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ADAPTING TO CLIMATE CHANGE IN LAKE VICTORIA BASIN PROJECT

- 5 East African countries: Burundi, Kenya, Rwanda, Tanzania, Uganda.
- Implemented in the Lake Victoria Basin. 195,000 km2, containing Lake Victoria, the world's second largest freshwater lake. A critical transboundary natural resource.
- 45 million people live in the LVB. 50% of LVB survive on less than USD1.25/day. Livelihoods dependent on the natural resource base. Central to the development of East Africa.

- **Timeline:** July 2018- August 2023
- **Budget:** USD 5 million

Figure 1: Map of the LVB Across the Five Partner

GGA targets	Project achievements/focus
Reducing water scarcity, enhancing resilience to water hazards	✓ Uganda: small dam benefitting 350 hhs ✓ Tanzania: 4 Solar powered boreholes serving 1500 people and micro-irrigation schemes ✓ Rwanda: Rainwater harvesting systems installed for 205 hhs ✓ Kenya: 3 solar powered boreholes and pumps supporting 400 hhs and over 2000 students in 4 schools
Reduce effects on ecosystems and biodiversity; enhancement, restoration, conservatiosn	✓ Burundi: 300 hectares of land planted with 548,000 different varieties of multipurpose agroforestry and fruit trees and contoured with nippier grass ✓ Kenya: 400 ha of degraded riparian zone restored with over 10,000 bamboo seedlings stabilizing river banks and providing fuel wood ✓ Uganda: Addressing deforestation and land degradation, over 350 hectares were planted with indigenous community forests, grading terraces and planting nippier grass for river embankments and later harvested as fodder. ✓ Rwanda: Over 180ha of downstream farmland was rehabilitated through stabilization of gullies, flood zones and water channels resulting in reduced loss of fertile top soil and increased rice harvest in the 2022 rainy season ✓ Tanzania: over 100ha of degraded land afforested with indigenous species and 149 beehives installed
Food security: production, supply and access	✓ Burundi: Solar powered irrigations schemes benefitting 400 hhs - Improved fish drying kilns and cookstoves for installed in 1200 homesteads ✓ Kenya : over 3000 fruit tree seedlings, improved soya bean and sweet potatoes planted in over 200 hectares ✓ Tanzania : reservoir dam and a micro irrigation scheme for rice and vegetables benefiting 1500 community members and over 1200 students in the district primary school. ✓ All five countries: Through a small grants programme, modern pasture production, climate smart apiculture, green houses, cage fish farming, pig, poultry, rabbit and ruminants rearing reaching over 17,000 beneficiaries
Infrastructure and human settlements	✓ Rwanda- 200 homes reinforced to withstand torrential rains and strong winds Over 2km gully rehabilitated with gabions and revegetation to stabilize flood zones
Reduce adverse effects on poverty reduction, promoting use of social protection	✓ 17268 people benefitting from adaptation technologies; ✓ 56 Innovative community-based grants in Burundi, Kenya, Rwanda, Tanzania, Uganda benefitting over 6023 people.

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Global Goal on Adaptation targets - planning	Adapting to Climate Change in the LVB
(a) Impact, vulnerability and risk assessment	• With support from ICPAC, 40 experts from national meteorological agencies of the five partner states participated in regional training sessions on application of Climate Data Tool (CDT, PYTHON AND JUPYTER) for downscaling regional climate information to national and subnational levels
(b) Planning	• Enhanced expansion of the network of weather stations/equipment to support generation of climate/weather data in LVB to support district level land use plans and enhance resilience to the impacts of weather including droughts, floods. • Disseminated accurate, timely, and relevant climate/weather forecast information to targeted communities in project sites in all partner states thus enabling them to develop land use plans, and enhance resilience to the impacts of weather including droughts, floods. • Enhanced the technical capacity of 110 (45% fe-male) representatives of national institutions re-sponsible for transboundary water catchment management and climate change adaptation in LVB.
(c) Implementation	• Successfully implemented 56 community-based subprojects through a small grants programme that directly benefiting approx. 6,023 persons across 5 countries • Supported the adoption of climate change adaptation technologies by 17, 268 persons (2,878HHs) for enhanced crop and livestock productivity in the face of changing climate in the LVB
(d) Monitoring, evaluation and learning	• Established an interdisciplinary research forum to identify critical research thematic areas/ scientific questions that can be used to develop and steer research projects and aid policy in the transboundary water catchment management and climate change in LVB.

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Lessons Learned

- Climate change adaptation works best when its is driven by communities, by already existing community groups/associations
- The capacity building and learning exchange between peer groups is very powerful in transforming mindsets;
- Adaptation is a social learning process: awareness and sensitization is key.
- Successful implementation of small-scale subprojects has demonstrated the viability of locally-led adaptation approaches in enhancing climate change adaptation in LVB
- When introducing new adaptation technologies to communities it is important to allocate sufficient time to allow uptake of proposed technologies and demonstration of the full scope of the benefits to communities and ecosystems
- Ensuring gender consideration during the design and implementation of adaptation technologies and integrating it in selection criteria is critical in addressing systemic vulnerabilities and gender-based structural inequalities and disparities within communities in LVB

Promoting Climate Resilience in the Rice Sector through Pilot Investments in Alaotra-Mangoro Region (Madagascar)

Promoting Climate Resilience in the Rice Sector through Pilot Investments in Alaotra-Mangoro Region (Madagascar)

- Madagascar, a country of 27 million people, is facing a series of existing and anticipated climate changes, including a reduction of winter and spring rainfall in many parts of the country.
- By 2065, temperatures are projected to increase between 1.1°C and 2.6°C on average.
- The main consequence for the rice sector is anticipated to be a reduction in water availability, leading to the stagnation or even decrease of rice yields.
- The challenge is intensified by deforestation for agricultural land, leading to widespread erosion due to run-off, resulting in loss of topsoil, depletion of soil nutrients, landslides and heavy siltation of lowlands and waterways.

- **Timeline:** October 2012 - June 2019
- **Budget:** USD 4,705,000

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GGA targets	Project achievements/focus
Reducing water scarcity, enhancing resilience to water hazards	✓ Madagascar: Irrigation and drainage infrastructure rehabilitated in 3 villages: clearing of 21 kms of canals and strengthening of 6km of dykes to prevent flooding. ✓ 1623 members of water use associations were trained on water management, financial and administrative management.
Reduce effects on ecosystems and biodiversity; enhancement, restoration, conservation	✓ Madagascar: 1,132 ha of land reforested
Food security: production, supply and access	✓ 3 climate-resilient post-harvest storage facilities built to reduce food loss ✓ 2400 farmers trained on the resilient rice model; ✓ 2438 farmers trained on production and use of compost for agriculture. 432 farmers trained on integrated pest management; ✓ Madagascar: Average rice yields increased by over 150% with introduction of integrated climate-resilient rice model (MIRR) practices, covering all aspects of the cycle from input management to production and harvest

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Global Goal on Adaptation targets - planning	AFCIA objective: Increase the resilience of developing countries, LDCs and SIDs.
(a) Impact, vulnerability and risk assessment	4 Vulnerability maps based on hydrological modelling developed to guide rice cultivation planning
(b) Planning	Integrated climate-resilient rice model principles integrated in the National Strategy for Rice Development Local Development Plans updated in 3 Districts in Alaotra-Mangoro region. 85 individuals at regional and District levels trained on climate risk management
(c) Implementation	A wide range of adaptation measures implemented to demonstrate climate-resilient rice production for upscaling.

Lessons learnt

- Farmer willingness to change practices and their experience and knowledge are essential for success. Behavioral change requires sufficient time.
- Unfavourable climatic conditions delayed progress.
- Regarding reforestation, the project achieved best results on private land working with community members than third parties.
- Water infrastructure managed by water use associations worked well. WUAs were able to resolve conflicts.
- Working with key ministries during project implementation as well as local communities and local NGOs enhanced sustainability of results.
- Factoring in livestock important for sustainability to avoid conflicts with restoration efforts

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Thank you

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