



DIGBY WELLS

ENVIRONMENTAL

Noise Statement

Feronia PHC Oil Palm Plantations, Democratic Republic of Congo

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1 Introduction

Digby Wells Environmental (hereafter Digby Wells) was requested to undertake an Environmental and Social Assessment (ESA) of the Feronia PHC Oil Palm Plantations in the Democratic Republic of Congo (DRC). A suite of specialist studies were requested, along with a qualitative noise assessment.

The objective of the noise study was to give a high level description of the noise environment with reference to the plantations, and receptors in and around the concessions. No quantitative noise measurements or propagation modelling was undertaken; the baseline noise environment description is based on a qualitative assessment from the Digby Wells teams that went to site and a desktop review. The notes that the social team compiled from meetings with individuals and communities were reviewed to gauge if noise was an issue for stakeholders or perceived to be an issue.

2 Project Description

The project comprises the rehabilitation of three oil palm plantations and mills in the DRC, the oldest of which was established in 1911; palms are being replanted and there will be no greenfield development. Feronia operates three plantations in two provinces, Boteka and Yaligimba which are located in Equateur and Lokutu in Orientale.

Lokutu Oil Palm Plantation, that was first planted over 100 years ago, is located on the southern bank of the Congo River and covers approximately 63,500 Hectares (Ha) of which approximately 12,000 Ha is planted with oil palm (and some cocoa and coffee).

The Yaligimba Oil Palm Concession lies in the Northern Democratic Republic of Congo, within the Equateur Province close to the border of the Orientale Province. The project area covers approximately 30,199 Hectares (Ha) of which approximately 16,000 Ha is planted with oil palm.

The Boteka Oil palm Plantation is on the southern bank of the Momboyo River, a tributary of the Ruki River that flows into the Congo River approximately 120km to the west. The project covers approximately 13,542 Hectares (Ha) of which approximately 4,000 Ha is planted with oil palm.

3 The Noise Environment of the Feronia Plantations

All three plantations are in remote areas and none have nearby industrial developments; logging concessions are adjacent to the concessions and, in places, overlap with that of Feronia's concession. Thus, there are no large-scale operations that affect the overall noise environment in or beyond the concessions.

Based on observations by the Digby Wells teams that went to site, the noise environment is described as typical of African forested and rural areas; sources of noise can be grouped into those associated with:

- Forests and the undisturbed environment (e.g., birdsong, animal calls and rustling of vegetation in response to wind and rain).
- Villages and livelihoods (e.g., talking, music, domestic dogs barking).

One of the loudest noises heard by the Digby Wells team was persistent and high-pitched screeching of bats trapped in mist nets set up by villagers; this sound was heard during the night. Mist nets are strung up amongst trees to catch bats which are commonly eaten in rural areas.

Dug-out canoes with two-stroke engines are used as a form of transport and by fishermen, and were frequently heard throughout the day on rivers. There are also barges with larger engines and associated noise. There is substantial river traffic on the Moyoya River and at Lokutu as the Congo River and its tributaries are used as a highway. The noise can be significant and does effect the riparian environment (causes animals to retreat to less disturbed areas especially during the day when there is much activity on the rivers).

At Boteka and across the river, the sound of chainsaws and chopping with axes and machetes was commonplace and noticeably loud; but was dependant on the distance at which the sounds were heard, and the type of vegetation.

- Feronia operations. Noises associated with the operation activities are similar at all three plantations with the mills producing a consistent low noise level throughout the day.

Receptors at Lokutu are the residents in nearby houses, whereas at Yaligimba, there are no nearby residents. The Boteka operates natural draft boilers instead of fans which eliminates noise.

- The most notable noise is a morning (05h00) and lunchtime alarm comprising a drawn out mechanical siren which is loud and intrusive to those on site. The purpose of the siren is to notify workers' on site and in the surrounding villages that it is time for a shift or break to begin. The siren is also used as a warning in case of emergency. Activities on the actual plantations are agricultural (digging, planting, clearing vegetation) for which noise levels are very low, intermittent, local, and restricted to daylight hours. The forests, vegetation and the prevailing weather conditions influence the extent to which noise propagates from the mill and activities on the plantations (e.g., winds and the dense forest limit transmission of sound). The topography around Lokutu dampens the sound of the mill and it is estimated by the team that went to site, that within 500 metres the drone of the mill cannot be heard. Some of the company vehicles are old and in poor condition so noise levels are relatively high (compared to modern vehicles); vehicles will be replaced as part of the overall replacement and upgrading of vehicles, plant, equipment, tools and machinery.

3.1 Operations at the Oil Palm Plantations

The rehabilitation of the plantations and mills will generate some noise but the extent will be local and of short duration. Workers involved with noise-generating tasks should be supplied with personal protective equipment (PPE) such as ear defenders.

4 Findings and Conclusions

The findings of the qualitative assessment for noise are that there are no industrial developments in the vicinity of the plantations. Thus, the noise environment is typical of remote, rural areas where livelihoods are based on subsistence farming and agriculture. Based on the findings of this study, it can be concluded that the noise environment has remained the same over the last few decades as the Lokutu mill has been operating for the last 100 years and Boteka and Yaligimba have been operating since the 1940s. The noise generated by local communities, living and working in and around the concessions, would have increased in proportion due to population growth (through natural growth and influx). However, the noise setting remains rural.

As Feronia rehabilitates the plantations, replaces vehicles, services equipment and the mills, noise levels should be reduced; the mills, new vehicles and boats will meet specifications as per current standards. Thus, with reference to the continued operations at Feronia, the sources of noise are likely to be reduced.

All sources of noise that have been identified through this study are point sources, that are of local extent and short-term (e.g., those that are generated within the confines of the factory [such gen sets, crushing plant], and the siren. Based on observation by Digby Wells, it can be concluded that noise is not a significant issue.

Noise was not raised as a concern in terms of nuisance nor health, at any of the meetings held by the Digby Wells' social team in December 2014 and the first quarter of 2015.

4.1 Limitations

The limitations associated with this study are:

- Lack of site-specific noise data.
- Lack of historical data.

No quantitative noise measurements or propagation modelling was undertaken so this report is based on qualitative observations by the Digby Wells' team who did fieldwork, their observations, and a review of documents that Feronia made available to Digby Wells. Feronia should consider the limitations of the noise study when developing mitigation measures to manage source of noise.

5 Recommendations

The following general recommendations are made to help Feronia meet standards for good practice:

- PPE should be part of the essential equipment supplied to workers who work in noisy environments (e.g., the mill and workshops). There is often resistance to wearing equipment such as ear defenders, particularly when working in hot and humid conditions, but the need for PPE should be included in induction, and health and safety training.
- Implementation of a monitoring programme whereby monitoring stations should be set up at strategic points where receptors (including the workforce) have been identified (e.g., at the mills, waste management facilities, and nearby communities). This will enable Feronia to quantitatively measure (a) the current baseline (which is likely to have been similar to that of the past decades), and (b) any changes that occur as the operations are modernised and the populations change (increase or decrease).
- International standards should be adopted for day and night time noise limits. The IFC EHS procedures should be followed for measuring noise over a 24 hour period as a minimum.

These recommendations will assist Feronia in the interim period before the results of onsite monitoring informs mitigation for specific activities that take place on site.

6 References

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