



DOCUMENTARY REPORT ON

ABDP BENEFICIARIES WITH MOST SIGNIFICANT CHANGE FOR CENTRAL AND EASTERN REGION

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SIGNIFICANT CHANGE FOR CENTRAL AND EASTERN REGION



Background information and introduction

The Aquaculture Business Development Program (ABDP) is an eight (8) years joint Government of Kenya (GoK) and International Fund for Agriculture (IFAD) funded program with an overall goal of “Reduce poverty and increase food security and nutrition in rural communities” while the corresponding development objective is “To increase the incomes of poor rural households involved in aquaculture in the targeted Counties and the food security and nutritional status of the wider communities”. The programme aims to directly benefit 35,500 households, including 5,500 beneficiaries who are youth. The program is targeting counties with high potentials of aquaculture activity, high production, existing sectoral infrastructure (processing, marketing, and research), adequate water resources, and marketing potentials. The programme Counties are; Migori, Kakamega, HomaBay, Kisii, Kisumu, Busia, Siaya and Vihiga (8 Counties in the Western Region), and Nyeri, Meru, Kirinyaga, Tharaka-Nithi, Embu, Kiambu, Machakos and Kajiado (8 Counties in the Central/Eastern Region).

ABDP has three main components that are supported by a strong program coordination unit that provides backstopping and program management services.

Component 1: Smallholder aquaculture development, aims to strengthen the capacity of smallholder farmers, to increase production and improve productivity as well as to create opportunities for non-fish farming actors interested to develop micro-enterprises along the aquaculture value chain. The component also contributes to the improved diet of the Kenyan population by ensuring increase in consumption of fish, fish products, and dietary diversity.

Component 2: Aquaculture value chain development, aims to support the expansion of the subsector by promoting the establishment and scaling up of agribusiness enterprises of all sizes, including rural groups that “graduate” to a more advanced and stable business model. The Programme also consists of an implementation support structure.

Component 3: Project management, monitoring, and evaluation that aims at providing physical and financial management, and proactive knowledge management, monitoring, and evaluation functions.

SAMUEL NJENGA, KAJIADO WEST, KISERIAN

Samuel Njenga embarked on his fish farming journey in 2010 and is currently a member of Darubini Fish Farmers. His dedication to aquaculture has been instrumental in overcoming challenges and embracing opportunities within the industry. Samuel's farm has seen significant growth over the years, marked by innovative techniques and sustainable practices. He actively engages in sharing knowledge with fellow farmers, contributing to community development and food security. Samuel's commitment to aquaculture reflects a passion for sustainable farming and the transformative impact it can have on livelihoods. As he continues to expand his operations and share his expertise, Samuel exemplifies the positive outcomes achievable through perseverance and dedication in fish farming. Samuel has 3 ponds; 1 liner pond culturing wolffia that has 28% protein, 1 concrete pond growing dark weed that has 50 % protein and an earthen pond for his fish.

Challenges before:

Before receiving support from ABDP, Samuel Njenga faced several challenges in his fish farming venture. One major obstacle was his lack of knowledge about fish farming practices. Without adequate expertise in this field, Samuel struggled to effectively manage his farm and optimize production. Additionally, he encountered difficulties in sourcing quality fingerlings, which are essential for successful fish farming. The absence of reliable information on suitable fish feeds further complicated his efforts, impacting the growth and health of his fish stock. These challenges underscored the critical need for training and support in aquaculture, highlighting the transformative impact that initiatives like ABDP can have on aspiring fish farmers like Samuel.

ABDP Support:

Samuel Njenga learned about ABDP when the program's extension officers actively sought out farmers to empower in fish farming. Recognizing the potential benefits, Samuel was selected as a beneficiary and received comprehensive training, including feed formulation techniques. As a result, he now cultivates and produces organically grown feeds using alternative sources such as dark weed, azolla, and wolffia plant. In addition to training, Samuel was supported with a pond liner and 1000 tilapia fingerlings. However, the fingerlings provided were mixed species, leading to varied results in his harvests. Over time, Samuel has successfully harvested three times, with recorded weights of 500 grams, 350 grams, and 700 grams for the fish produced. From his records at least 600 fish weighed 1 kilogram when harvesting. These experiences highlight Samuel's journey in fish farming and the impact of ABDP's support in improving his practices and outcomes.





Significant change:

Following the training he received, Samuel Njenga has successfully cultured azolla, dark weed, and wolffia, expanding his aquaculture operations to include two ponds—a nursery pond and a breeder pond. Utilizing these resources, Samuel has sold fish to the local community and other fish vendors, generating proceeds that have allowed him to make significant investments. Notably, Samuel has acquired a solar system valued at KES. 177,000 that powers aeration and general utilities at the pond, contributing to sustainable operations. Additionally, the income from fish harvesting has supported his family's basic needs. Samuel further leverages the pond water for irrigation purposes, benefiting his maize crops. Samuel also engages in poultry farming(150 chickens), selling poultry and related products, which in turn funds the management of his fish ponds. This diversified approach indicates Samuel's approach to farming and highlights the integration of his farming activities.

Samuel Njenga has extended his expertise by offering consultancy services on hatchery management, successfully guiding three local farmers in adopting his knowledge. Looking ahead, Samuel aims to expand his ponds in the future to boost fish production and further contribute to sustainable aquaculture practices within his community. His commitment to sharing knowledge and expanding shows his dedication to advancing aquaculture and supporting fellow farmers in their ventures.





**CHARLES IRIRI, MATUNGULU SUB
COUNTY, MATUNGULU WEST**

Charles is a versatile fish farmer cultivating both tilapia, catfish, and ornamental fish. With limited space, he manages six raised fish ponds. His journey into fish farming started in November 2021, initially utilizing regular greenhouse papers and structures to establish his operations.

Challenges before:

Charles faced several challenges when he started fish farming. Initially, he lacked expert knowledge in fish farming, received limited support from the local community, and was unaware of the benefits of using pond liners. Additionally, his greenhouse structures required frequent repairs, adding to his operational difficulties.

ABDP Support

Charles's journey in fish farming took a positive turn when he was identified as a beneficiary by ABDP through County Extension Fisheries Officers who came to sensitize him about fish farming. Through ABDP, Charles received comprehensive training on various aspects of fish farming, including fish handling, fish feed formulation, value addition, and grow-out production.

To monitor his progress, Charles conducts monthly sampling from his raised tanks, yielding fish weighing between 400 grams to 1.2 kilograms. Since starting, he has successfully harvested four times, demonstrating the effectiveness of his methods. Charles prefers using

greenhouse technology for his raised tanks because it provides consistent temperatures ranging from 23 to 29 degrees Celsius, which accelerates fish growth compared to open-air technologies. With this technology, Charles can achieve a harvestable size of 350 grams in just five months, whereas open-air culture methods take around eight months. This efficient approach has significantly improved his fish farming operations. From the fish proceeds he has also dug two earthen ponds which he is yet to stock in the coming few weeks.

Impact to community and family

Thanks to ABDP's support aimed at reducing poverty and enhancing food security and nutrition, Charles has successfully sustained his family through the consumption of fish, significantly improving their nutrition. Moreover, Charles has addressed the issue of limited access to fish in the local community by making it more readily available, thereby eliminating the need to travel long distances to markets. In addition to benefiting his own household and community, Charles has extended his impact by empowering 20 individuals in his community. He has achieved this by providing training on pond construction and pond management, equipping others with the knowledge and skills needed to thrive in fish farming. Charles's commitment to sharing his expertise underscores his dedication to fostering economic empowerment and sustainable agriculture within his community.

Charles actively promotes his fish farming enterprise through social media platforms like Facebook and Instagram, leveraging these channels alongside word-of-mouth referrals to reach customers effectively. Additionally, he adds value to his products by offering fried fish, providing a convenient and appealing option for his customers. By engaging in marketing and value addition, Charles not only expands his customer base but also enhances the overall appeal and accessibility of his fish products, contributing to the success and sustainability of his business.

Future aspirations

Charles is committed to championing food security and aims to expand his impact by establishing a large hatchery to supply high-quality fingerlings to other farmers. Leveraging the proceeds from his four successful harvests, Charles has already initiated a free-range hatchery and stocked an impressive quantity of fingerlings—60,000 for catfish and 80,000 for tilapia.

Reflecting on his journey, Charles emphasizes that success in fish farming is not solely about scale but rather about passion, meticulous planning, and decisive action. He encourages aspiring farmers to approach fish farming with dedication and strategic thinking, underscoring the importance of commitment and proactive measures in achieving success in this field. Through his endeavors and valuable advice, Charles exemplifies the potential for impactful contributions to food security and sustainable aquaculture.





JAMES KIRU GATARWA, GATUNDU NORTH, CHANIA WARD.

James Kiru, an individual living with a disability, is a member of Gachuka Fishfarmers and learned about ABDP through his group. Gachuka Fishfarmers was formed in February 2022. Before joining ABDP, James primarily engaged in livestock and poultry farming.

ABDP and support:

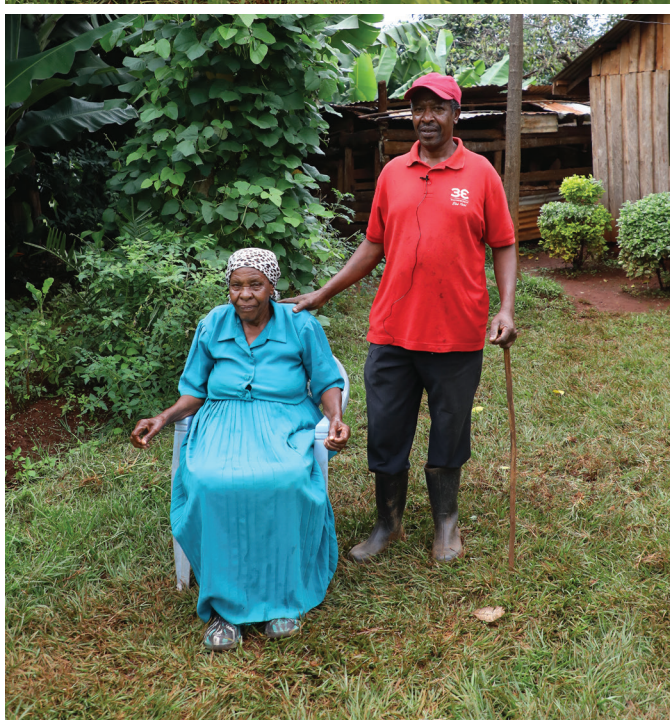
James Kiru, an individual living with a disability and a member of Gachuka Fishfarmers, was introduced to ABDP through his group. After joining ABDP, he received training on pond construction, fish handling, fish feeding, and participated in GALS training (Gender Action Learning System). ABDP supported him with a pond liner and 1000 tilapia fingerlings. From his first harvest, James successfully harvested 800 fish at 8 months, with the smallest weighing 350 grams. He earned KES 60,000 from selling the fish, which he used to construct another pond and stock it with 1000 catfish fingerlings. Additionally, James used part of the money to cover school fees for his children and meet other household needs. He also purchased a cow from the fish proceeds in August last year. James emphasizes that his family also benefits from consuming the fish, improving nutrition within the household.



James efficiently manages water resources by pumping water from a nearby stream to his farm. After using the water for fish farming, it is drained and used to irrigate his kitchen garden, where he grows arrowroots. Income generated from selling arrowroots is used to purchase fish feeds, ensuring the sustainability of his fish farming venture. Additionally, James operates two raised tank ponds, each constructed from an oil tank and holding 500 catfish fingerlings. These innovative approaches highlight James's dedication to fish farming and sustainable aquaculture practices.

Future aspirations:

James Kiru encourages other interested farmers to consider fish farming, highlighting its relative ease compared to livestock and poultry farming. He plans to expand his operations by constructing more ponds and intends to start formulating and growing fish feeds such as dark weed and azolla. James expresses gratitude to ABDP for the support that has enabled him to achieve success in fish farming. Thanks to his training and experience, James has also trained two of his children in fish farming. His daughter now owns her own pond, and his son is preparing to construct and stock his pond in the coming months. James's commitment to passing on his knowledge and expanding his venture demonstrates his dedication to the success and sustainability of fish farming within his community.





MISHECK MUTHOMI, BUURI SUB COUNTY, KISIMA WARD

Misheck Muthomi, a resident of Buuri Sub County in Meru County, specifically Kisima ward, was initially a potato and livestock farmer. However, during Mwai Kibaki's regime, he ventured into fish farming through the Economic Stimulus Programme (ESP), a government initiative aimed at boosting economic growth and overcoming the 2007-2008 Kenyan crisis and the Great Recession.

Pre - ABDP challenges:

Before joining the Aquaculture Business Development Programme (ABDP), Misheck faced several challenges. The dry land in the area was not suitable for fish farming, and there was a lack of knowledge on accessing water for the purpose. Additionally, the local community did not recognize fish farming as a viable economic activity.

ABDP Support and Impact:

Misheck learned about the ABDP in 2019 through the County Extension fisheries officers and became a beneficiary. He received training on various aquaculture practices, including pond construction, feed formulation, value addition, and business planning. The ABDP provided him with a pond liner measuring 300 square meters, fish pellets, and 300 fingerlings.



After six months, Misheck harvested tilapia with an average weight of 300-500 grams and sold them for an average price of 250 to 300 Kenyan shillings per fish. He earned a total of 75,000 to 90,000 Kenyan shillings from selling the fish. Encouraged by his success, Misheck dug another pond and restocked it with catfish fingerlings.

In 2022, the ABDP supported Misheck with 1,000 catfish fingerlings and five bags of fish feed. He chose catfish because it thrives well in the region's cold climate. After eight months, he harvested 800 catfish, with the smallest weighing 600 grams. He sold the catfish for 300 Kenyan shillings per fish, generating 240,000 Kenyan shillings. Using the proceeds, Misheck constructed two additional ponds and restocked them. As of the end of 2023, he had bought 2,000 fingerlings and restocked the two new ponds, which are yet to be harvested. He currently has eight ponds and plans to expand to ten ponds in the future.



Misheck also owns two raised ponds in a greenhouse, which make harvesting easier at any time. His family consumes fish from these raised tanks.

Despite his success in fish farming, Misheck faces the challenge of expensive fish feeds. However, through the training and field days organized by the ABDP and the county, he learned to supplement



commercial fish pellets with dark weed, a plant with a protein content of 40 to 45%. Misheck grows dark weed in one of his ponds and sells 20 kilograms in a jerrican for 1,000 Kenyan shillings. His monthly earnings from selling dark weed reach 40,000 Kenyan shillings.

Family and Community Impact:

Misheck's success in fish farming has had a positive impact on his family and the local community. He offers consultancy services to community members who have recognized the profitability of the venture. With the proceeds from fish and dark weed sales, Misheck acquired a vehicle for transporting dark weed to other farmers and for easy movement during consultancy services. He has also provided employment opportunities to local youths, who assist in managing and maintaining his fish farm. Misheck plans to purchase a fish pelleting machine to produce pellets made from dark weed and wheat bran. He encourages other individuals and farmers who are interested to adopt and practice aquaculture, emphasizing its comparative ease compared to livestock and poultry farming.

BRIAN MUGAMBI MUGERA, MBETI NORTH WARD, MANYATTA SUB COUNTY:

Brian Mugambi Mugeru, a member of Kyaga Fish Farmers, embarked on his fish farming journey in 2023. He learned about an ongoing fish farming program (ABDP) on social media and visited the fisheries office for further information. Brian joined the Aquaculture Business Development Programme (ABDP) and he benefited in various ways; he received a pond liner and underwent training provided by extension officers on topics such as pond construction, pond management, kitchen gardening, group dynamics (leadership skills), HIV/AIDS awareness, climate change mitigation, and integrated farming. Brian then stocked 500 tilapia fingerlings on his own which saw him harvesting 350g tilapia fish valued at KES. 60,000.

Challenges encountered

However, Brian faced several challenges during the initial stages of his fish farming venture. Predators such as Monitor Lizards and Birds posed a significant threat, resulting in high mortality rates among the fish. Additionally, the quality of the fingerlings he acquired proved to be a major challenge, resulting in a meager harvest of only 20 kilograms of fish after six months.

To overcome these challenges, Brian consulted with the fisheries extension officer for assistance. He received valuable advice and was advised to fence the area surrounding the fish ponds and provide cover nets for each pond to prevent predator attacks. Furthermore, he was advised to purchase high-quality fingerlings from reputable suppliers.

Motivated by the guidance from his fisheries extension officer, Brian decided to restock his ponds. On 5th March 2024, he stocked his first pond with 1,000 Catfish fingerlings sourced from Mwea AquaFish Farm. He also constructed a second pond and stocked it with 500 Tilapia fingerlings on 5th April 2024. Subsequently, Brian has constructed a third pond which he uses for grading and sorting Catfish to separate the booster fish that grow faster and may prey on the smaller fish. On 10th April 2024, he stocked his fourth pond with 500 Tilapia fingerlings due to the high demand and market value of tilapia fish.

To address the high cost of feed, Brian took the initiative to construct a fifth pond, where he is growing azolla which he uses as an alternative source of feed to subsidize the cost of feed.

Impact to community

Brian's achievements in fish farming have had a positive impact on his community. His venture has provided a source of income through the sale of fish, improved food security through kitchen gardening, and created employment opportunities for the youth.





Additionally, the community has benefited from improved nutritional status due to the availability of organic foods and enhanced social status through employment opportunities. Community members also visit Brian's farm to learn about fish farming, and school children have the opportunity to visit for educational purposes.

Despite his success, Brian encountered several challenges, including the high cost of feed, expensive fingerlings, the lack of a well-established fish market, and insufficient storage facilities.

To address these challenges, Brian offers several recommendations. He suggests training on feed formulation to reduce the cost of feeds and urges the government to provide subsidies to reduce the overall cost of production. Brian also recommends the establishment of hatcheries in every sub-county to lower the cost of fingerlings and improve market structures to ensure better returns. Furthermore, he emphasizes the need for storage facilities to minimize post-harvest losses and encourages the empowerment of fish farming groups in value addition to improve earnings. Brian also highlights the importance of equipping aggregation centers constructed to promote the fish industry.

Future aspirations

Looking ahead, Brian has several expectations for his fish farming enterprise. He plans to establish a fish eatery on his farm to add value to the fish products. He also envisions setting up a fish market to purchase fish from other farmers and sell them to consumers. Additionally, Brian aims to establish a fish hatchery to reduce the cost of fingerlings, a fish formulation center for the production of fish feeds, and a fish learning center where farmers and students can learn about fish farming.

The success story of Brian Mugambi Mugera from Embu County shows the potential of fish farming to transform livelihoods and contribute to economic growth and food security. With the support of the ABDP program and his determination, Brian has overcome challenges and made significant progress in his fish farming venture. His achievements serve as an inspiration to others interested in fish farming, and his recommendations provide valuable insights for the improvement of the sector.

DORICE GITHINJI MORAA, MARAA WARD, THARAKA NITHI COUNTY

Dorice Githinji Moraa, a retired teacher from Kamagombe Sub-location, Tharaka-Nithi County, has made significant strides in her fish farming venture with the support of the Aquaculture Business Development Program (ABDP). Introduced to fish farming in 2020 by the county fisheries extension officers and ABDP, Dorice embarked on a new aquaculture journey that has profoundly transformed her livelihood.

In 2022, ABDP provided Dorice with a pond liner, which she used to construct her fish pond by July 2023. She stocked the pond with 2000 fingerlings and received essential fish feeds. Despite initial challenges with predators, She bought a predator net to protect her stock.

By November 2023, Dorice harvested her first batch of fish. Transitioning from livestock and banana farming to fish farming was a unique experience for her. After four months, she successfully harvested 290 kilograms of fish. Dorice supplied 100 kilograms to a fish trader and marketed the remainder to a women's group.

To further promote her venture, Dorice organized a fish-eating day at her home, where community members could buy fish in 1 kg or 0.5 kg portions. She was trained to cook from the first cohort of ABDP beneficiaries, ensuring that at least two members from each household were purchasing and preparing fish marinated in ginger and lemon.

Leveraging her background as a retired teacher, Dorice marketed her fish to local schools, supplying at least 70 kilograms of fish weekly. She also sold fish to the local market, churches, and other customers, often personally delivering the orders.

From the 290 kilograms of fish she sold, Dorice earned 145,000 shillings. With this income, she purchased a cooking cylinder, moving away from traditional firewood cooking. Additionally, she reached out to a hatchery through her friends, selling 70 kilograms of fish.

In November, Dorice used 100 pieces of fish, each weighing between 700 grams and 1 kilogram, to cater a graduation ceremony for her son, serving 200 guests. She sold an additional 50 kilograms of fish.

By the end of December and January, Dorice had sold fish worth 120,000 shillings to teachers. The proceeds from her fish sales enabled her to address water pumping challenges on her plots and invest in water harvesting equipment.

The additional income from fish farming has not only allowed Dorice to pay school fees for her children but also to improve her family's nutrition by consuming more fish and less red meat. Through her dedication and the support of ABDP, Dorice Githinji Moraa has become a shining example of how fish farming can transform lives and enhance community well-being.





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