

# DUAL KEY PIPELINE: INVESTING WITH IMPACT

Home Grown Solution- From Concept to Pilot to Scale



## KALEMAWE DAM INVESTMENT LIMITED

The negative effects of climate change (ecological and biodiversity) in semi-arid climatic condition like Kalemawe in Same district, Tanzania is a good example of how human life, animals and settlements are being threatened. The effects extend to social inspiration and economic returns. Mitigation using legislation/by-laws and punitive actions are not always effective.



To be inclusive and multi-encompassing they have to be coined with business approach and private capital injection to translate it into gainful opportunities. This is the case of Kalemawe Dam Investment Limited, a Special Purpose Vehicle/Company structured under Public Private Community Partnership (PPCP) business mode.

### Commercial Fish Farming Potential

Tanzania has huge potential for fishing activities mainly for those areas which borders sea, lakes and other water bodies such as rivers, ponds and dams. The semi-arid areas do not enjoy these comparative advantages including economic and nutritional benefits accrued to this sub-sector. Usually however, these semi-arid areas experience heavy short-term rains which cause land

degradation and loss of fertility and natural vegetations. As a result, these areas experiences food and proteins shortages, conflicts between different water users like farmers and livestock keepers etc. The Kalemawe ward in the eastern part of Same District in Kilimanjaro region, Tanzania is one of these areas. This community has conceived rainwater and commercial fish farming as a centrepiece for reversing the economic, social and environmental challenges in their area.

### Country Potential

Tanzania has the potential to produce over 730,000 metric tons of fish from both captured and aquaculture. Currently the freshwater fisheries accounts for 80% of the landed catch of about 280,000 to 320,000 tons annually and aquaculture contributes only a very small amount estimated at about 1,200 to 1500 metric tons annually. The Food and Agriculture Organization (FAO) stated in its Fisheries and Aquaculture Report published in 2016, that Tanzania's per capita consumption of fish was only 6.6 kgs whilst the average for the Africa Region was 9.9 kgs and the Global average was 20 kgs. There is therefore a significant opportunity for the development of aquaculture in Tanzania to increase the supply of this very important protein source for the general well-being of the Tanzania citizens.

for the low volume fishing is attributed to weak equipment and appropriate technology. Due to lack of, and high costs of cold chain facilities the small quantities which are harvested are not preserved for longer shelf-life. As the result these products with huge proteins and vitamins for human use is hardly accessed by average families. The low supply compared to demand makes the country the net importer of fish and related products. This is happening while there are huge opportunities to spread out the appropriate technology and improve access to equipment, increase production volumes and commercialize its operation.

### Same District Council and Kalemawe Dam

Same District Council (SDC) is endowed with a sizable man-made lake which is located at Kalemawe and Ndungu administrative Wards. The dam was constructed in 1952-59 by the British Colonial Government to control floods and support agricultural activities of the Pare pastoralists who were evicted from the Mkomazi Game Reserve in 1951. The district and surrounding communities and Pangani Water Basin Agency in a very close support from UNCDF embarked into commercial fish farming since 2017. These stakeholders have formed Kalemawe-Dam Investment Ltd, a Special Purpose Vehicle (SPV) company to spearhead this economic activity in a business way.

**Location:** Same district, Kilimanjaro, Tanzania

**Project Cost:** \$ 254,952

**Development Impact:** Local Economic Development and economic and social effects mitigation of climate change

**UNCDF Support:**

**Technical and Business Consulting Support** -Include technical review and feasibility of rehabilitation of Kalemawe Dam and 12-Km Karamba Irrigation canal (including de-siltation); technical and business feasibility of cage fish farming and potential effects on farming activity and other use of water. UNCDF also hired the service of the consultant to undertake Environment and Social Impact Assessment (ESIA). It was reported the rehabilitation of the damn, 12-km Karamba irrigation can and construction of water troughs for livestock keepers could demand USD 6.9 million. This size of investment scared several interested stakeholders, but the commercial fish farming still reflected huge economic and social potentials.

**Legal and Institutional Study and Development**-Legal and Regulatory assessment of different policies and legislations which support (including challenges) the structuring Special Purpose Vehicle/Company (SPV) under PPP Act, 2010. Specifically, on how the public component of PPP can, within the laws, can be exercised at lowest sub-national government i.e. villages of which under Tanzanian laws they are recognized as body corporate. This assignment gave resulted the incorporation of the first Public Private Community Partnership (PPCP) company/SPV. The company (Kalemawe Dam Investment Limited is owned by Same District Council (25%) Pangani Water Basin (10%) six

surrounding Villages (30%) The total of 35% remains unissued and specifically set aside for strategic private investor who will bring in capital and technology.

**Seed Capital Grant for Technology Transfer and Pilot Investment.** This include construction of ponds, TA and project preparation guidance to establish a commercial fish farming pilot project; plan & build the proposed small-scale commercial fish farming. It further extends to effective operationalization of fish farming, provision of in-depth on the job training to company staff and small team of Kalemawe residents.



The intervention has demonstrated UNCDF business model and developmental finance approach which bundles and combines (i) Technical Assistance; (ii) seed capital (first loss) to unlock more development and impact-based finance; (iii) market and business development and (iv) governance and legal architecture.

**Financial Leverage unlocked by UNCDF:** Presently, both Same District Council and SPV company are in advanced discussion for about USD 2.0 million business expansion grant from one of the Scandinavian countries. This country is famous in commercial fish farming

**Investment Impact:**

With the technical assistance and seed capital grant support from UNCDF, the project has accomplish the following:

**Value Addition and New Businesses:** The project is establishing cold chain facilities for own production/harvest and gradually it will increase the size of the facility to buy from out-keepers. Through this way it reduces post-harvest wastage and improve shelf-life of harvested fish

**Creation and sustenance of Employment:** Commercial fish farming will regenerate a number of employment ranging from water pumping from the dam to the ponds supplying or/and processing of fish feeds, production, harvesting, storage/preservation and distribution. The

technical support to technology transfers, extension services and selling of fingerlings to out-keeper/out-grower will trigger other levels of employment creation and sustenance

**Import substitution to grow the domestic market:**

This project produces fish for use in Same administrative district and neighbouring districts of Korogwe, Handeni and Mwanga. The project is also producing fingerlings from its archery for subsequent selling to small ponds operators at domestic/household level including academic and faith-based institutions which are doing similar projects at mid-levels.

**Technology Transfer**

Other than selling fingerlings the project is used as technology -incubator/centre for out-grower/out-keepers from neighboring and different areas of the district and beyond. The technology transfer, capacity building and market availability will enable community members especially women and youth to develop new lines of income generation i.e. value addition and marketing of fish products.

**Knowledge and New Skills.** Families and household members will be able to engage in commercial fish farming technology and establish own businesses. There are also opportunities for producing fish feeds using the existing raw materials such as maize, sorghum, rice, sunflower cake etc. The new skills and technology may be commercialized by providing training and consulting services to other needy areas in Tanzania

**SOCIAL**

**Shared Benefits for Community Development:** The company is structured under Public Private Community Partnership (PPCP). Villages and community contributed land and in-kind labor as part of their equity. The dividend to be received by villages will be directed to social service delivery building and repairing schools, health centres, bridges, roads, environmental protection etc.

**Women Economic Empowerment:** Traditionally, Other than direct employment in the company, women will participate as fish farming out-grower/keeper. The company tailors a specific training and technology transfer to support entrepreneurial activities among women. The water from fishponds will be used for watering/irrigating fruits and vegetable gardens to be established by women groups.

**Improvement on Nutrition (Vitamins and Proteins):** Fish and related products have high contents of proteins and various types of vitamins. The modern technology, cold chain handling and packaging will facilitate transportation and delivering to remotely rural villages which are presently not reached.

**Gender Equality** With new industry and establishment of out-keeper/out-grower fish farming women will generate income that will increase their participation in family care which automatically empower them in decision making.

**Reforestation and Effective Land Use.** Continues and stable flow of water to the dam has motivated community members to voluntarily plant trees along the banks and catchment areas. Livestock are now restricted to feed along the river and dam banks to control excessive siltation.

**Increased Food Security and Peace.**\_\_The project management intends to introduce beekeeping and honey production as an alternative income generation for communities which are farming and grazing on the water sources and along the river and dam banks. The replacement of beekeeping as alternative to huge herds of cattle will protect land and natural vegetations and therefore conserve environment in different fronts. The repair of 12-Km Karamba Irrigation canal increased agricultural production i.e. maize, beans, sunflower etc. Constant flow of water and water troughs for animal feeding have minimized trespassing and frequent conflicts between farmers and livestock keepers.