6 | <ul style="list-style-type: none"> • Distrik Airu dalam Angka 2012 (Pemerintah Kabupaten Jayapura). • Profil Distrik Kaureh Tahun 2012 (Pemerintah Kabupaten Jayapura). • Ethnologue: Languages of the World, Seventeenth edition. Dallas, Texas: SIL International (Lewis, M. Paul, et al. (eds.), 2013). Online Version: <u>http://www.ethnologue.com.</u> • On the Origin of The Name Papua, "Bijdragen tot de Taal-, Land- en Volkenkunde", (J. H. F. Sollewijn Gelpke, 1993) • Irian Jaya; Membangun Masyarakat Majemuk, Seri Etnografi Indonesia 5, Penerbit Djambatan, Jakarta (Koentjaraningrat dkk., 1994). • Sistem Politik Tradisional di Irian Jaya, Indonesia; Studi Perbandingan, Proefschrift ter verkrijging van de grad van Doctor aan de Rijksuniversiteit te Leiden, (Johszua Robert Mansoben, April 1994) • Manusia Irian; Dahulu, Sekarang, Masa Depan, Penerbit PT Gramedia, Jakarta (Jan Boelaars, 1986). • Tutupan lahan dari citra satelit Landsat 7 ETM+ SLC-Off (USGS, 2012). |

| HCV Type | The main sources data |
|----------|---|
| | <ul style="list-style-type: none">• Peta Infrastruktur Provinsi Papua (Kementerian Pekerjaan Umum, 2012).• Peta Infrastruktur Kabupaten Jayapura (Kementerian Pekerjaan Umum, 2012).• Peta Wilayah Sungai Provinsi Papua (Pusat Pengeolahan Data, Kementerian Pekerjaan Umum, 2013) |

Identification Methods for HCV 1, 2, and 3

The target of identification HCV 1, 2, and 3 was to find out the areas which have important values in the biological context. Such areas were marked by the location status, the origin of the communities, or the existence of the ecosystem of flora and fauna with high values. The significant values of flora and fauna refer to the status defined by the law, endemics (endemic, limited spread), and scarcity (scarce, facing extinction or almost extinct) were in accordance to the national and international law (IUCN and CITES) which protect such flora and fauna. Moreover, the important value of the wildlife and its habitat was also based on the ecology roles of the species and in accordance with the cultural and traditional point of view.

The method of inventories was carried out by using reconnaissance survey to analyze the existence of the important flora and fauna. The existence of every fauna was recorded through:

- Direct observation, either through the identification of visual appearance or sound (for both diurnal and nocturnal animals),
- The existence of the footprint or residual from the animals' activities in their former habitat (such as tracks, scars on trees, nest, scales, snake skin, bird feathers, or mammal hair, etc.)
- The finding of the residual of animals' body parts (skull, horn, skin, hair, tusk, scales, and other recognized part of the animals' body) which were possibly hunted or caught by the local people in the observed locations. Interviews were carried out to complement the information about the time and location of the hunting activities.
- The secondary information was the existence of the animals which were documented based on external information, such as local people information or the local authorities. The consistency of such information was always monitored through cross checking (check and recheck) with other relevant parties as well as checking the validity of the description on every species of animals from the interviewed people. All information was then matched with the natural distribution and the history of the existence of such species in the locations (as mentioned in the literature references). The data was then compared to the type and condition of the habitat at the time when the survey was done. Any mismatching between the description and their natural distribution zone and habitat, will put the existence of such species in doubt.

HCV 4 Identification Methodology

In order to identify the existence of HCV 4 in an oil palm plantation, two approaches were applied. The first approach was analysis to find out the interactions and correlations between the water system and the plantation land in a wide context. The approach also covered the area outside the plantation area. The second approach was another analysis to find out the significant values of such locations and their impacts to the plantation location. Thus, in this analysis, the perspective used was the inside area in the plantation. Based on both approaches, the phases of identifying HCV 4 were analysis of the secondary data, field survey, and the integrated data analysis of secondary data and the field survey. The identification of the HCV 4 areas was done by analyzing the area from the metrology point of view, the soil analysis, topography, watershed, and the field survey and interviews. The field observation was carried out on the chosen locations; i.e. springs, river, river condition, land clearing, plantation in production, and other locations representing the condition of the water management in the plantation.

HVC 5 and HCV 6 Identification Methodology

The focus of the HCV 5 assessment was the area inside the plantation which has significant values to fulfill the basic needs of the local community. The focus of the HCV 6 assessment was the area inside the plantation which has the significant values for identification and sustainability of the tradition or culture living of local community. The methods adopted in the assessment of HCV 5 or 6 are:

- Mapping participation of locations containing elements of HCV 5 and 6,
- Interview the local community, either with individual or Focus Group Discussion (FGD),
- Ground assesment and analysis.

The HCV Assessment Phases

This HCV assessment is generally carried out through a series of phases such as: Desk Study, Field Survey, Data Analysis, Spatial Analysis of HCV area, and indicative HCV mapping as shown in **Figure 6**, while the details of each stage (stages, objectives, and activities in each phase) are presented in **Table 3**.

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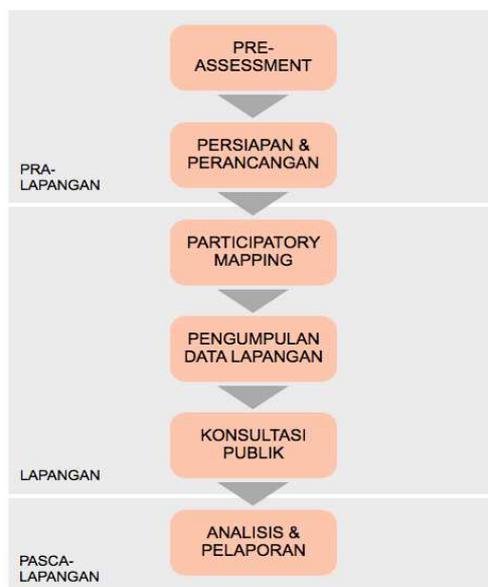


Figure 6. The HCV Assessment Phases

Table 3. Assessment phases, purpose, and the identification of HCV

| Phases | Purpose | Activities |
|--|---|---|
| PRE-FIELD ACTIVITIES | | |
| <i>Pre-assessment and Preparation</i> | <ul style="list-style-type: none"> Identify potential and indicate the presence of an attribute or HCV element Identify areas of potential HCV Understand the context of landscape Knowing the conservation issues and potential threats to HCV Establish methods, survey design, implementation team assessment, and planning future field activities | <ul style="list-style-type: none"> Collect data and initial information from the company regarding the status of development and farm management Collect data and initial information from secondary sources (reports, journals, books, statistical data, base maps) and resource Perform data analysis and spatial analysis |
| FIELD ACTIVITIES | | |
| <i>Opening meeting & basic training on HCV</i> | <ul style="list-style-type: none"> Communicate the purpose and objective of HCV study Obtain data and additional information regarding the status of development and farm management Develop an understanding of the management of HCV units: background, aims and objectives, concepts, types of HCV, attributes or key elements, and methods of identification Establish a working team (HCV assessment team + management team as the counterpart of the unit) and the agreed work schedule | <ul style="list-style-type: none"> Workshop with unit management of company Training for unit management of company |
| <i>Participatory mapping</i> | <ul style="list-style-type: none"> Clarify areas of HCV potential from pre-assessment results Collecting data is additional information about | <ul style="list-style-type: none"> Workshop with the informant |

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| | | |
|---|---|---|
| | the existence of an attribute or element HCV | |
| Field surveys | <ul style="list-style-type: none"> • Verify the presence of an attribute or element HCV • Identify areas of HCV and map the boundaries of the indicative HCV area • Identify threats and potential threats to HCV | <ul style="list-style-type: none"> • Checking the field of land cover • Field data collection • Interviews with triangulation |
| Public Consultation (List of participants in Appendix 3) | <ul style="list-style-type: none"> • Describe the identification of HCV to others (society, local governments, NGOs) • Data-Collecting additional information and clarification regarding the existence of an attribute or element of threat or potential HCV and threats or potential threats to HCV • Gathering input for the development of recommendations and options for HCV management plan | <ul style="list-style-type: none"> • Workshop with key stakeholders • Focus group discussions with key stakeholders • Interviews with speakers |
| Field analysis and Interim Report preparation | <ul style="list-style-type: none"> • Present the preliminary results of a field assessment activities ¹⁾ | <ul style="list-style-type: none"> • interim report preparation |
| <i>Closing meeting</i> | <ul style="list-style-type: none"> • Delivering results and the identification of HCV to the management | <ul style="list-style-type: none"> • Presentation and discussion • Submission of Interim Report |
| POST-FIELD | | |
| Analysis and reporting | <ul style="list-style-type: none"> • Presenting the results of HCV assessment in an article with systematic format and scientific principles, but simple, coherent and easily to understood by the management as the primary report users | <ul style="list-style-type: none"> • Data Analysis • Spatial Analysis • Write a report |

Summary of Assessment Findings

a. SEI Assessment

The SEI was conducted with a social sustainability approach, an approach that includes continuation of social production and reproduction processes. The company's presence and operational processing views affect local communities. Methodological approach in SIA are: 1) Participatory: involving the stakeholders be actively in the process of impact identification, 2) Consultation: the stakeholders representative to be involved actively to explore the impact of aspiration or idea management, 3) Triangulation: conduct field studies combining with observation, interview, and verification techniques, 4) Rapid; conducted quickly to explore issues and substance.

The presence and development of oil palm plantations and mills in the Permitted Area of PT Megasurya Mas will have an impact on components of livelihoods assets. 1) Changes in tenure and land use. 2) Open access to the public and trade flows of forest products. 3) Substantial funds for the community as a consequence of compensation, 4) potential rift between tribes / clans and communities because of social resentment.

Stakeholders in the surrounding of permitted area not so many, but keep in mind is the role and strong position of Ondoafi, the chieftain/ clan and head of village. Position in the tradition system makes Ondoafi have a strong effect to mobilize local communities, moreover they have the example of the case of a boycott (bars) in the nearby oil palm companies. Church institution is an institution that has a small interest but with the power and moral effect, these institutions can be partners to anticipate future problems.

Positive perception of most people as well as good communication support from staff in company makes levels of social risk relatively low. Social risks that need to be considered is the risk associated with the issues that arise both because given issue or a new issue due to the presence of the company.

The social risks if not anticipated early will accumulate and bring collective actions of the community. Hence the communication strategy needs to be designed so that social activities can be carried out effectively without disrupting the production processes of the company. For those reasons, the social management happens to be designed with a more systematically.

A humanist approach and empathy, paying close attention to the actors and the involvement of representatives of the community representative, documenting all agreements that are known by the community, identifying and liaising with institutions that could potentially support program for community development. Therefore, the main recommendations from the results of this study are that the company immediately drew up a social management plan. General checkout process can be started by building bridges of effective communication with the parties and the key public figures.

General Recommendations of social impact management:

1. Complete a list of key stakeholders and representatives from each clan/tribe and other institutions related to the process of release of land, compensation and development partnerships in the future
2. Prepare the requirements in accordance with government policies related to development of infrastructure of roads.
3. Involvement of the main actors (multi stakeholders) intensively in any deal, the Church, Ondoafi, Tribe and representatives of the Government. Need sorting representative and legitimated community to be involved in the various deliberations and agreements.
4. Documenting all agreements with indigenous communities both in positive law (administrative) and culturally, if it is possible can take advantage of traditional rituals to document the agreement. It is necessary that the process of land release agreement and partnership/ plasma management becomes more meaningful for the community (sacred).
5. Engage with the church, which has potential as a change agent through the spiritual field. Physical construction of plantation, and the economic welfare of the community must be followed by development to change for the better.
6. Mapping parties are more effective and appropriate for the preparation of plantation development agreement process. In this regard the importance of involvement of major stakeholders such as, Ondoafi, ethnic/ heads of clan, institutional church, the village government and the district administration.
7. Preparing the formulation of institutional mechanisms that can be a key pillar of cooperation and compensation administration, so it can be sustainable and long-term. This is to ensure that the results of the compensation to the community can be further processed for long-term economic capital.
8. Mapping the food sources and local economic and community development opportunities, so that people do not only depend on the company. It also means encouraging people to be more independent. Companies can encourage and facilitate government institutions or social organizations that exist in Sentani to develop a Community Development program.
9. Give more attention and priority on improving the welfare of the people, especially the youth and children in the community empowerment program.
10. Compile Social Management Plan to manage issues and social impact, managing the company's internal environment in order to effectively work with the community.
11. Initiating forum involving government both at the village, sub-district to district, company, community representatives from ethnic / clans who give the land, and the church. To build on the vision of community development scenarios around the plantation.
12. Building partnerships with governments (provincial and district) to synergize the program in two villages, in the the long term this activity can also be expanded to include institutional church (GKI) or non-governmental organizations that exist.

b. HCV assessments

HCV report based on the results of field activities conducted in the area of Permitted Area of PT. Megasurya Mas, particularly in the area of Release of Forest Decree, located in Jayapura Regency, Papua Province. Assessment was conducted by HCV Team Aksenta, consisting of four HCV experts, two of which have been holds the RSPO approved HCV assessors, and a GIS specialist. The field activities was carried out from 14th February until 13th March 2013, in cooperation with a team of management PT Megasurya Mas.

HCV Assessment covers the entire Release of Forest Area No : SK.111/Menhut-II/2012 Dated on 21st February 2012 with area of 13,389.6 ha. Based on the scope type of HCV that assessed, HCV assessment in PT Megasurya Mas is a complete assessment, covering all types of HCV (HCV-1 to HCV-6) and all the sub-type (HCV-1 consists of HCV 1.1-1.4; HCV 4 consisted of HCV 4.1-4.3). Based on the scope of the steps activities, studies of HCV PT Megasurya Mas is a full assessment, assessment process which carrying out all stages of the process of identification of HCV from preparation and design to drafting assessment reports.

HCV identification results, which include: (i) the presence of HCV area and attributes or key constituent elements, (ii) a map of the distribution of HCV areas, (iii) the landscape context, (iv) the current status of HCV areas and attributes or key elements, (v) the pressure or the threat of its sustainability, and (vi) recommendations for the protection, management, and monitoring. This report does not include the management and monitoring of HCV. Management and monitoring of HCV remains the domain and company responsibility. To achieve the objectives of HCV, which is to protect, preserve, and enhance the value of HCV, the HCV management and monitoring activities should be an integral part of the company's operating system, in this case the development and management of oil palm plantations.

The result showed that the Permitted Area of PT Megasurya Mas is in the lowlands (<200 m asl.) located at upstream of the five Watershed (DAS), namely: Mamberamo, Sihua, Nakambi, Jagua, and Martaru. The five watershed are very important as water catchment areas for Mamberamo. Area of Permitted Area is outside the Forestry Zone, which is located in the area of Non-Forestry Aquaculture (other land uses). Permitted Area is bordering with two conservation areas that have been set by the Government, namely Mamberamo Foja Wildlife and Protected Forest areas.

The local community is dominated by ethnic Kapauri. Communities in this region has a long history of usege of natural resources, especially in the form of sago-making and hunting. Interaction with the local community in the areas of Permitted Area is not too high. Use of natural resources is still done traditionally.

In the Permitted Area there is still a critical element to HCV biodiversity element namely species that are globally endangered, endemic species or distribution-limited, and the natural ecosystems that are

threatened with extinction. During field survey in the Permitted Area, at least 8 species of mammals, 9 species of reptiles, and 63 species of birds was recorded. Based on IUCN status, in the Permitted Area of PT Megasurya Mas one species of wildlife found has endangered species globally threatened status, or critical (Critically Endangered), Golden-mantled Tree Kangaroo (*Dendrolagus pulcherrimus*), which in Kapauri called Tikalong, and 1 species which is critical (Endangered) , Cantor's Giant Softshell (*Pelochelys cantorii*). In addition, one bird species was also found and have made into the list of CITES Appendix I, Palm Cockatoo (*Probosciger aterrimus*), and 6 species have vulnerable status, except Timor deer, are: Tree Kangaroos gray, Kangaroo Ground, Northern Cassowary, Papuan Eagle, Victoria Crowned Pigeon, and Pesquet's Parrot. Moreover, in the Permitted Area of PT Megasurya Mas 41 species found are endemic in New Guinea, which is 51% of the total species found during the survey.

The HCV identification study in the Permitted Areas (Izin Lokasi) of PT Megasurya Mas has five types of HCVs were identified by Aksenta, i.e. HCV 1, HCV 3, HCV 4, HCV 5, and HCV 6

Tabel 4. Summary of HCV existence in PT Megasurya Mas

| Type of HCV | Existence | Description |
|--------------|----------------|--|
| HCV 1 | | |
| HCV 1.1 | Present | There is conservation area within or adjacent to PT Megasurya Mas's concession. |
| HCV 1.2 | Present | There are species under Endangered and Vulnerable statuses. |
| HCV 1.3 | Present | There are concentrations of restricted range species. |
| HCV 1.4 | Present | There are areas for threatened species' corridor. |
| HCV 2 | N/A | No intact natural landscape level ecosystems significant to Papua found. |
| HCV 3 | Present | There is a rare/threatened ecosystem, i.e. Peat Swamp Forest that is still in sound condition. |
| HCV 4 | | |
| HCV 4.1 | Present | There are still vegetation-covered hilly areas functioning as important water catchment areas. |
| HCV 4.2 | Present | There are still vegetation-covered riparian areas running important hydrologic and ecological functions. |
| HCV 4.3 | Present | There are areas effectively functioning as natural fire break. |
| HCV 5 | Present | There are areas fundamental to meeting irreplaceable basic needs of local communities. |
| HCV 6 | Present | There are areas critical to local communities' traditional cultural identity. |

The HCV area is identified in 12 locations. There are five types of HCV identified in the PT Megasurya Mas, i.e. HCV 1, HCV 3, HCV 4, HCV 5 and HCV 6.

The HCV Map of PT Megasurya Mas with HCV types and the coordinates and description of the HCV types is summarized in Table 5 below:

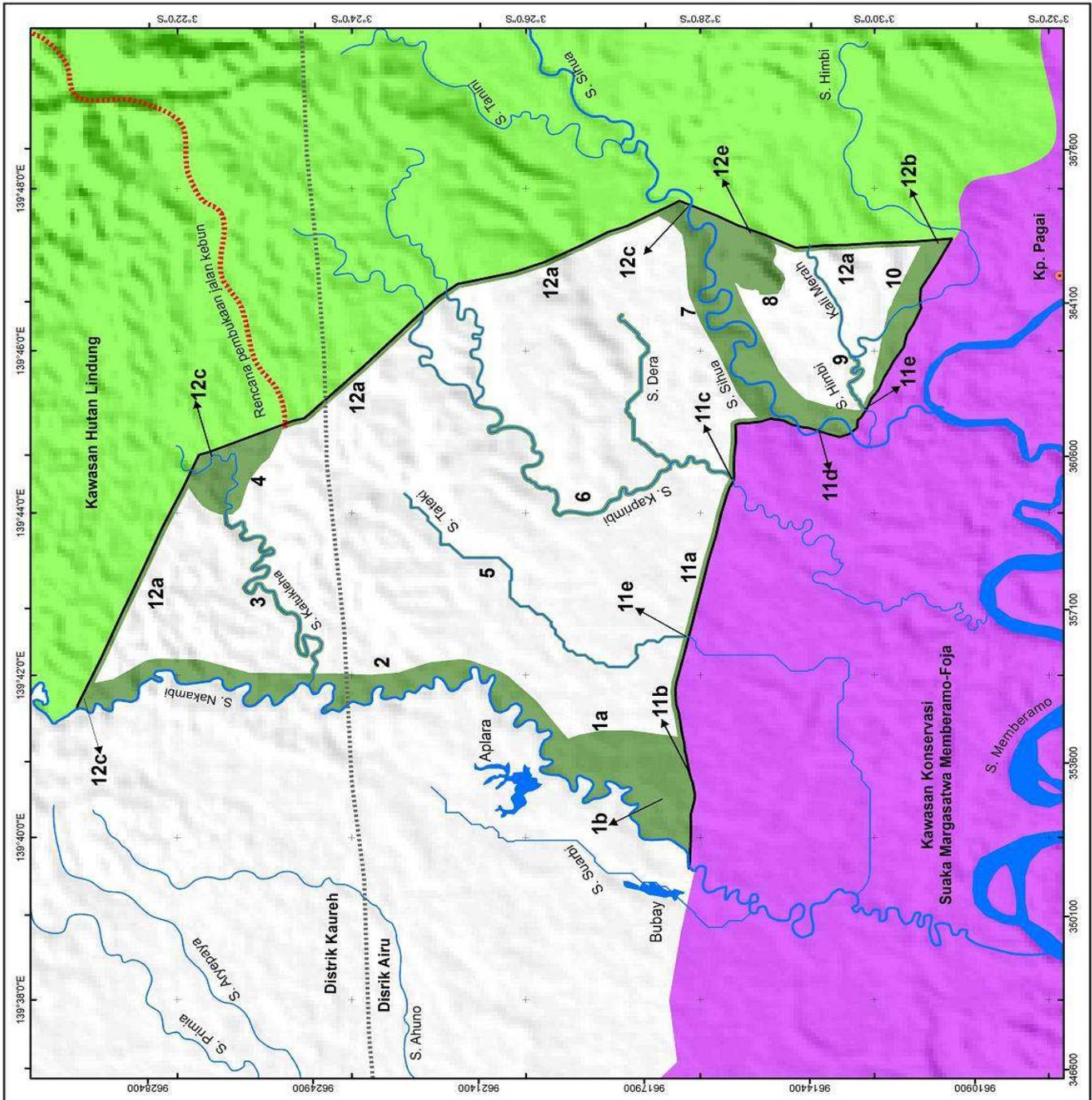
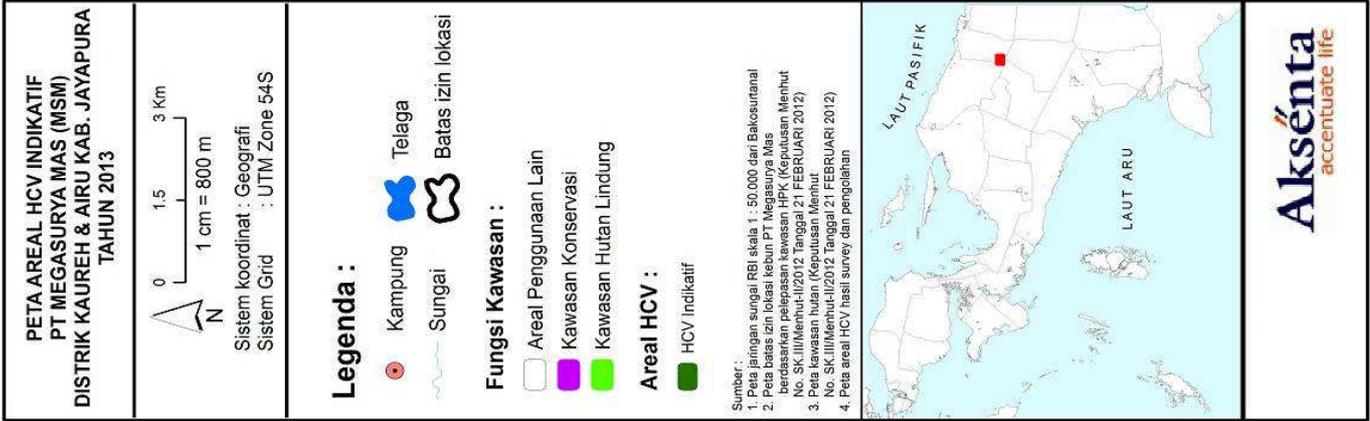


Figure 7. Indicative of HCV Area in PT Megasurya Mas

Table 5. Description and indicative area of HCV within PT Megasurya Mas's Permitted Area

| Index | Remaks | HCV type | HCV element |
|-------|---|----------------|--|
| 1 | a. Peat Swamp Forest, eastern part of the clogged Nakambi River segment. | HCV 1, 3, 4 | Habitat to key species, Rare ecosystem, Flood control area, Natural fire break, Historical values sites |
| | b. Historical sites surrounding the peat swamp forest being a corridor segment of the clogged Nakambi River's meander. | HCV 1, 3, 4, 6 | |
| 2 | Nakambi River; Nakambi River's meander corridor (of 1 km total width). | HCV 1, 4 | Habitat to key species, Flood control area, Erosion and Sedimentation control area, Natural fire breaker |
| 3 | a. Katukleha riparian area; 50 m buffer zone. | HCV 1, 4 | Habitat to key species, Flood control area, Erosion and sedimentation control area, Natural fire breaker, Source for the local community's livelihood |
| | b. Agarwood extracting area by Katukleha riparian area | HCV 1, 4, 5 | |
| 4 | Downstream forest located by Katukleha River and riparian area where there area lot of agarwoods. | HCV 1, 4, 5 | Habitat to key species, Flood control area, Erosion and sedimentation control area, Natural fire breaker, Source for the local community's livelihood |
| 5 | Tateki River and riparian area; with buffer zone of 30 m width from each riverside; area to hunt for crocodiles | HCV 1, 4, 5 | Habitat to key species, Flood control area, Erosion and sedimentation control area, Natural fire breaker, Source for the local community's livelihood |
| 6 | Kaprimbi and Dera Rivers and riparian areas; with buffer zone of 50 m width (from each riverside) at the downstream part and 30 m at the upstream of the river, area to hunt for crocodiles | HCV 1, 4, 5 | Habitat to key species, Flood control area, Erosion and sedimentation control area, Natural fire breaker, Source for the local community's livelihood |
| 7 | a. Sihua River meander corridor (1 km width) | HCV 1, 4 | Habitat to threatened species, Habitat to endemic species, Corridor to key species, Flood control area, Erosion and sedimentation control area, Natural fire breaker, Source to local community's livelihood |
| | b. Area to hunt for crocodiles, Sihua River and riparian area | HCV 1, 4, 5 | |
| 8 | Water catchment from spring by Sihua River; many steep slopes (> 40%) | HCV 1, 4 | Water supply area, Erosion and sedimentation control area, Habitat to threatened species, Habitat to endemic species |
| 9 | Himbi riparian area (buffer zone of 50 m width at the downstream part and 30 m at the upstream); area to hunt for crocodiles | HCV 1, 5 | Habitat to key species, Corridor to key species, Flood control area, Erosion and sedimentation control area, Natural fire breaker, Source to local community's livelihood. |
| 10 | a. Part of Mamberamo River's meander corridor (total 8.5 km wide) | HCV 1, 4 | Habitat to key species, Flood control area, Erosion and sedimentation control area, Natural fire breaker, Source for the local community's livelihood |
| | b. area to hunt for crocodiles around Himbi River and its river banks within Mamberamobagian koridor Meander Sungai Mamberamo | HCV 1, 4, 5 | |
| 11 | a. Buffer zone of 100 m from conservation area (Mamberamo Foja Wildlife Sanctuary). | HCV 1 | Conservation area supporting zone |
| | b. Buffer zone of 100 m from conservation area (Mamberamo Foja Wildlife Sanctuary); peat | HCV 1, 4, 3,6 | Conservation area supporting zone, Habitat to threatened species, Habitat to endemic species, |

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| Index | Remaks | HCV type | HCV element |
|-------|---|-------------|---|
| | swamp forest and area near the clogged Nakambi River; part of historical place of tribe civil war. | | Rare ecosystem, Flood control area, Important fire breaker, Historical places |
| | c. Buffer zone of 100 m from conservation area (Mamberamo Foja Wildlife Sanctuary) and Kaprimbi riparian area; part of area to hunt for crocodiles | HCV 1, 4, 5 | Conservation areas upporting zone, Habitat to endemic species (Irian Crocodile), Corridor to important species, Flood control, Erosion control, Fire breaker area to hunt for crocodiles |
| | d. Buffer zone of 100 m from conservation area (Mamberamo Foja Wildlife Sanctuary) and Sihua River meander corridor; area to hunt for crocodiles | HCV 1, 4, 5 | Conservation area supporting zone, Habitat to threatened species, Habitat to endemic species Corridor for key species, Flood control, Erosion control, Fire breaker area to hunt for crocodiles |
| | e. Buffer zone of 100 m from conservation area (Mamberamo Foja Wildlife Sanctuary); Mamberamo River meander corridor; Tateki and Himbi riparian parts; area to hunt for crocodiles | HCV 1, 4, 5 | Conservation area supporting zone, Corridor to key species, Flood control, Erosion control, Fire breaker, Area to hunt for crocodiles |
| 12 | a. Buffer zone of 100 m from protection forest | HCV 1 | Protection Forest supporting zone |
| | b. Buffer zone of 100 m from protection forest and Memberamo River meander corridor; Himbi and Kalimerah riparian parts. | HCV 1, 4 | Conservation area supporting zone, Corridor to key species, Flood control, Erosion control, Fire breaker |
| | c. Buffer zone of 100 m from protection forest, Sihua and Nakambi Rivers' meander corridors; a small part of Katukleha riparian area and water catchment; area to hunt for crocodiles | HCV 1, 5 | Conservation area supporting zone, Habitat to threatened species, Habitat to endemic species, Corridor to key species, Area to hunt for crocodiles |
| | d. Buffer zone of 100 m from protection forest and Kaprimbi riparian area; area to hunt for crocodiles | HCV 1, 4, 5 | Conservation area supporting zone, Habitat to endemic species, Corridor to key species, Flood control, Erosion control, Fire breaker, Area to hunt for crocodiles |
| | e. Buffer zone of 100 m from protection forest; agarwood area; part of water catchment region from the spring | HCV 1, 4, 5 | Conservation area supporting zone, Habitat to threatened species, Habitat to endemic species, Flood control, Erosion control |

The identified indicative HCV area was $\pm 2,785.9$ ha or $\pm 20.8\%$ of the total Forest Released area (Pelepasan Kawasan Hutan) of PT Megasurya Mas. The important elements of HCV 1 are a. conservation areas within or adjacent to the permitted area PT Megasurya Mas (HCV 1.1), b. Threatened and endangered species (HCV 1.2), c. Endemic species and restricted range (HCV 1.3), d. Areas that contain habitat of temporary use by species or congregations of Species, such as reproduction and population genetic enrichment (HCV 1.4). The elements of HCV 3 cover the natural ecosystems that are endangered/ threatened like Peat Swamp Forest with still good condition. Key elements of HCV 4 cover water catchments area at hilly area, water source and temporary water catchments area (HCV 4.1), erosion control and sedimentation area (HCV 4.2) and area providing barriers to destructive natural fire (HCV 4.3). HCV 5 covers area fundamental to meet basic needs of local communities. HCV 6 covers area that is sacred to local community.

Several issues which might threaten the HCV areas were identified:

HCV area and attributes/ elements in the Permitted Area of PT Megasurya Mas have threats to their sustainability, i.e. hunting wild animals. Hunting activities commonly done by people in this region. One of the most endangered species due to hunting activity is Mantel Mas Tree Kangaroos (*Dendrolagus pulcherrimus*), which is an attribute/ element of HCV 1.2 and HCV 1.3, this animal species is hunted for its meat. Meanwhile, to date, HCV 6 area, in the form of sacred places are relatively safe from threats and harassment.

General Recommendations for HCV Management:

Several general recommendation are made, which can immediately be followed up to protect and manage the HCV areas:

1. Delineation of HCV area, verify the extent of indicative of HCV area, and to determine the end result as definitive HCV Area Map PT Megasurya Mas.
2. Arrange Management and Monitoring Plan of HCV, as a reference company in protecting and managing the HCV area and HCV attributes/ elements in the Permitted Area of PT Megasurya Mas, in a systematic and well planned, within the next 3-5 years period.
3. Socializing the presence of HCV areas in the Permitted Area to employees and the surrounding community, especially community groups who are key stakeholders of the existence and the protection and management of HCV.
4. Build communication and dialogue with key stakeholders in the local community, village governance, and Jayapura Regency Government – society – company cooperation for the protection and management of government HCV.

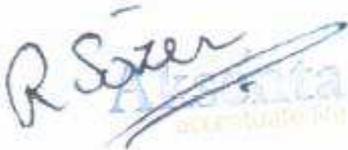
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Internal Responsibility

Formal signing off by assessors and company

This document is summary of assessment result on High Conservation Value (HCV) and Social Impact Assessment (SIA) in PT Megasurya Mas and has been approved by the Management of PT Megasurya Mas.

Aksenta,



Resit Sozer

Date: 18 November 2013

Management PT Megasurya Mas,



Go Swee Aun

General Manager PT Megasurya Mas

Date :18 November 2013

Statement of acceptance of responsibility for assessments

Assessment result document on High Conservation Value (HCV) and Social Impact Assessment (SIA) of PT Megasurya Mas by Aksenta, will be applied as one of the guidelines in managing palm oil plantation in PT Megasurya Mas.



Go Swee Aun

General Manager PT Megasurya Mas

Date : 18 November 2013

Appendix 1. List of respondents and/or Focus Group Discussion (FGD) participants on site during the implementation process of social impact assessment in PT Megasurya Mas

| No. | Name | Position |
|-----|--------------------|--|
| 1. | Oskar Sita | Head of Village Soskotek |
| 2. | Thomas Hirwa | Ondoafi, Head of Clan |
| 3. | Yesaya Hirwa | Youth of Soskotek |
| 4. | Barnabas Sita | Community Leader of Soskotek |
| 5. | Timotius Nakambi | Community of Soskotek |
| 6. | Esau Sita | Community of Soskotek |
| 7. | Silas Hirwa | Community of Soskotek |
| 8. | Isak Hirwa | Youth |
| 9. | Daud Nakambi | Community of Soskotek |
| 10. | Yance Hirwa | Community of Soskotek |
| 11. | Esau Yapri | Youth |
| 12. | Karlos Dalem | Community of Soskotek |
| 13. | Yahya Nakambi | Community of Soskotek |
| 14. | Yafet Nakambi | Community Leader |
| 15. | Titus Hirwa | Community of Soskotek |
| 16. | Titus Nakambi | Head of Pagai Village |
| 17. | David Wintamon | Teachers Evangelist of Pagai Village |
| 18. | Yoel Nakambi | Head of Sabiano Clan |
| 19. | Timotius Yapri | Ondoafi |
| 20. | Linus Marisi | Village Officials |
| 21. | Marten Nakambi | Village Officials |
| 22. | Yakobus Nakambi | Chairman of the Pagai village meetings |
| 23. | Petrus Tigabre | Community of Pagai |
| 24. | Yesaya Nakambi | Chieftain of pagai |
| 25. | Aser Marisi | Community of Pagai |
| 26. | Abenek Kabak | Chieftain |
| 27. | Agus Aimri | Community of Pagai |
| 28. | Markus Nakambi | Student |
| 29. | Kornelis Nakambi | Ondoafi Pagai |
| 30. | Estavianus Nakambi | Youth |
| 31. | Daniel Tigabre | Community of Pagai |
| 32. | Mariam Marisi | Community of Pagai |
| 33. | Markus Marisi | Student |
| 34. | Kostan Marisi | Community of Pagai |
| 35. | Yakonius | Staf BPLHD, Jayapura |
| 36. | Yohana Mandowen | PT PPMA Papua |
| 37. | Paulus Katamap | PT PPMA Papua |
| 38. | Noach Wamebu | PT PPMA Papua |
| 39. | Samsudin | Head of Kaureh District |
| 40. | Marten Luther | Secretary of Airu District |

Appendix 2. List of Informants in the study of HCV in PT Megasurya Mas

| No | Name | G | Job | Address |
|-----|------------------------|----|---------------------------------|----------|
| 1. | Samsudin | L | Head of Kaureh District | Sentani |
| 2. | Luther | L | Secretary of Airu District | Sentani |
| 3. | Noerfauzi | L | BPS Staf Jayapura Regency | Sentani |
| 4. | Yaconias Maintindom | L | Kasubbid AMDAL BLHD | Abepura |
| 5. | Yohana Mandoem | P | Gender Activist PT PPMA | Abepura |
| 6. | Jackie Menanti | P | Scientific SIL Jayapura | Sentani |
| 7. | Rocky | L | Staf WWF Bioregion Sahul | Sentani |
| 8. | Titus Nakambi | L: | Head of Village Pagai | Pagai |
| 9. | Oscar Sita | L | Head of Village Soskotek | Soskotek |
| 10. | Matius Tahir Huawu | L | Ondoafi Huawu | Sentani |
| 11 | Marthen Sita | L | Ondoafi Sita | Soskotek |
| 12 | Markus Marisi | L | Ondoafi Marisi | Martaru |
| 13 | Nikolas Nakambi Prina | L | Ondoafi Nakambi Prina | Martaru |
| 14 | Yesaya Nakambi Sabiano | L | Ondoafi Nakambi Sabiano | Pagai |
| 15 | David Waibara | L | Ondoafi Waibara | Pagai |
| 16 | Timotius Nakambi | L | Ondoafi Nakambi 1 | Soskotek |
| 17 | Korintus Tigabre | L | Community | Pagai |
| 18 | Linus Marisi | L | Community | Pagai |
| 19 | Musa Sita | L | Religious Leaders | Soskotek |
| 20 | Thomas Hirwa | L | Ondoafi Hirwa | Soskotek |
| 21 | Kornelis Nakambi Prina | L | Leader of Community | Pagai |
| 22 | Markus Nakambi Prina | L | Youth | Pagai |
| 23 | Kores Nakambi Prina | L | Youth | Pagai |
| 24 | Paulus Nakambi | L | Community | Pagai |
| 25 | Abner Foisa | L | Pagai Village board | Pagai |
| 26 | Matius Marisi | L | Youth | Martaru |
| 27 | Yoel Nakambi | L | Community | Pagai |
| 28 | Oto Nakambi Sabiano | L | Teacher | Pagai |
| 29 | Agus Wati | L | Community | Pagai |
| 30 | Yosep Marisi | L | Youth | Pagai |
| 31 | Hengky Marisi | L | Community | Pagai |
| 32 | Simon | L | Community | Pagai |
| 33 | Lukas | L | Community | Pagai |
| 34 | Daniel | L | Community | Pagai |
| 35 | Yahya Nakambi Sabiano | L | Community | Pagai |
| 36 | Petrus Tigabre | L | Community | Pagai |
| 37 | Silas | L | Community | Pagai |
| 38 | Isak Marisi | L | Youth | Martaru |
| 39 | Pilipus Hirwa | L | Youth | Soskotek |
| 40 | Yesaya Hirwa | L | Youth | Soskotek |
| 41 | Ji Samsu | L | Survey Manager PT Megasurya Mas | Sampit |
| 42 | Agus Tri Widodo | L | Staf Survey PT Megasurya Mas | Sampit |

Appendix 3. Attendance Public Consultation HCV

FORM - PROJ - 02F

**DAFTAR HADIR
PUBLIC CONSULTATION**

Aksenta
accentuate life

Nama PT : MEGA SURYAMAS & SIRINGO RINGO
Lokasi : Sentani, Kab. Jayapura
Asesmen : HCV

Tanggal : 13.3.2013
Waktu : 09.00

| No | Nama | Bagian/Jabatan | Alamat dan Nomor Kontak | Tanda Tangan | |
|-----|-------------------|----------------------------------|-------------------------|--------------|-----|
| 1. | Moh. Yunus | KPPT | 085254297169 | 1. | 2. |
| 2. | PITER KOKA | WWF | 081240410590 | | |
| 3. | Letu Apandi | Dannamil | 082199622275 | 3. | 4. |
| 4. | KAGAMUDDIN, Sp. | Kasitrad/Kareh | 081344747069 | | |
| 5. | PRITA S. Had. | Kad. A.M. | 081344441854 | 5. | 6. |
| 6. | Jackie. Mananti | SIL | 08124812316 | | |
| 7. | Hans J. Nunkabo | ANU | 085244057171 | 7. | 8. |
| 8. | Heri Susanto | Kapolsek | 085243874069 | | |
| 9. | Nobeh W | pt. PPMA - Papua | 085254151515 | 9. | 10. |
| 10. | OKTO Hirwa | Kasitrad/Kareh Kasitrad/Kareh | 081344271648 | | |
| 11. | Bayir Angoro | Kabid US/Divisi perkebunan | 081344950709 | 11. | 12. |
| 12. | Matus Wauw | Ka. SUKU | 085244086757 | | |
| 13. | MARTINUS SEH | | | 13. | 14. |
| 14. | ERWIN D. HUTAGAOL | Humas | 085251509070 | | |
| 15. | Agus. T. | Survey | 081250826672 | 15. | 16. |
| 16. | FIASO TRI D | SUSTAINABILITY | 081318920946 | | |
| 17. | Fernando Siantri | Surveyor | 082158492587 | | |
| 18. | Jowi R | Survey | 085334034874 | | |
| 19. | Reni Sizer | Aksenta | 081563126331 | | |
| 20. | F. Getsemari F. | Aksenta | 08129966535 | | |