Insights into Biodiversity Restoration

Learnings & experience from Endana Field Workshop

January 17-21, 2025

Executive Summary

This report summarizes the key learnings and experiences gained from a 5-day field workshop on biodiversity restoration conducted in Endana, Sri Lanka, from January 17th to 21st, 2025. The workshop focused on practical aspects of restoration ecology, including vegetation assessment, financial management, and community-based conservation strategies. While the Endana workshop provided a valuable learning opportunity, these learnings will directly inform the development of a new biodiversity restoration project in Puttalam, with a particular focus on mangrove conservation. This report details the specific activities and observations from the Endana workshop, emphasizing the lessons learned related to site assessment, species selection, and long-term monitoring.

Introduction

As a Sri Lankan leading beverage company Dilmah Ceylon Tea has taken a big step in 2008 to conserve Sri Lankan biodiversity and forests by establishing the Dilmah Conservation under the philosophy of “Business is a matter of human service”. As a part of Dilmah conservation’s projects, Endana Biodiversity Corridor (EBC) in 2017 with the collaboration of Rajarata University of Sri Lanka.

The core objective of the project is to connect two fragmented forest areas of Sinharaja rainforest which are known as Iharakanda and Walankanda by creating natural corridor of native plant species. The value of this project is because it will facilitate the migration of threatened endemic plant and animal species between habitats while expanding the biological buffer zone of the Sinharaja forest complex and promoting ecological restoration. The EBC's impact extends beyond environmental conservation. It has also significantly benefited the local community. Villagers have been empowered through initiatives like beekeeping, supported by Dilmah, and employment opportunities at the plant nursery.

To oversee the project's progress, Dilmah Conservation and Rajarata University have established a field research station in Endana. This station features a plant nursery where seeds and seedlings, collected from the surrounding primary forest, are cultivated to ensure the corridor is planted with locally adapted species.

The research station is expertly managed by Mr. Amila Perera and his dedicated team. As part of our third-year Service Learning course, FS 3002, our team of six students participated in a five-day workshop at the Endana field research station. This immersive experience was designed to provide us with practical, hands-on knowledge of biodiversity restoration, directly relevant to our upcoming mangrove restoration project in Kalpitiya, Puttalam.

Workshop Activities and Observations

Day 1 (January 17, 2025) :
Visited the Endana Research Station and gained hands-on experience in taking plant measurements, including plant height, root collar diameter, and the number of branches and leaves, using field instruments.

Day 2 (January 18, 2025) :
Hiked to Walankanda Forest Reserve to gain an understanding of the primary forest associated with the EBC. Several flora and fauna including *Shorea* sp., *Coscinium* sp., *Ahaetulla nasuta* were observed, and samples were collected.

Day 3 (January 19, 2025) :
Prepared herbarium sheets from the samples collected in Walankanda. Mr. Amila Perera and his team provided a detailed lecture and demonstration on herbarium sheet preparation.

Day 4 (January 20, 2025) :
Gained hands-on experience with tagging methods and tag preparation. Mr. Amila provided a lecture on field data analysis & financial management of restoration projects.

Day 5 (January 21, 2025) :
Visited a tea factory and power plant. We planted seven trees along the corridor to commemorate our visit to the Endana research station. The species planted included *Loxococcus rupicola* (Sinhala: රත් දෝතලු), *Shorea oblongifolia* (Sinhala: යකහළු) and *Mangifera zeylanica* (Sinhala: ඇටඹ).

Key Learnings and Implications for the Kalpitiya mangrove restoration Project

The Endana workshop provided valuable insights into several key areas relevant to the Kalpitiya mangrove restoration project. For example, observing and taking measurements of plant phenotypic features like root collar diameter, number of branches, plant height of newly introduced plants to EBC in Endana highlighted the importance of the need for ongoing monitoring to access the effectiveness of adaptation of plants to new environment. We learned about different tagging methods and the necessity of tagging for ongoing monitoring to easily track the progress of individual plants. This experience will inform and improve our work in Kalpitiya. Furthermore, the discussions with local community in Endana demonstrated the critical role of local knowledge and participation in successful restoration. Therefore, we plan to collaborate with the local community in Kalpitiya to raise awareness about mangrove restoration, whenever possible.

Conclusion

The five-day workshop was very valuable, providing us with significant knowledge and hands-on experience in ecological restoration. The atmosphere at the research station was welcoming, supportive, and friendly. The food was delicious, and we felt like part of a family. The establishment of the EBC has progressed considerably well. The decision to use native plant species for the EBC, rather than introducing foreign species to that ecosystem, is an excellent decision. The research station offers valuable opportunities for young researchers to conduct their studies. Furthermore, local villagers have been empowered through various job opportunities and educated about environmental conservation. Therefore, it can be concluded that the overall impact of establishing the EBC and field research station in Endana is highly valuable, as it not only promotes Sri Lankan biodiversity but also provides significant community service. We hope this project achieves its planned success.

Appendices

1.Endana field visit memories

Figure 1: A view of the Sinharaja Mountain range

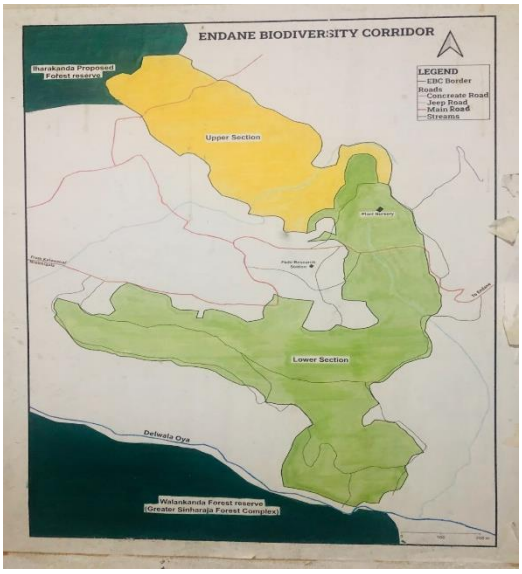

Figure 2: A map of the Endana Biodiversity Corridor.

Figure 3: Taking measurements of the marked plants

Figure 4 :Measuring the thickness of tagged plants

Figure 5: Demonstrating how to prepare seedlings for planting

Figure 6: A tour of the village within the tree corridor leading to Sinharaja

Figure 7: Plants prepared for planting

Figure 8: Climbing Walankanda Mountain

Figure 9: A group photo of the team members

Figure 10: Observing *Ahaetulla nasuta* (Sri Lankan green vine snake)

Figure 11: Heading to Walankanda Mountain

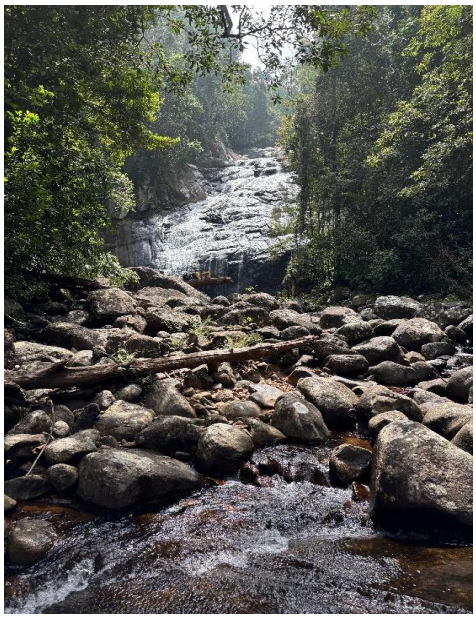

Figure 12: A stunning waterfall in the forest

Figure 13: Preparing herbarium specimens

Figure 14: Making bundles to dehydrate for herbarium sheet preparation

Figure 15: A bundle prepared for dehydration

Figure 16: Dehydration chamber prepared for drying

Figure 17: Mixing soil to prepare nursery packets

Figure 18: Preparing nursery packets

Figure 19: Planting seedling in nursery packets

Figure 20: Creating tags for tree identification

Figure 21: Preparing tags for tree tagging

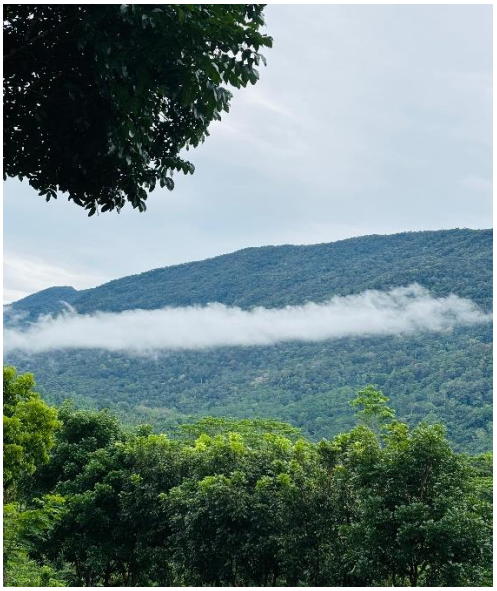

Figure 22: A morning view of the mountain

Figure 23: Planting recommended species as Reminders

Figure 24: Group photo of the Endana Station team

2. Group members

- Hasitha Ekanayaka -16310
- Udaya Namal -16324
- Mithuni de Silva -15938
- Charini Harshika - 15809
- Imesha Silva - 15899
- Hasini Maduwanthi - 15958