

Comments from the ARRC Task Force on the Solar Era project in Sierra Leone

April 28th 2023

The ARRC task force was approached on the 9th of March, 2023 by the Dutch entrepreneurial development (FMO) and the company Serengeti Energy which is developing a solar energy project ('Solar Era') in chimpanzee habitat in Sierra Leone, West Africa.

The Solar Era project consists in the development of a two-phase project, the first phase corresponds to a 5 MW solar Photovoltaic (PV) project with a 50-70 acres footprint that was installed near the small town of Yamandu, alongside the Bo-Kenema highway. This first phase was subject to an ESIA and a Supplemental Environmental and Social Impact Assessment Report during which chimpanzee surveys consisted of interviews in 6 villages and recces were conducted mainly in the vicinity of Phase I installation. These interviews and limited recces suggested no evidence of chimpanzee signs in the footprint area which abuts the highway. However, they did confirm the presence of chimpanzees within less than 3 kilometres of the direct footprint of the project, and also in Kambui Hills Forest Reserve located east of the project about 30 km away. This was followed by a Due Diligence screening completed on demand of potential lenders which outlined specific recommendations and an action plan for monitoring chimpanzees and conservation actions associated with restoration activities in the Kambui Hills. The first phase of the project was completed in October 2022 and the project is currently generating electricity, although it is our understanding that none of the proposed actions were implemented during Phase I.

The project is now looking to develop its second phase which involves the development of an additional 20 MW solar PV – Hybrid project including potential diesel back-up and potential energy storage which will involve installation of a 10 MW solar PV plant south of the phase I facility, across the Bo-Kenema highway. Directly adjacent to this area, there is also a proposal for a second installation of an added 10 MW PV.

The company is currently looking to conduct a yearlong survey of chimpanzees across the entire project. The ARRC taskforce has been asked to provide input on the proposed survey's terms of reference (ToR) and subsequent documentation emanating from the survey results.

The ARRC taskforce was supplied with the following contextual documents:

- 20182408_Solar_Era_Supplemental_ESIA_Final_Report_V1
- STOA Swedfund Proparco three project screening report_20211206_v1.3_CLEAN_FINAL

The following three documents were reviewed by the ARRC Taskforce panel to provide comments on this project:

- 20230206_Baoma_I_ToR_Annual_Chimpanzee_Survey_rv
- Yamandu Kambui Hills Revised proposal Final_20-2-2023
- Standard Operating Procedures for Chimps Monitoring

General comments

- The survey objectives in the different documents are not clear. We were confused by the remit and objectives of the different documents; the geographical focus in the context of the proposed project is unclear. There is a lack of direction in the SOP and the '*Yamandu Kambui Hills Revised proposal Final_20-2-2023*' when it comes to defining the area to be surveyed and why one document focuses mainly on the Sangima community forest and the other on Kambui Hills and none in effect focus explicitly, as best practices would recommend, on the

Area of Influence (AoI) of the Phase I and II project. We expect that a clearer articulation of survey objectives in the ToR should help address this.

- We found that these new surveys proposed lack baseline surveys for the Phase II project development. It would be necessary to define the AoI of Phase II and conduct further surveys to assess the potential presence of chimpanzees in that area.
- The project doesn't seem to have implemented any mitigation measures for chimpanzees at the project site. Further surveys at the project site are needed to help inform the application of the mitigation hierarchy. We noted that one mitigation measure proposed in the supplemental ESIA was the fencing of the project site to prevent primates (monkeys and chimpanzees) from entering. It is unlikely that primates would venture onto such a site, and it is preferable not to fence the area (unless there are real risks of electrocution to chimpanzees and other wildlife) not to restrict animal movement and increase the fragmentation effect caused by the project.
- It is unsure if Kambui hills has been retained as an offset site option, or if further project development is considered in that area. If this is a potential offset site, normally best practice guidelines would require a better assessment of different potential offset site/activities options, which would be included in an offset feasibility study.
- We would like the project to revise both ToRs addressing the comments below and send them to us for review before undertaking the surveys.

Specific comments

➤ Concerning the document '*Standard Operating Procedures for Chimpanzee Survey*':

- **Survey location:** The Scope of Work for the ToR lacks sufficient information on the project location, project infrastructure and activities. A detailed map of the area indicating location of the project (Phase I and II), habitat types and the Sangima Community Forest would be immensely useful. Such information is necessary to help assess the potential area of impacts (both direct and indirect) of the project on chimpanzees and determine the project's area of influence (AoI) (during both construction and exploitation phases of the project). This AoI should then equate to the survey area for the chimpanzee surveys.
- **Survey duration:** Twelve months of surveys allowing for assessment of variation in the distribution and area utilisation of chimpanzees across the AoI between dry and wet season follows best practices, including IFC PS6.
- **Survey method:** the method currently proposed is not justified: 1) Doing transects with DISTANCE without performing an initial survey phase to understand if DISTANCE is the most appropriate survey approach is not recommended (the DISTANCE program with transects is not really effective in estimating abundance unless a minimum of 70 nests can be recorded); 2) There are many details on how the survey data will be collected, but no information on how those data will be used beyond producing a survey estimate.
- **Habitat and nesting variables:** The purpose for all the additional detailed habitat and nesting data is unclear. Unless there is a specific justifiable purpose for these data, we would argue that collecting habitat data is beyond what is required (e.g., measuring canopy cover is unnecessary for what should be the purposes of this study/survey), unless these data serve another clear purpose that is useful to the client, e.g., as a baseline for monitoring restoration actions financed by the project (but this would be an entirely separate objective with a separate deliverable). Associated equipment for the habitat quality and condition assessment might therefore be unnecessary. It is also not necessary to measure the range of nesting variables proposed here (i.e., nest height etc.), unless their utility in the context of

the proposed project and ToR objectives is clarified. If the objective here is to assess habitat condition and quality as a baseline for restoration activities this needs to be indicated.

- The SOP seems to be following REDD+ habitat assessment methodology and is not really fit for the project's purpose. The SOP presents an extensive list of habitat types. We recommend the list be reduced to include fewer habitat types that are generally recognised in other studies or literature. This will help to prevent error in recording, facilitating consistency, while also simplifying the data collection process.
- The ToR lacks a clear **articulation of objectives and deliverables**, e.g., from the definition of project area of influence (inclusive of project's direct and indirect impacts on chimpanzees) to survey outputs, e.g. chimpanzee abundance, distribution, temporal and spatial habitat use and critical habitat assessment, i.e. areas used by chimpanzees, and interpretation of data gathered to emit recommendations for avoidance, mitigation, restoration etc. :

In terms of the objectives outlined in the ToR we would recommend the following:

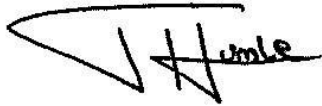
- Define the AoI of the project that includes both potential direct and indirect impacts; the AoI should represent the area to be surveyed for baseline data on chimpanzees.
- Need to conduct baseline surveys ideally in two phases with an initial scoping phase. For this first phase, we would recommend the following:
 - consultation across all villages in the area (excluding the six villages that have already been interviewed), e.g., focus groups if household-level interviews are too time consuming. This social science approach should focus on:
 - identifying areas where villagers have observed chimpanzees and/or know where chimpanzees occur.
 - ascertaining the reported threats to chimpanzees in the locality; what are the main drivers of deforestation in the locality; do villagers know whether chimpanzees have ever been captured or killed in the locality and why?
 - gathering information on reported crop foraging by chimpanzees (where, when and what and gauge people's level of tolerance towards chimpanzee crop foraging)
 - conduct recces to confirm reported locations where chimpanzees occur (also record habitat type) and record threats to chimpanzees (e.g., signs of snares, hunting), distance walked and signs of chimpanzees. This will also allow for an estimate of the encounter rate (ER) of nests which will help determine if transects are feasible for the second phase of surveys and how many transects should be carried out to use DISTANCE for analysis. If the ER too low (which we expect to be the case), then transect surveys will not be an appropriate survey methodology to use.
 - The results of the first phase of surveys and proposed plan for the second phase of surveys should be shared with the ARRC Task Force for review and advice.
- Based on the results from the initial surveys, propose suitable survey approach(es) for baseline data collection based on AoI (second survey phase): what method(s) will be used and why are these deemed the most appropriate, how many teams will be needed for the work to be completed, what equipment will be required, what training might be needed, what analysis will be used? Alongside the social science approach, the recces proposed above will help inform the most suitable method(s). If ER too low, we would recommend gridding (1 x 1 km) the AoI and placing camera traps in grids where chimpanzee presence is either reported or has been confirmed and adjacent ones to

maximise coverage and the capture of chimpanzees (i.e., along chimpanzee trails) to and conduct recces between camera trap placements to gather further data on distribution and habitat use. The camera trap data can be used to estimate abundance through individual identification and a capture-recapture analysis. We expect this to be feasible as the number of individuals might be relatively low. Using camera traps can also provide additional useful information of population structure, demographics, and health.

- Collect the data across rainy and dry season months with teams with adequate training and expertise.
 - Analyse the data for abundance, distribution, habitat use, threats etc. and interpret the data with respect to direct and indirect impacts of the project and emit recommendations in the context of chimpanzees and the proposed project for avoidance, mitigation and restoration measures (main deliverable for baseline surveys)
- **Concerning the doc '20230206_Baoma_I_ToR_Annual_Chimpanzee_Survey_rv':**
- **Context:** the ToR failed to describe the context for the need to survey chimpanzees in Kambui hills (please note that Kambui hills are located in the Kenema district not Bo district). We assume that Kambui hills has been retained as an offset site for chimpanzees, but this is not clear in the document. Also in the title there is reference to 'Baoma' project, which seems to be located near Yamandu and not Kambui Hills. There seems to have been part of the document copied from previous document which makes the whole document incomprehensible. To our knowledge there are no ESIA to be conducted in Kambui hills, but there is reference to future ESIA. The surveys should not be called baseline surveys, but chimpanzee surveys to remove some of this confusion.
 - **Survey location:** The Scope of Work for the ToR should include a map of the area to target for surveys.
- **Concerning the document 'Yamandu Kambui Hills Revised proposal Final_20-2-2023':**
- Again, given the confusion in the document and because the objectives are not clear, the consultant is copying language from the ToR, but doesn't seem clear on the purpose of the surveys. This need to be clarified.
 - Similarly to the comment given above on the surveys to be conducted at the project site, these surveys should be done in two phases, with the first scoping phase helping to inform the survey methods and design to be used in the second phase. At the moment, transects and camera-traps have already been proposed, but it would be preferable to wait on the results of the first phase before elaborating on the survey effort and methods for the second phase.
 - The consultant could consider repeating the chimpanzee survey conducted at this site in 2012 by the Tacugama Chimpanzee Sanctuary to assess the trend in their population and threats at the site.
 - The budget in the proposal document is difficult to interpret and does not seem to align well with some of the objectives on fieldwork duration; this might require revision accordingly.

Please do not hesitate to let us know if you have any further questions or if you would like to have a call to discuss our comments.

Best regards,

A handwritten signature in black ink, appearing to read 'Humle', with a stylized flourish above it.

Dr Tatyana Humle

On behalf of the ARRC Task Force panel for this project