ECOSYSTEM SERVICES OF REMA-KALENGA WILDLIFE SANCTUARY, BANGLADESH

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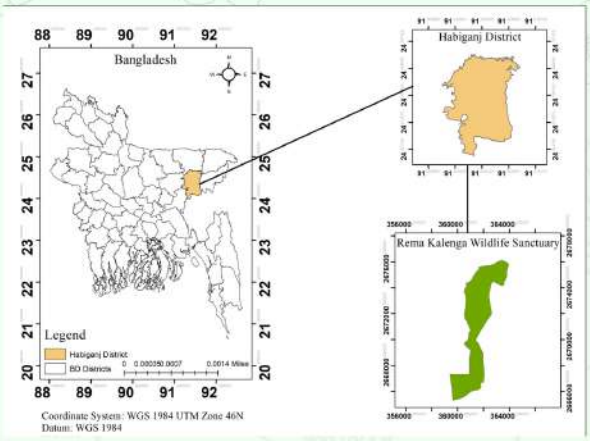
Introduction

The study identifies and categorizes the ecosystem services (provisioning, regulating, cultural, and supporting) of RKWS to emphasize its importance in biodiversity, community livelihood, and environmental sustainability. It offers insights for policymakers to integrate ecosystem valuation into development planning and highlights the urgent need for conservation.

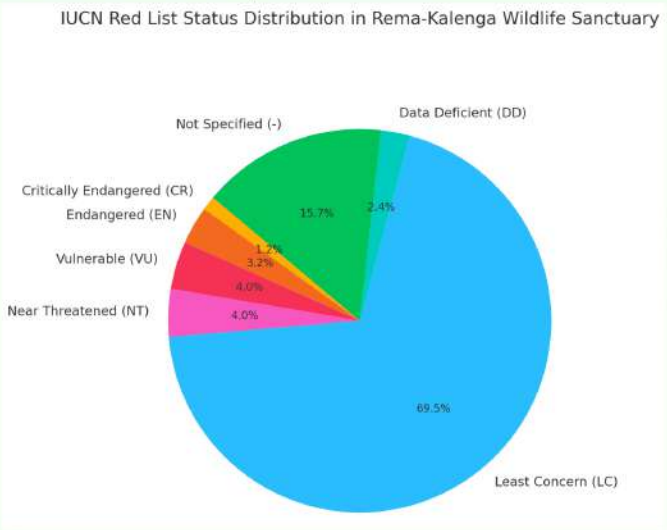


Objectives

1. Identify and categorize the ecosystem services provided by RKWS.
2. Assess the socio-economic and ecological value of these services.
3. Raise awareness for sustainable forest management and conservation efforts

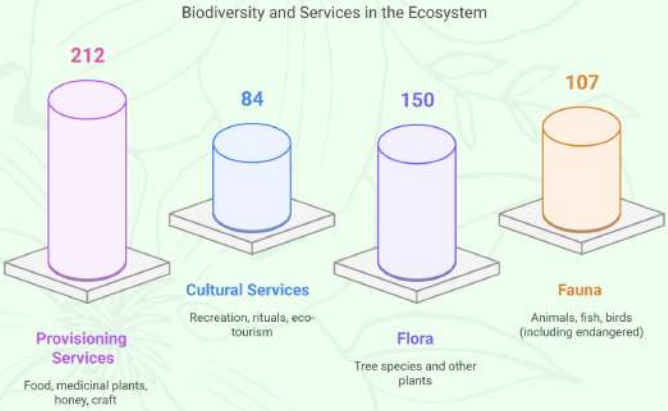
Methodology

1. Field visits and direct observation.
2. Focus group discussions and key informant interviews with locals and forest officials.
3. Use of tools like BirdNET, PlantNet, iNaturalist, GPS, and ArcGIS.
4. Data analysis using structured categorization of ecosystem services and IUCN Red List status for species identification.



Key Findings

1. **Provisioning Services (212 types)**
   - **Food**: 33 fruits, 24 vegetables, 27 fish
   - **Medicinal plants:** 21 types
   - **Honey:** 5–6 tons/year
   - **Craft:** Bamboo, Kitta Pata leaves
   - Ritual flowers and resources
2. **Regulating Services**
   - Carbon capture, oxygen production
   - Pollination, seed dispersal (birds, monkeys)
   - Microclimate control, erosion prevention
3. **Cultural Services (84 types)**
   - Recreation, rituals, beliefs (e.g., snake worship)
   - Eco-tourism, local games, guides, cottages
   - Deep ties to indigenous culture
4. **Supporting Services**
   - **150 flora** species (46% trees)
   - **107 fauna:** 37 animals, 27 fish, 43 birds (including endangered)
   - Habitat & nutrient cycling



Recommendations & Conclusion

Recommendations

1. **Conservation Planning:** Include RKWS in national biodiversity strategies.
2. **Sustainable Use:** Regulate extraction of natural resources.
3. **Educational Outreach:** Promote academic and public awareness.
4. **Policy Integration:** Incorporate ecosystem valuation in planning.
5. **Research & Monitoring:** Study carbon stock, extinction risk, and unrecorded species.

Conclusion

RKWS is a vital ecological zone with rich flora and fauna, offering multiple ecosystem services. Despite its value, it's under threat from human activities. Immediate action is needed through research, policy, and community involvement to ensure long-term conservation and support both biodiversity and local livelihoods.