PROJECT SUMMARY

Project Title: Sustainable Timber Harvesting in Mabura

Project Owner: Hamekaran Basdeo

Concession ID: DEM4311

Location: Mabura, Guyana

Prepared by: Divya Devi Basdeo

Project Description:

This project involves timber harvesting within the DEM4311 concession in Mabura, using sustainable forestry practices. Operations will be conducted in compliance with EPA guidelines to ensure minimal environmental impact while supporting local economic activities.

Site Description for Timber Harvesting Project

The proposed project is located within the DEM4311 concession area, situated near Mabura in the Upper Demerara-Berbice Region of central Guyana. The concession lies within a largely forested zone designated for sustainable logging operations.

Area of Influence:

- **Spatial Boundaries:** The area of influence includes the full extent of the DEM4311 concession, approximately 3479ha 8597ac along with contiguous forest zones, tributaries, and nearby access routes.
- **Temporal Boundaries:** The projected period for timber harvesting is 2024-2026, with operations phased seasonally to align with dry-weather accessibility and sustainable yield cycles.

Land Requirements & Layout:

- The project will occupy areas designated for selective logging, skidding trails, log yards, and temporary field camps.
- Total direct land impact will be limited to harvesting compartments and access corridors, occupying no more than 10% of the total concession at any one time.
- The layout includes harvesting blocks demarcated according to sustainable forest management guidelines, with minimal disturbance to surrounding vegetation.

Water Resources and Discharge:

- The site is intersected by small seasonal streams that drain into the Essequibo River watershed. These will serve as receiving waters but will not be used for intake.
- Buffers of at least 30 meters will be maintained between logging activity and permanent watercourses.
- There are no existing or proposed water intake structures.

- Discharge is limited to surface run-off during operations. Sediment control measures such as silt traps and vegetative barriers will be used to minimize potential impacts.

Current and Surrounding Land Use:

- The project area is currently classified as production forest under the Guyana Forestry Commission, with no major settlements or industrial use.
- Surrounding areas are primarily undisturbed forest and logging concessions. Access is via the Mabura Road, an established forestry route.

Project Size and Operational Characteristics

The timber harvesting operation under Concession ID DEM4311 is a small-scale project designed for sustainable yield within the Mabura forestry zone.

- **Capital Investment:** The initial capital investment is estimated at **G$ 3 million**, which covers the cost of equipment, operational logistics, compliance, and fuel.
- **Workforce:**
  - **Initial Stage:** 3 field workers and 1 tractor operator (total: 4 personnel).
  - **Mid-Term Expansion (if required):** An additional 3 seasonal workers may be employed for short-term support activities such as skidding, stacking, or transport.
- **Equipment:**
  - 1 agricultural-grade tractor with winch attachments for log extraction.
- **Rate of Production:**
  - The projected output is 40–**60 cubic meters of timber per month**, depending on weather conditions and terrain accessibility.
  - Harvesting activities will occur during the dry season to minimize environmental impact and enhance logistical efficiency.
- **Operational Timeframe:**
  - Estimated operational span 3 years following annual cutting cycle approvals and sustainable harvesting practices in accordance with GFC guidelines.
- **Support Infrastructure:**
  - A temporary field camp will be established for equipment storage and worker rest areas, utilizing minimal land clearance and adhering to low-impact designs.

This operation will follow guidelines provided by the Guyana Forestry Commission, incorporating reduced-impact logging techniques and ensuring minimal disturbance to surrounding ecosystems.

Project Summary (Layman's Terms)

This project is a small-scale timber harvesting operation in the forested area of Mabura, Guyana. The goal is to carefully cut and collect selected trees from the forest for wood products, without causing harm to the environment. The work is being done by a team of three workers and one tractor, under the guidance of project owner Mr. Hamekaran Basdeo, within a licensed concession area (DEM4311).

The team will follow safe and sustainable practices—meaning they'll only cut certain trees, leave young and protected trees untouched, and avoid damaging rivers or wildlife habitats. Logging will take place mostly during the dry season when access is easier and the risk of damaging the forest floor is lower.

There will be no large buildings or factories involved—just temporary work areas and shelters, with careful planning to avoid disturbing nearby water sources or animals. This project creates jobs for local people and helps contribute to the timber industry while following environmental rules set by the government.

Duration of the project (for each phase)

1. **Preparation Phase – 1 to 2 months**

- Activities include boundary demarcation, planning of harvest blocks, equipment servicing, and worker onboarding.
- No tree felling occurs during this phase.
- Environmental safeguards such as buffer zones and skid trail planning are put in place.

2. Harvesting Phase – 4 to 6 months annually (dry season only)

- Active timber cutting, extraction, and stacking will occur primarily between **August and February**, depending on weather and terrain.
- Only selected trees are removed using reduced-impact techniques.
- Phase may repeat over multiple years depending on forest management plans and yield quotas.

3. Post-Harvest Maintenance and Monitoring – 1 month per cycle

- Involves cleanup of work areas, road/trail stabilization, and environmental impact assessments.
- Restoration of temporarily disturbed areas and replanting, where necessary, are addressed during this period.

4. Completion/Exit Phase – After 3 to 5 years

- Final decommissioning of temporary field sites.
- Submission of closure report and regeneration assessment to relevant authorities.
- Entire concession may then be rotated or rested according to sustainable forestry guidelines.

Potential Environmental Effects of Timber Harvesting

1. **Land and Soil Disturbance** The use of heavy equipment like tractors and the construction of skid trails may lead to **soil compaction, erosion, and displacement**—particularly on slopes or in areas with fragile topsoil. If unmanaged, this can reduce land productivity and increase sediment runoff into nearby waterways.
2. **Water Resources** Cutting near streams or rivers may alter **drainage patterns** and contribute to **increased turbidity** (cloudiness) in water bodies due to soil disturbance. While no water is directly extracted, run-off from disturbed land may carry sediments or oils that affect aquatic life downstream.
3. **Air Quality** Although this is a low-emission operation, **vehicular exhaust, dust from cleared areas, and small-scale burning** (if used for clearing) can temporarily affect local air quality—especially during the dry season when dust levels are higher.
4. **Vegetation and Biodiversity** Removing trees can **fragment habitats** and reduce plant diversity in specific harvest blocks. However, since the operation is small-scale and selective, overall ecosystem structure will be largely maintained if managed carefully.
5. **Wildlife Disruption** Noise and human activity may **displace local wildlife** during active logging periods. Though temporary, species that depend on quiet, undisturbed areas may move elsewhere during the harvesting window.
6. **Use of Natural Resources** The project directly utilizes **forest resources for timber**, but it is designed to be sustainable—harvesting selected trees while leaving others for regeneration. No additional natural resource extraction (e.g., water or minerals) is planned.
7. **Waste Generation** Small amounts of **wood debris, fuel residues, or non-organic waste** (e.g., packaging) may be generated. Proper disposal methods and clean-up routines are essential to prevent long-term impact.

These effects are manageable with proper environmental safeguards, monitoring, and adherence to best practices as guided by the Guyana Forestry Commission and EPA guidelines.

Proposed Plans to Mitigate Environmental Impacts

1. Land and Soil Protection

- **Minimize clearing:** Only clear land where absolutely necessary for trails and log yards.
- **Use designated skid trails:** Avoid random tractor movement to reduce soil compaction and erosion.
- **Erosion control structures:** Where needed, install silt traps, culverts, or check dams on slopes.

2. Water Resource Protection

- **Buffer zones:** Maintain at least 30-meter undisturbed buffer strips along all watercourses.
- **No refueling near water:** Fueling and maintenance of machinery will be done at a safe distance from any streams or rivers.
- **Sediment traps:** Install these in drainage channels to intercept runoff from disturbed sites.

3. Air Quality Management

- **Low-emission practices:** Ensure machinery is well-maintained to reduce emissions.
- **Dust control:** Use water sprinkling on trails if dust becomes problematic. Avoid burning vegetation unless absolutely necessary and authorized.

4. Vegetation and Biodiversity Conservation

- **Selective logging:** Only harvest marked, mature trees in accordance with GFC guidelines.
- **Habitat corridors:** Leave unlogged strips of forest to maintain habitat continuity for wildlife.
- **Replanting/Regeneration support:** Encourage natural regeneration or carry out enrichment planting where needed.

5. Wildlife Protection

- **Avoid critical breeding seasons:** Time operations to avoid key periods of wildlife breeding or nesting.
- **Minimize noise:** Limit use of heavy machinery outside daylight hours to reduce disturbance.

6. Resource Use and Waste Management

- **Efficient felling:** Maximize wood recovery from each tree to reduce wastage.
- **Waste handling:** Collect, store, and properly dispose of all non-organic waste (e.g., plastic, oil containers).
- **Fuel/oil containment:** Use drip trays or containment mats when handling fuel or lubricants.

These measures will be part of the project's **Environmental Management Plan (EMP)** and monitored periodically to ensure compliance and effectiveness.

Conclusion

The proposed timber harvesting project under Concession ID DEM4311, led by Mr. Hamekaran Basdeo, is a small-scale, sustainably managed operation that aims to responsibly utilize Guyana's forest resources while minimizing environmental impacts. With a dedicated team of three workers and one tractor, the project has been designed to follow best practices in reduced-impact logging, ensuring that forest regeneration, biodiversity, and water quality are protected throughout all phases of the operation.

Potential environmental effects such as soil disturbance, water runoff, and habitat disruption will be actively managed through clear mitigation strategies—ranging from protective buffer zones to proper waste handling and erosion control. Through seasonal operation cycles, monitoring, and adherence to the regulations set by the Guyana Forestry Commission and the Environmental Protection Agency, the project will support local economic activity while maintaining ecological integrity.

With careful planning, low-impact execution, and continuous oversight, this timber project offers a model for sustainable forest use in the Mabura region and contributes positively to Guyana's forestry sector.