

The Dean, Faculty of Science and Education to present the following Graduand who has satisfied the requirements for the Award of the **THE DEGREE OF DOCTOR OF PHILOSOPHY IN BIODIVERSITY, CONSERVATION AND MANAGEMENT Degree of Busitema University.**

WAMONO Emma

IMPACT OF ANTHROPOGENIC STRESSORS ON ECOSYSTEM HEALTH AND POTENTIAL IN-STREAM RESTORATION MEASURES OF RIVER MANAFWA CATCHMENT IN EASTERN UGANDA



Wamono Emma investigated the impact of human activities on the ecological health of River Manafwa catchment, one of eastern Uganda's freshwaters. His research work integrated water-quality monitoring, macroinvertebrate bioindicators, community knowledge and field-based nature restoration to mitigate the impacts of anthropogenic pressures on River Manafwa. Results indicated that intensive agriculture,

livestock grazing, urban activities and car-washing altered water chemistry, increase sediment and pollutant stress, and impacted aquatic biological communities, while forested reaches provided a strong ecological buffer. Use of macroinvertebrates as bioindicators proved to be a powerful method of determining the river condition: For instance, pollution-sensitive taxa were more strongly associated with healthier reaches, while disturbed sites supported more tolerant macroinvertebrate assemblages. Furthermore, while the communities living around the river displayed high awareness of the activities that result into river degradation, they didn't take action to prevent or restore the ecological health of River Manafwa, thereby exposing a critical awareness-action gap, demonstrating that knowledge alone cannot restore a river without practical livelihood alternatives, supportive institutions and meaningful participation. The study further tested low-cost pool-riffle sequences and woody in-stream structures as simple practical



means to restore River Manafwa ecological health. Both interventions produced measurable short-term ecological responses, with the pool–riffle structures supporting high macroinvertebrate abundance and family richness while woody structures assemblage created refugia, retaining organic matter and supporting sensitive taxa. These findings position nature-based, locally adaptable restoration measures as a promising component of river recovery system when combined with pollution control and riparian protection. The study was supervised by Assoc. Prof. Andama Edward and Dr. Turyahabwe Remigio

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ACHUU Simon Peter

IMPACT OF CLIMATE VARIABILITY ON RANGELAND ECOSYSTEM PRODUCTIVITY AND MITIGATION MEASURES IN AWOJA CATCHMENT AREA, EASTERN UGANDA



Achuu Simon Peter investigated how climate variability reshapes rangeland ecosystem productivity and the livelihoods of pastoral and agro-pastoral communities in the Awoja Catchment Area, eastern Uganda. His doctoral research integrated long-term climate and satellite observations, community knowledge, household adaptation practices and field-based experimentation to inform how rangelands respond to changing

climatic conditions, and how communities and ecosystems can be supported to become more resilient. The study demonstrated that changing climatic conditions influence vegetation productivity, pasture condition, water availability and livestock-based livelihoods.



Community observations confirmed evidence obtained from climate and satellite data, confirming the value of indigenous ecological knowledge systems in rangelands conservation. Pastoral and agro-pastoral households responded through livestock mobility, supplementary livestock feeding, herd management, fodder production, pasture improvement and water conservation, but effective adaptation depended on access to resources, extension services, climate information and supportive institutions. Furthermore, the study evaluated ecosystem-based adaptation interventions for restoring degraded rangelands and found out that the interventions improved vegetation recovery, plant diversity and soil fertility, indicating that degraded rangelands can regain important ecological functions when appropriately protected and restored. These findings position ecosystem-based adaptation as a practical pathway for strengthening rangeland resilience while supporting livestock production, biodiversity conservation, soil health and pastoral livelihoods. The significance of this work extends beyond the Awoja Catchment, strengthening the evidence base for climate-resilient livestock production, sustainable rangeland management, ecosystem restoration and livelihood security across Uganda's cattle corridor. The study was supervised by Dr. Andonia Bitooru Kamukasa and Dr. Turyahabwe Remigio



The Dean, Faculty of Management Sciences to present the following Graduand who has satisfied the requirements for the Award of the THE DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION AND MANAGEMENT of Busitema University.

ANNET Iragaba Bakunzi

CORPORATE SOCIAL RESPONSIBILITY OF MANUFACTURING FIRMS IN UGANDA



Annet Iragaba BAKUNZI explored the pathways to sustainable industrial practices within the manufacturing sector by examining how corporate governance influences corporate social responsibility (CSR) initiatives. Her study specifically analyzed the complex interplay between managerial discretion, environmental regulations, corporate governance and CSR practices among manufacturing firms in Uganda. Notably, using a cross-sectional research design, her findings revealed that while strict environmental regulations and strategic managerial choice shape corporate behavior, it is the strength of robust corporate governance mechanisms that ultimately bridges and maximizes these dynamics to drive impactful corporate social responsibility. This work offers vital, evidence-based frameworks for industrial policy makers and corporate executives seeking to advance sustainable industrial development in Uganda. The study was supervised by Assoc. Prof. Musenze Ibrahim Abaasi, Dr. Namono Rehema and Assoc. Prof. Nangoli Sudi

