

HARNESSING COMMUNITY TRADITIONAL VALUES FOR ECOSYSTEM PRESERVATION: CASE OF KAPTAGAT FOREST OF ELGEIYO MARAKWET COUNTY OF KENYA.

Tuesday 22 April 2025 10:45 (20 minutes)

The expansive Kaptagat forest is a scenic landscape of Elgeyo-Marakwet County in Kenya, covering over 6,000 hectares. It is a crucial water catchment area, serving the water needs of Elgeyo-Marakwet County-40% and Uasin Gishu county-55%. Eldoret City gets about 30,000m³/day. However, this forest's fragile ecosystem is now greatly endangered by climate change and uncontrolled human activities like deforestation, overgrazing and charcoal production. Urgent remedial actions are required for its preservation. Harnessing the traditional values of the local community living next to the forest constitute one unique yet results laden action. The Keiyo History Culture & Heritage Centre: a coming together of community professionals, has initiated a number of activities to tap into this resource. The ages-old community traditional values which include strict adherence to ecosystem preservation have been passed from generation to generation. However, laxity in enforcement of the relevant principles have led to numerous infringements. The Kenya Forest Service and Kaptagat Forest Restoration Editions in collaboration with the local leadership have implemented various mitigative initiatives. One is to set up "cow banks" to keep community livestock in selected guarded spaces. Modern renewable energy technologies are slated for installation, to tap into the forest water streams, the abundant sunlight and strong winds. The Archimedes Screw turbine, which is a cost-effective, robust and simple hydro-power machine is suitable for application at the low-head sites of the rivers. Most households bordering Kaptagat forest, use charcoal and firewood for cooking. An optimized conical solar cooker, has been highly recommended as a viable ecosystem-friendly alternative, to reduce and finally stop use of charcoal and firewood from the forest. Installation of Wind Turbines at the edge of the forest escarpment, is under consideration, to tap the wind energy.

Key words: Community, Ecosystem, Renewable Energy, Traditional Values.

Author: KIPLAGAT, Dr (Amb) Joseph (Dept of Mechanical, Production & Energy Engineering, School of Engineering Moi University Eldoret Kenya)

Presenter: KIPLAGAT, Dr (Amb) Joseph (Dept of Mechanical, Production & Energy Engineering, School of Engineering Moi University Eldoret Kenya)

Track Classification: Cross-cutting areas: The effect of culture and religion in climate change adaptation and mitigation