

AQUACULTURE FOR JOBS, INCOMES AND FOOD SECURITY

THE COSTS OF PRODUCING FISH IN KENYA EXCEED THE WHOLESALE PRICE OF IMPORTED FISH, MAKING KENYAN FISH FARMERS UNCOMPETITIVE. THIS POLICY BRIEF OUTLINES FARM AFRICA'S RECOMMENDATIONS FOR THE SUPPORT NEEDED TO MAKE THE KENYAN AQUACULTURE SECTOR THRIVE AND CREATE JOBS, INCREASE INCOMES AND BOLSTER NATIONAL FOOD SECURITY.

BACKGROUND

Kenya has over 1.14 million hectares¹ of water resources available for aquaculture production.

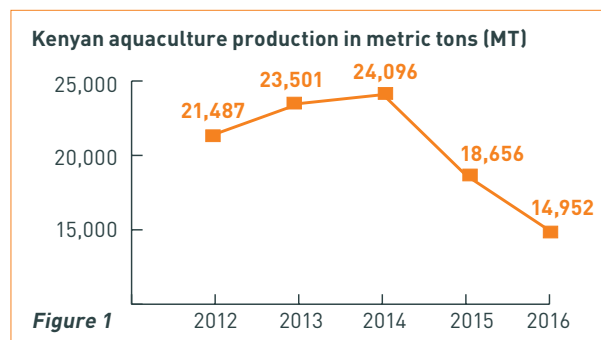
The declining supply of wild caught fish in the country has led to a reduction of the per capita consumption of fish from 6.0 kg per person per year in 2000² to 4.3 kg in 2017 against the 9.7 kg average for Africa³. Demand for fish in Kenya outstrips supply, with a current annual supply gap of 50,000 metric tons (MT)⁴.

The Kenyan aquaculture industry has the potential to increase the supply of fish to meet this demand, but is being held back by high production costs and competition from cheaper imported fish.

In line with the government's *Big Four development agenda* and *Vision 2030*, boosting local aquaculture production will create jobs and bolster the country's food security and nutrition, besides improving the balance of trade through import reduction and an expanded export market.

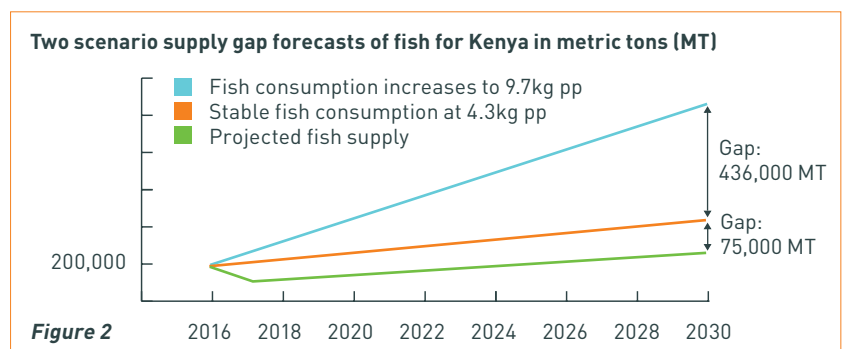
CURRENT PRODUCTION

Despite the global aquaculture sector recording annual growth of 6 %, the Kenyan aquaculture production is declining.



DEMAND SURPASSES SUPPLY⁵

Kenya's annual supply gap of 50,000 MT of fish is projected to increase to 75,000 MT by 2030 if annual per capita fish consumption remains constant at 4.3 kg, but could grow to 436,000 MT if average fish consumption increased to 9.7 kg, in line with other African countries' consumption.



HOW THE LOCAL AQUACULTURE SECTOR CAN BE BOOSTED

A more competitive aquaculture sector can be created by adopting the following:

- Increasing the East African Community Common External Tariff (EAC CET) tariffs for imported fish from 25% to 100%.
- Lowering the cost of inputs by waiving import duty on fish feeds and equipment while at the same time improving the quality of Kenyan fish feed.
- Improving farm management and introducing shorter production cycles by using bigger (5 grams), quality fingerlings.

1. Prices of Kenyan fish versus imported fish

East Africa imported 16,000 metric tons of frozen tilapia (mainly from China) in 2016.

The price of Chinese fish has been low due to:

- The 7% export subsidy provided
- Cheap feeds
- Economies of scale due to the high level of production in China.

The imposition of tariffs on fish from outside the EAC would put the price of Chinese fish on a par with Kenyan fish.

Price of Kenyan versus imported fish per kg in KES

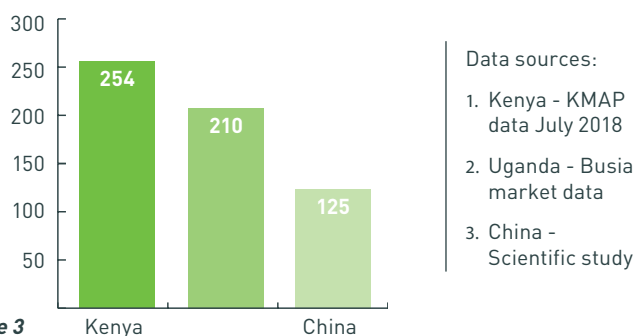


Figure 3

2. Cost of feed

Feed accounts for about 50-70% of the total production costs of Kenyan fish. Fish are best fed on pelleted feed as there is less wastage, resulting in a better feed conversion ratio (FCR)⁶.

Feed costs in Kenya are higher due to higher prices for raw materials.

Foreign investment could provide the expertise and capital needed for the sector to thrive as is the case in both farming and feed production in Ghana, Egypt and Zambia.

Price of comparable tilapia feed per ton in USD

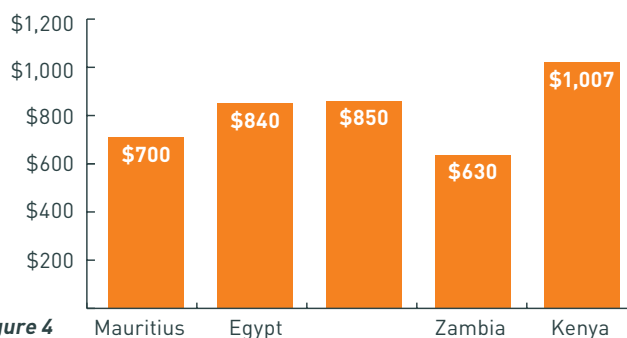


Figure 4

3. Increasing management efficiency

3.1. Capacity building: Many Kenyan farmers have inadequate experience in managing fish farms. Based on data from Farm Africa's Kenya Market-led Aquaculture Programme (KMAP), productivity improves by 21% from 0.33 to 0.4kg/m² with a skilled labour force.

3.2. Fingerling size: A joint study by Farm Africa and WorldFish showed that stocking fingerlings weighing more than two grams shortens the production cycle. At water temperatures of 20°C, larger fingerlings reduce the production cycle by up to three months.

KMAP farmers productivity (kg/m²)

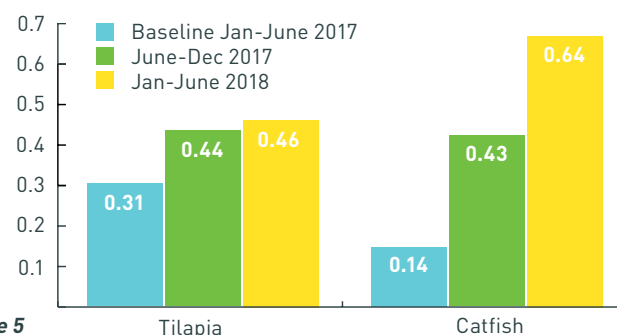


Figure 5

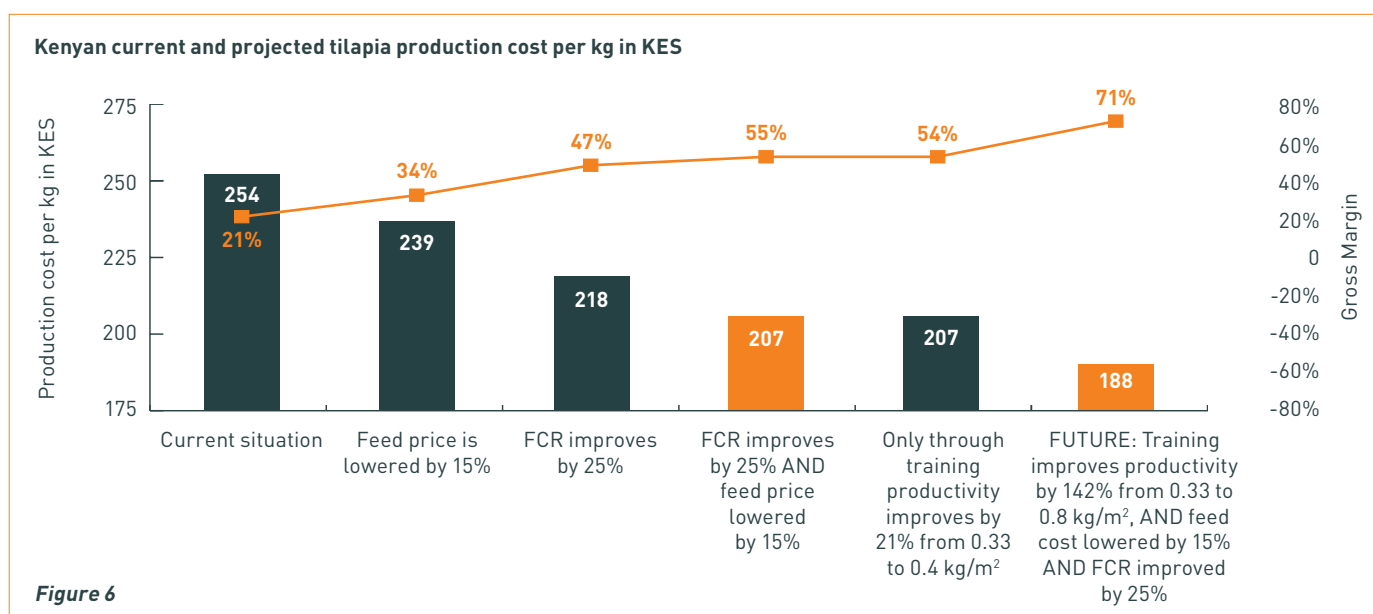


FUTURE SCENARIOS FOLLOWING ENABLING POLICIES TO REDUCE COST OF PRODUCTION

What can be done to make Kenyan farmers more competitive with the *buy Kenya build Kenya* strategy? **Lowering the cost of production is key.**

With focus on pond culture, which is the most inclusive model, the following ways can be adopted to cut on the cost of production:

- Lowering the price of fish feed
- Improving the feed conversion ratio
- Increasing productivity by offering training in fish farm management skills
- Increasing the size of fingerlings stocked to 5 grams.



RECOMMENDATIONS

For Kenyan aquaculture to get beyond the tipping point, there is need to boost private sector investment and bolster small-scale inclusive production. Below are some recommendations:

- 1. Lower the cost of production by:**
 - (a) Supporting the production of affordable, quality feed by lowering the cost of raw materials.
 - (b) Honing the skills of farmers and extension officers.
 - (c) Supporting Kenyan feed millers to improve the quality of feed produced.
- 2. Increase the East African Community Common External Tariff (EAC CET) on imported Chinese fish.** This will encourage Kenyan farmers to increase production and **attract international investors.**
- 3. Review the East African Community Common External Tariff (EAC CET) by eliminating import duty (10%) and fisheries levy (5%) on imported feed and aquaculture equipment for a period of five years.** (In Uganda, the ministry of agriculture gives producers a waiver on import duty).
- 4. Support the improvement of high quality Kenyan tilapia strains** suitable for cold and warm areas.
- 5. Improve the market infrastructure** through refurbishing fresh fish markets.
- 6. Lower production costs** by zero rating aqua equipment such as boats, cage equipment etc.

CASE STUDY: GHANA'S ROAD TO AQUACULTURE EXPLOSIVE GROWTH

By prioritising aquaculture in the country's development agenda, Ghana's fish farming industry has been flourishing⁷. This can be attributed to the implementation of the following measures:

- Private sector led development
- Duty free importation of feed
- Construction of a local feed mill
- A ban on Chinese fish imports.

The end result has been a thriving aquaculture sector, which has created employment and increased foreign investment.

Ghana's fish production in tons (MOFAD, 2015)

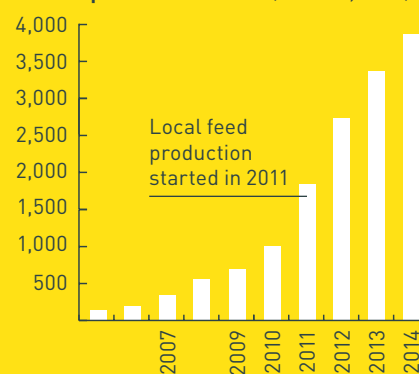


Figure 7

¹http://www.kmfri.co.ke/images/pdf/Kenya_Aquaculture_Brief_2017.pdf

²<http://www.fao.org/fishery/facp/KEN/en>

³KMAP study on aquaculture available at: <https://www.farmafrica.org/downloads/study-of-the-kenyan-aquaculture-market.pdf>

⁴<https://www.standardmedia.co.ke/article/2001297013/fish-imports-will-go-on-to-cover-the-deficit-says-ps>

⁵KMAP study on aquaculture available at: <https://www.farmafrica.org/downloads/study-of-the-kenyan-aquaculture-market.pdf>

⁶FCR: Food Conversion Ratio; A higher FCR means that more feed is necessary to grow 1 kg of fish, whereas the target is to have a low FCR.

⁷<http://www.fao.org/fishery/facp/GHA/en>

FARM AFRICA

Farm Africa's Kenya Market-led Aquaculture Programme (KMAP) focuses on strengthening fish farmers' links to high-quality, affordable input suppliers and improving fish farmers' market orientation and profitability.

For enquiries, please contact kmap@farmafrica.org or visit www.farmafrica.org/kenya/fish-farming-in-kenya

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