

# 6<sup>th</sup> Annual Meet on **ADVANCES IN PHYSICS, MATHEMATICS AND APPLIED SCIENCE**

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## **Lomami Buffer Zone (DRC): forest composition, structure, and the sustainability of its use by local communities**

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The recently created Lomami National Park has an extensive Buffer Zone where local communities are allowed to use forest products sustainably. However, the management of this Buffer Zone is hampered by inadequate understanding of the floristic composition and the impacts of harvesting certain plant products. To fill in this data gap, we established and sampled 30 vegetation plots of 40 x 40 m, and investigated the population structure of eleven useful tree species preferred by local communities. We found that the Buffer Zone is mostly composed of mixed-species undisturbed old-growth forest. It contains nine tree species of international conservation concern (listed in the IUCN Red list and/or CITES Appendix). The floristic diversity of the Buffer Zone, which requires further investigation as some species remained unidentified. Most preferred tree species (including *Garcinia kola* and *Milicia excelsa*) are abundant and showed a reverse-J size distribution, indicating a relatively stable population structure. For these species, current levels of exploitation seem sustainable. Further research is needed for two non-abundant species of conservation concern (*Autranella congolensis* and *Michelsonia microphylla*). Although timber/firewood commercial harvesting is currently limited in the study area, the management plan of the Buffer Zone should consider these risks given increasing commercial hunting. Surveys and permanent plots provide essential information to guide the management of newly formed protected areas.

### **Biography**

Rodrigue Batumike is researcher in ecology and functioning of tropical forest and junior lecturer at Department of environment of Université du Cinquantaire de Lwiro in Bukavu, DRC. He is passionate in conservation of biodiversity and natural resources management with focus on the forest dynamics and carbon storage.. He conduct more research inside and outside the protect areas of eastern of DRC (eg: Kahuzi Biega National Park (KBNP), Itombwe Natural Reserve (INR) and Lomami National Park (LNP). Based on this experience he has many publications in the best journal of the world.