

SUSTAINABILITY JOURNAL



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FOREWORD

Dear Reader

At this stage of our sustainability journey, the key question has shifted from whether we in Musim Mas are conducting our business sustainably, to what we are doing to involve our numerous stakeholders with us on the journey. The unique and challenging nature of the palm oil industry, coupled with the high demands of various stakeholders, make it essential to share knowledge and experience to ensure a viable future for us all. Our efforts are now being channeled towards capacity building for both internal and external stakeholders.

We are improving the knowledge of independent smallholders through the Musim Mas - IFC project so that they can forge better lives for themselves and their families. ("On track: Musim Mas - IFC joint smallholder project", p2-3).

Based on the theme of Knowledge-Improvement-Sustainable-Success, we conducted a Research Field Day for internal stakeholders to increase their knowledge on seedlings, fruit bunches, fertilisers, pests and diseases. With knowledge, the capacity for improvement and success is heightened ("A glimpse of precision agriculture", p6-7).

The recently held supplier workshop and the on-going mill verification exercise provide a valuable platform for engaging our third-party suppliers to achieve the sustainability agenda ("Engagement workshop with our suppliers", p8 and "After mill verifications: what next?", p9), and we are encouraging our stakeholders to start building capacity for sustainable practices ("Transformation: to be or not to be?", p4) as well as working with local communities through the Fire-Free Alliance to build greater capacity on fire prevention and dealing with haze ("The truths and myths of haze pollution", p5).

Last but not least, we are providing insight into our estate doctors' capacities to take on the challenges of working in the plantations ("The plantation stethoscope: how practising in plantation differs from in city", p10-11).

Going forward, we will be publishing our journal in March and September each year, instead of January and July. I hope you'll enjoy reading them. 🌱

Executive Chairman
Musim Mas Group



One year anniversary event of the Musim Mas - IFC joint smallholder project

On Track: Musim Mas – IFC joint smallholder project

More than a year ago when planning for the Musim Mas - IFC joint smallholder programme, our executives had envisioned the holistic development of the participants' knowledge and skill sets so that they can become self-reliant and successful farmers. "Our vision is for these independent smallholders to be able to continue farming successfully beyond the project," said Mr Jong Tjien Alimin, Musim Mas Smallholder Project Coordinator.

The programme was modeled to enhance the farmers' agricultural practices and improve other competencies such as financial literacy. The latter is often overlooked and yet is crucial for long term economic viability.

At the start, the Farmer Advisors, who were tasked with the training of the farmers, were as much as possible, selected from within the participants' community with a two-fold purpose of fostering a sense of ownership and an interest in the success of the programme.

Oil palm smallholders in Indonesia, and especially independent ones, are known to underperform in areas of productivity and sustainability. One of the key determinants of productivity includes fertiliser and its effective application. These smallholders usually have problems obtaining quality fertilisers and, even if available, most smallholders are not equipped with adequate knowledge on the proper implementation techniques. The participants were taught to choose the right fertiliser, and right way of applying it such as sowing the fertiliser circularly at a certain distance from the trunk.

"Before attending this training, I was sowing fertiliser randomly, without paying attention to the distance, sometimes in the inter-row, other times right on the trunk. After joining this programme, I now know the correct practice of sowing fertiliser which I recently started applying to my trees. I hope the trees can bear more and better quality fruits," said Burhan Dongoran, a participating smallholder.



Project trainers interacting with smallholder participants

Pesticides and their safe usage were also included in the curriculum. As with fertilisers, the application of pesticides needs to be targeted so that it is effective. More importantly, the farmers were taught on how to safely prepare and apply pesticides without compromising their health and safety.

Another important factor in determining the price of FFB, and hence the income of the farmers, is the harvesting standard which in turn will affect the FFB quality. To get the best yield, FFB needs to be harvested at optimum ripeness. Unripe FFB may be rejected at the mills, while underripeness will affect the oil extraction rate (OER) which will mean discounted price for FFB. The farmers were taught on the appropriate time to harvest the fruits. Better quality FFB will improve the price of their FFB and so increase their income.

Financial literacy was also part of the training program. The concept of saving is especially important when their oil palm trees need to be replanted, leaving them with reduced or no income for about three years. They learned how to keep records of their financial transactions to manage

revenue and expenditure for their farms. The attributes that would give them access to credit were also shared so that the farmers could utilise bank loans to purchase quality seeds and fertilisers and even hire labour to help with farm works.

With smallholders contributing about 40% of oil palm planted area in Indonesia, replicating such projects in other parts of Indonesia will possibly hold the key to unlocking the conservation-versus-development predicament through yield per hectare increase and improvements to sustainable practices without the need to develop more land. As demonstrated by the recent development in Indonesia such as the moratorium on land development, industry players need to focus on yield increase per hectare of land in order to remain competitive and relevant in the sector.

At the one-year anniversary event for the project, held on 27 July 2016 in Suzuya Hotel in Rantau Prapat, North Sumatra, the smallholder participants, Musim Mas and IFC management gathered to take stock of the programme that has benefited over 1,100 members since its

inception.

The Regent of Labuhan Batu Regency, Mr H. Pangonal Harahap, expressed his appreciation to Musim Mas and IFC for running this programme for the benefits of smallholders in the region and hoped that this would help improve their welfare. The Head of the Indonesia Sustainable Palm Oil (ISPO) Secretariat, Mr Herdradjat Natawidjaja, stated that the elements of improving access to technology, finance and markets were aligned with government policy.

Mr Herman Tandinata, Deputy Production Director of the Musim Mas Group, announced at the event, "Given the experience in Rantau Prapat over the last year and the enthusiasm of farmers, the programme will be replicated in three new locations in the Province of Riau. An additional 9,000 independent smallholders are expected to benefit from the programme."

The Musim Mas - IFC project is part of the Musim Mas Group's vision of sustainable palm oil production, bringing a positive impact to the welfare of local communities. The Group is working closely with IFC to integrate independent smallholders into its supply chain through stages of implementation and targets to ultimately benefit 12,000 independent smallholders. 🌱

Transformation: to be or not to be?

Case Study: Pati Sari, ANJ and Korindo

With the implementation of the NDPE (No Deforestation, No Peat and No Exploitation) policies by major palm oil companies, one of the litmus tests of a company's resolve to push forward the sustainability agenda is perhaps the will, patience and ability to "sanitize" its supply chain.

However, though such "sanitization" may help one to technically meet NDPE policies, it may not be sufficient to bring enough positive changes on the ground, a process now the industry calls "transformation". "An inward looking, self serving company may take the approach of cutting off any supplier who is non compliant," said Dr Petra Meekers, Director of Sustainability and CSR. "This is the simplest approach: If you are not important enough to us in our supply chain - sorry, we stop buying from you so that we are in strict compliance with our NDPE policy. But Musim Mas feels that as one of the leading palm oil companies, we owe the industry a responsibility to do more than that."

Musim Mas believes that only a proactive engagement will yield practical results. Creating a real impact is about getting all the stakeholders together to start a conversation and look for possible implementation options. While a cessation to purchase may be a tool in negotiation, it is not a strategy that can always create real impact on the ground. Suppliers need to go through an initiation and be guided on the sustainability issues.

A case in point, Pati Sari, one of the Group's third-party suppliers, was flagged in 2014 for some non compliance in its supply base. Instead of severing business ties, Musim Mas engaged them to study the issues and encouraged them to find solutions. Eventually, Pati Sari opened up and shared information on its supply base. It stopped buying from illegal FFB suppliers and implemented a procurement system that filtered illegal FFB from its supply base. Normal business with them proceeded without disruption after that.

In another case involving the ANJ group, the outcome was less encouraging. ANJ group was found developing new oil palm plantation in Papua and all hell broke loose. When they were slow in responding to the complains, big buyers with NDPE policy one by one deserted them. Today ANJ group still continues its business, ostensibly without much problem, by diverting its sales to local buyers. Their development project in Papua continues. In short, the "embargo" by big buyers was not able to instigate any change, much less a transformation.

So when the case of Korindo was highlighted in public, Musim Mas felt that the failure in the case of ANJ must not be repeated. When big buyers rushed for exit by stopping all purchases, Musim Mas decided to stay back and engage them. After intensive discussions, Korindo has agreed to a 3 month moratorium on new development. This would be

implemented in three concessions - Tunas Sawa Erma A, Tunas Sawa Erma B and Tunas Sawa Erma E, involving a total of 24,000 hectares. During the moratorium period, Korindo promised to develop a comprehensive sustainability policy along the principles of no deforestation, no peat planting and no exploitation.

While the success or failure of the sustainability journey of Korindo is yet to be seen, Musim Mas is pleased to have made the decision to engage Korindo. "By doing so, we have helped kickstart the transformation process in Korindo," said Dr Petra Meekers, Director of Sustainability and CSR. "However, we need the support of other stakeholders to guide, push and encourage Korindo to move forward. We can not do it alone."

Musim Mas believes that transformation can only be achieved with active engagement, through close cooperation and constructive dialogues. The end game is creating a real impact on the ground instead of walking away from a problem. Leading palm oil companies can play a part in encouraging their stakeholders to focus more on the transformation of a problematic supplier instead of knee jerk reaction to cut him out of the supply base with the sole purpose of sanitizing one's supply chain. "Engagement does not always guarantees transformation," said Dr Meekers. "But without engagement, no transformation will ever happen." 



The truths and myths of haze pollution

The Southeast Asian haze is an issue affecting several countries including Brunei Darussalam, Indonesia, Malaysia, Singapore, Thailand etc. It is a long term issue that occurs in varying intensity during every dry season in the region. The primary cause is forest fires principally on the Indonesian islands of Sumatra and Kalimantan.

In 2015, haze pollution reached its climax. However, its exact magnitude was hard to measure. Estimations for the extent of damage could range between 250,000 to 2,000,000 hectares, with financial losses reportedly from US\$ 1 billion to US\$ 20 billion, life casualties between 19 to 100,000 people.

The real significance of 2015, however, lied not only in the scale of the haze pollution but it was a watershed year in which location and distribution of hot spots were for the first time made available publicly, thanks to the satellite mapping published on line by World Resources Institute (WRI), a Washington based research institute. Based on satellite mapping, it was shown that the percentage of hot spots in oil palm concessions were relatively low e.g. from January to December 2015, a mere 11%; while from January to September 2016, 9%.

Majority of hot spots actually

occurred in community lands, where a large number of farmers cultivated cash crop (which may include oil palm) and resorted to burning to save cost. The rights of farmers using burning to clear land had always been embedded in the law. As such, solution to the haze problem must include assistance to the farmers to clear land without burning.

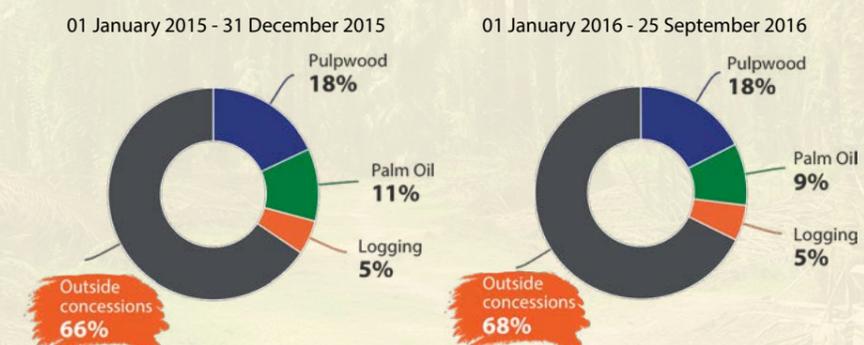
Musim Mas is one of the founding members of Fire-Free Alliance (FFA). About 70 villages near or within its concessions have been identified as high risk area and outreach programs on creating fire free environment had been initiated. These programs were instrumental to understand why local communities would need to resort to fire: whether for clearing debris, deterring wildlife from damaging

their crops, or mere accidents.

As a further step, five villages or communities were chosen in a pilot program, based on the number of fire incidences in the past. Musim Mas started working with the community leaders to understand the cause of the fires and possible prevention. The community with the highest reduction in the incidence of fires will be rewarded with monetary or in-kind incentives in order to encourage better and sustainable fire prevention.

With the bulk of fires occurring outside of its concession, Musim Mas understands that it needs to look beyond its boundaries and works with surrounding communities to get rid of the root cause of the fires. 

Fire alerts by land use area



Source: Global Forest Watch 2015

Source: Global Forest Watch 2016

A glimpse of precision agriculture

At the Musim Mas' inaugural G&A (Genetic and Agricultural) Research Centre Field Day on 16 May 2016 in Sorek Estate, Pekanbaru, planters and agronomists from our plantation management team were in a discussion on how to manage 130,000 hectares of planted area as if they were smallholder farmers tending to their plots in their backyard.

This approach is known as precision agriculture. Planters want to find out - nearly down to each oil palm tree - what is happening on their estate. For example why a part of the estate ended up with poorer yields than the rest or how to deal with pest outbreaks effectively or how efficient is the application of fertiliser.

"We do a soil survey and classification for every six

hectares of land," said Mr Ooi Ling Hoak, the Head of the Musim Mas Research and Development (R&D) unit and the Group's chief agronomist. "We can then focus on conditioning each soil area for optimal yield. For example, when you have an area filled with sandy soil, you can apply dried palm fibre (from the mill). Sandy soil is dry and gritty to the touch, and because the particles have big spaces between them, it can't hold on to water. Water and nutrients drain rapidly, straight through to places where the roots of the plants cannot reach. The dried fibre can help maintain moisture and fertiliser."

In another demonstration on pest, Mr Cheong Yew Loong, our chief entomologist, explained "the termite queen lays an egg every three seconds for 30 years. Gradually the queen gives birth to an entire kingdom. Once the queen mother dies, life will not



Briefing on fibre application



Explaining yield recording activity using smartphone technology

make sense for the kingdom and so for good control you have to strike where it hurts the most - the queen mother chamber (i.e. apply the pesticide selectively)."

Precision agriculture enables planters to know what is going on in every hectare, making it more efficient with fertilisers and pesticides.

Effective use of agricultural inputs such as fertilisers is essential for a good reason. Almost 60 percent of plantation operating cost is the fertiliser component. Moreover, there is a growing awareness that excess agrichemicals may also pollute natural water sources.

Planters visited the Group's Genetic Research Centre (GRC). The GRC has 218.55 hectares of breeding (parental) palms planted since 2012. The Group's oil palm breeding research programmes include palm yields, bunch oil content analysis, and vegetative growth measurements. The materials are being developed on a semi-commercial scale for further evaluation. The Group is targeting to produce high-quality DxP seeds by the year 2022. With the elite planting materials, Musim Mas Plantation is looking to improve its land productivity from 6 tonnes per hectare to 10 tonnes per hectare, in contrast to the industrial norm of 4.5 tonnes.

More recently, precision agriculture has

progressed to incorporate the greater use of technology, including global positioning satellites and computer software for mapping and record keeping.

The R&D team also unveiled specially programmed Samsung tabs for keeping records. Previously, field agronomists will note down the data on paper and pass it to data-entry clerks. Currently, data is recorded directly into a Samsung tab and uploads directly into the central database. This system dramatically improves the accuracy of data entry and ensures that the management can react quickly to the data analysis.

"I can be in another country, yet I know exactly how my baby seedlings



Soil profile examination

are faring in Indonesia, right from my mobile phone," said Mr Ooi Ling Hoak.

Most importantly, precision agriculture can help close the yield gaps between what is being observed and what is theoretically possible, which translates into better yield. A sustainable vision for the industry is to increase yields on the existing landbank while the environmental footprint is reduced - a more viable solution to meet the challenge of rising demand for food from a growing global population. 



Engagement workshop with our suppliers



Supplier-participants listening intently to the speaker

At a supplier engagement workshop held on 2 March 2016 in Medan, Indonesia, participants from different supplier parent groups were present at Musim Mas Auditorium, oleochemical complex, to understand the elements of sustainability system.

Management personnel from 14 supplier parents groups attended the event. They were part of the middle to senior management responsible for a network of mills in their group. These parent groups were also the top suppliers of Musim Mas.

The workshop aimed to raise awareness in these suppliers of the Musim Mas Sustainability Policy and to gain commitment from them to comply with it. The event was facilitated by the CORE consortium of Proforest, Daemeter Consulting, and

Rainforest Alliance, who presented the process of upcoming mill verification for the participating mills: objectives, methodology, process and preparatory requirements. The CORE consortium is also the independent verifier of the Group's work to review progress against its stated targets and sustainability policy.

One of the main concerns raised by the participants during this workshop was the possibility of not being able to comply with sustainability requirements and the consequences of this.

To this end, Musim Mas assured the participants that the Group understood that they may need time to implement the recommendations from the mill verification report. Musim Mas believes in close cooperation and constructive dialogue with suppliers to integrate sustainable development principles with current business practices. The Group will work with them through training, capacity building programmes, and other continuous positive supports.

Musim Mas further clarified that the Group would not be trying to

investigate on the non-compliant suppliers, but rather to identify any potential issues, compile data and formulate solutions to improve practices in the landscape. The outputs from the mill verifications may be able to form a platform for transformation.

"There is a definite need for us to sit down together to identify the problems and then look for solutions," said Eliza Goh, the Musim Mas Traceability Team leader.

The path to establish and maintain sustainable and traceable supply chains is full of challenges. Musim Mas believes in continuous and positive engagement with our supply chain stakeholders to provide direction and clarity. Mr T.K. Lim, Director of Strategy & Planning, said, "This engagement workshop has been fruitful for Musim Mas and our suppliers. It will enable us to push forward with the sustainable development agenda collectively. We are looking forward to a closer collaboration with all our suppliers." 

After mill verifications: what next?



In an industry often criticised for having complicated supply chains difficult to understand from an outsider's perspective, Musim Mas Traceability Team aims to shed light on the Group's supply chain by understanding the supply base of the third-party mills in relation to their FFB dealers and smallholders.

The traceability team takes on different roles at times: firstly, it acts as the Group's designated researchers to check how third-party mills are implementing their sustainable principles and how this relates to the policy of Musim Mas. Secondly, it acts as the Group's "sustainability representative" to educate and convince third-party mills to adopt practices in compliance with Musim Mas Sustainability Policy.

With the increase in the number of mill verifications, ultimately Musim Mas Traceability Team hopes to crystallise the key issues among the numerous concerns, formulate solutions and encourage mills to adopt the recommendations.

The team will visit more mills in the provinces of North Sumatra, Riau, Central Kalimantan - each of which contributes to the Group's supply base in ascending order - to build up case

studies.

Many issues arising from mill verifications are common across the industry. Eliza Goh, Musim Mas Traceability Team leader, said, "Sometimes we may encounter mills which do not meet many legal requirements laid down in government regulations."

Eliza's biggest headache is to trace all the third-party FFB suppliers, in particular, smallholders and their dealers. Eliza explained, "There usually are a few layers of dealers doing the amalgamation of FFB from the smallholders, and in such cases traceability is simply lost."

The current trend in the industry seems to focus more on the exact locations of all the FFB suppliers to a mill. But such a definition of traceability may not yield practical results. "Supply base can be dynamic. But traceability is a one-time snapshot. Smallholders who supply you in January may shift their produce to another mill in February," said Eliza.

The works of Musim Mas on mill verification and traceability only aim to seek out approximate locations of the mills' supply base. Dr Petra Meekers,

Director of CSR and Sustainable Development, framed the issue neatly, "It doesn't matter whether smallholder A or dealer B makes the physical delivery to the mill during a particular period. As long as both parties may send to the mill, we should consider them as suppliers and assess the potential risk."

But the real issue is: after mill verification, what next? "Mill verification is known to be a notoriously costly process. While spending millions of dollars on it can demonstrate one's commitment, what will it change on the ground?," asked Dr Meekers.

40% of oil palm plantation in Indonesia is owned by smallholders. More often than not, they are not able to meet all the legal requirements. Nor does their structure of operation afford them the possibility of pursuing any form of sustainability certification. "The industry cannot accept that these smallholders be excluded from the mainstream supply chain by the mill verification exercise," said Dr Meekers.

It seems that sustainability journey certainly does not end at mill verification. 

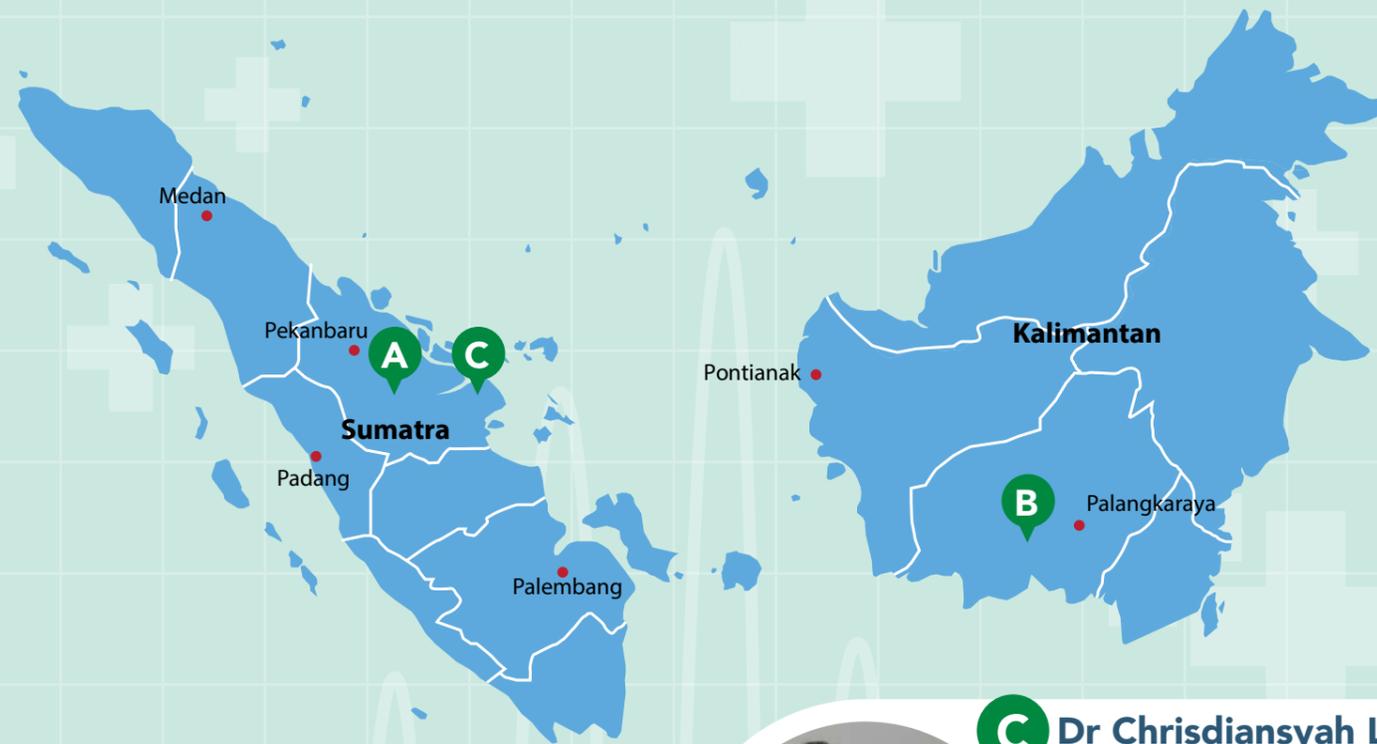
The plantation stethoscope: how practising in plantation differs from in city

Plantations are usually located far away from cities. Hence to ensure that the employees along with their families have access to medical services, Musim Mas builds clinics in its estates to meet the medical needs of its workers and their families.

The job scope of estate clinic staff typically entails:

- Clinic Management - including management of patient data, medicine and equipment, and the *Badan Penyelenggara Jaminan Sosial (BPJS)* programme
- Medical consultation and treatment for patients
- Accompany patients to appointed hospitals for emergency cases
- Monthly gynaecological check up
- Health checks for staff and workers - monthly and yearly basis
- Provide health socialisation and training on first aid and medication

We spoke to three doctors to find out about what they think about working on a plantation.



A Dr Irsan Rusli (40 years old)

Medical degree from North Sumatra Islamic University / Medan
Clinic location: practising in PT Musim Mas Estate 2 for six years and eight months.
 Sees about 15 patients per day on average
Most common afflictions in his patients: Hypertension, joint disease and influenza.

The clinic is adequately equipped with rooms for patients and medical equipment. I decided to join this clinic knowing that it is located in a plantation, to get more experience in handling diseases and to widen my knowledge in treating patients. What I enjoy about working here is the intimate atmosphere and kinship that is seldom experienced outside. I don't quite like it when a co-worker is transferred to other locations, especially if we have worked closely together.



B Dr Yulin Iffendi (33 Years old)

Medical degree from Trisakti University / Jakarta
Clinic location: practising in PT Sukajadi Sawit Mekar Estate (Sebabi) for three years and five months.
 Sees about 25 patients per day on average
Most common afflictions in his patients: Respiratory tract infections / Cough and Flu and Dyspepsia.

I joined the clinic for a change in working environment, to experience new things. The quality of our clinic is quite good, and the medical devices are adequate to examine patients and provide outpatient treatment. It is easy to save money working and to live here because the company offers food and lodging. The estate life also provides a quiet environment.



C Dr Chrisdiansyah Lukman Hakim Saputra (31 Years old)

Bachelor of Science (Medical), from University Brawijaya / Malang - East Java
Clinic location: practising in PT Guntung Idamannusa (PT GIN) for two years and eight months.
 Sees about 30 to 40 patients per day on average
Most common afflictions in his patients: Respiratory tract infections, cough and flu, gastritis and diarrhoea.

I joined this clinic as it allows me the opportunity of applying what I learned (medical and management) directly. What I like about working in a plantation estate is that it is free from pollution and traffic jam. We can learn a lot of things that cannot be experienced in cities.

The only form of transportation to and from PT GIN is by boat since rivers and canals surround the area. This situation makes our medical work specially challenging from having to provide treatment in the boat to being lost in the river en-route the appointed hospital due to low visibility. The journey to a hospital in a major city like Batam requires a 45-min journey by boat and there were occasions when the baby arrived faster than we could travel, so I have helped deliver a baby on board. These are experiences which other doctors and paramedics may never encounter and make us even stronger than before. There have been significant improvements to the clinic's facilities and infrastructure since Musim Mas took over.*

*PT. GIN was acquired by the Group in late 2013.▲▲



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Our business is involved with every part of the palm oil supply chain: From managing plantations and mills to refining crude palm oil and manufacturing palm-based products, supported by an extensive fleet of ship tankers and barges that enhances our logistical capabilities. We employ 37,000 employees in 13 countries across Asia Pacific, Europe, and the Americas, committed to meeting global demand for Palm oil and its derivative products in an environmentally, socially and economically viable manner.

This publication is produced by Musim Mas. Comments and suggestions are welcomed. Please contact the corporate communications team at sustainability@musimmas.com or visit our website at www.musimmas.com.