



Challenges and Opportunities for Small-Scale Aquaculture Development in Malawi

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MICHIGAN STATE
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Overview of fisheries sector in Malawi

☀ Fisheries contribute 4% to Gross Domestic Product

☀ Fish supply in Malawi largely dependent on:

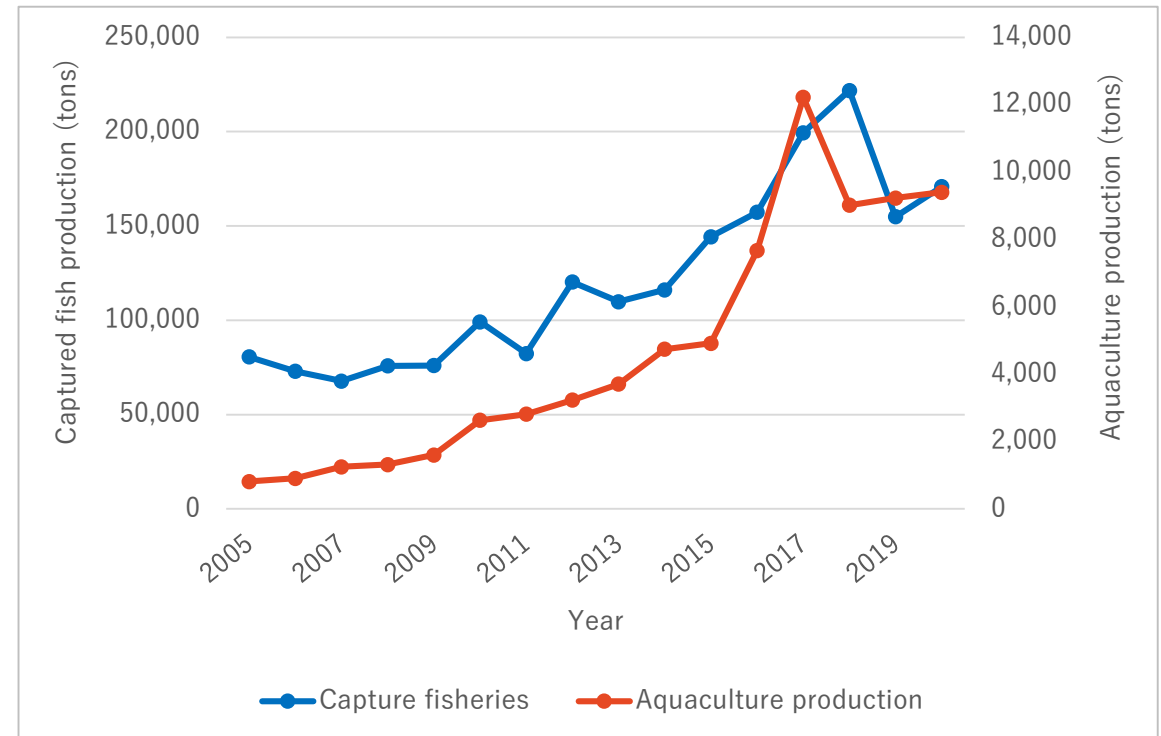
- ✓ Capture fisheries (wild stocks are declining)
- ✓ Imports

☀ Aquaculture has potential to contribute:

- ✓ Source of income for rural households
- ✓ Food and nutrition security
- ✓ Employment opportunities for women and youths

☀ Aquaculture has contributed around 1–5% to the total fish production in Malawi

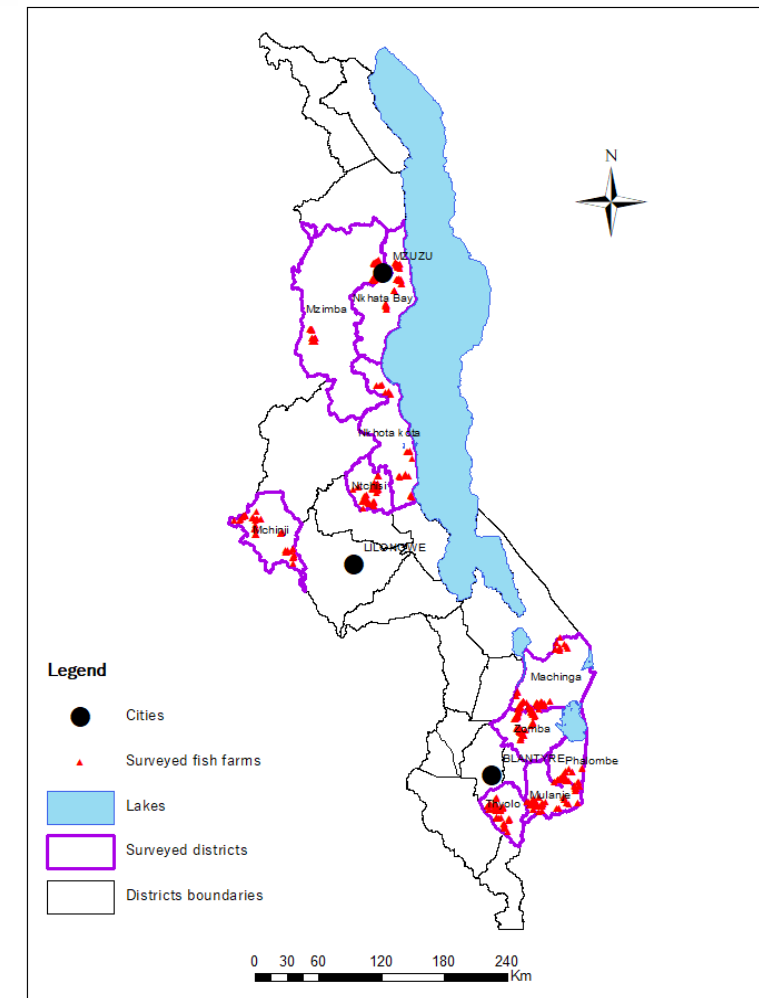
Fish production in Malawi (2005-2020)



MwAPATA Aquaculture Survey

- ☀ Aimed at examining the **constraints** and **opportunities** for increased production among small-scale fish farmers
- ☀ Survey conducted between **June and July 2021**
- ☀ Collected data from **732 fish farms** from **10 districts** across all 3 regions
- ☀ Interviewed **606 individually owned** and **126 community owned** fish farms

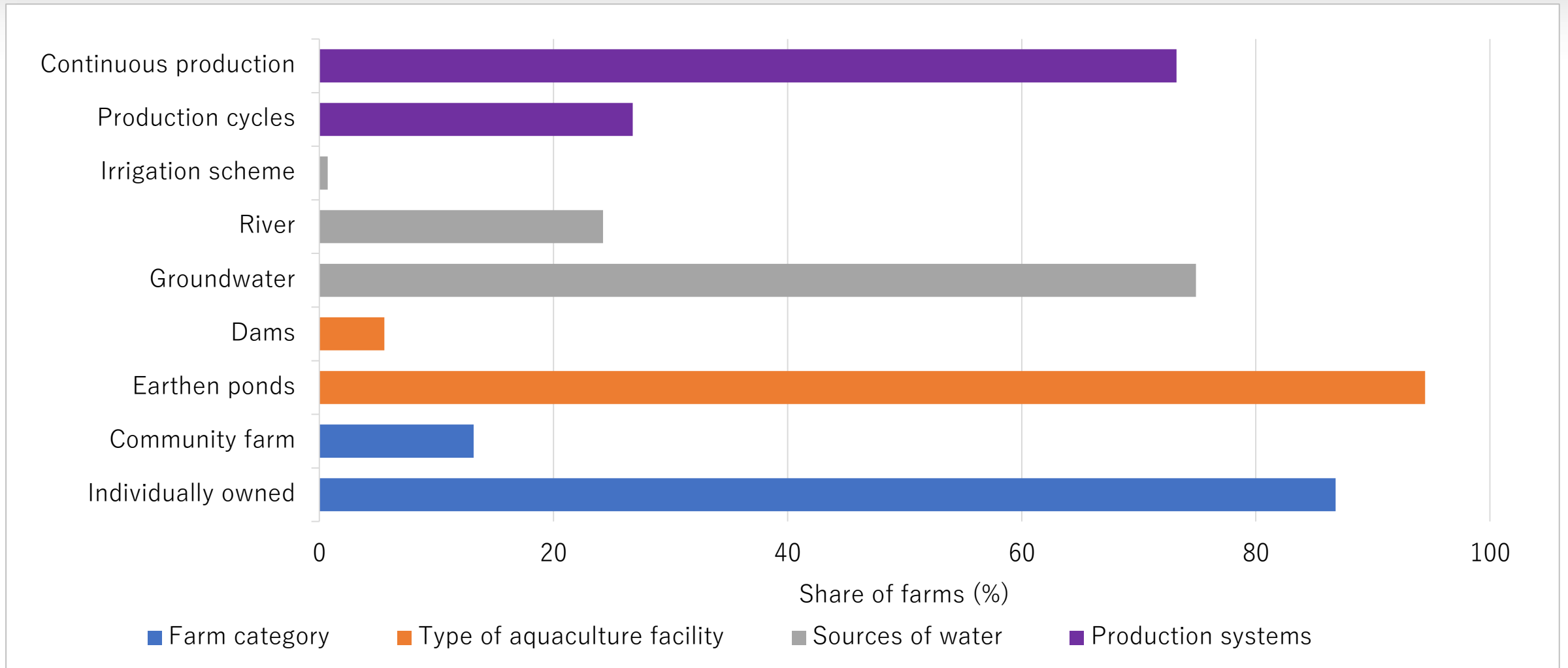
Study districts & distribution of surveyed farms



Characteristics of farming households & community farms

	Mean or %
<i>Individually owned farms/household head:</i>	
Age of household head	52.2 years
Male-headed household	85.5%
Literacy of household head	89.1%
Fish farming experience	11.9 years
Observations	606
<i>Community farms/leaders:</i>	
Share of women in the community farm	61.3%
Share of youths in the community farm	31.2%
Fish farming experience	8.0 years
Age of leaders	44.8 years
Literacy of leaders	90.4%
Observations	126

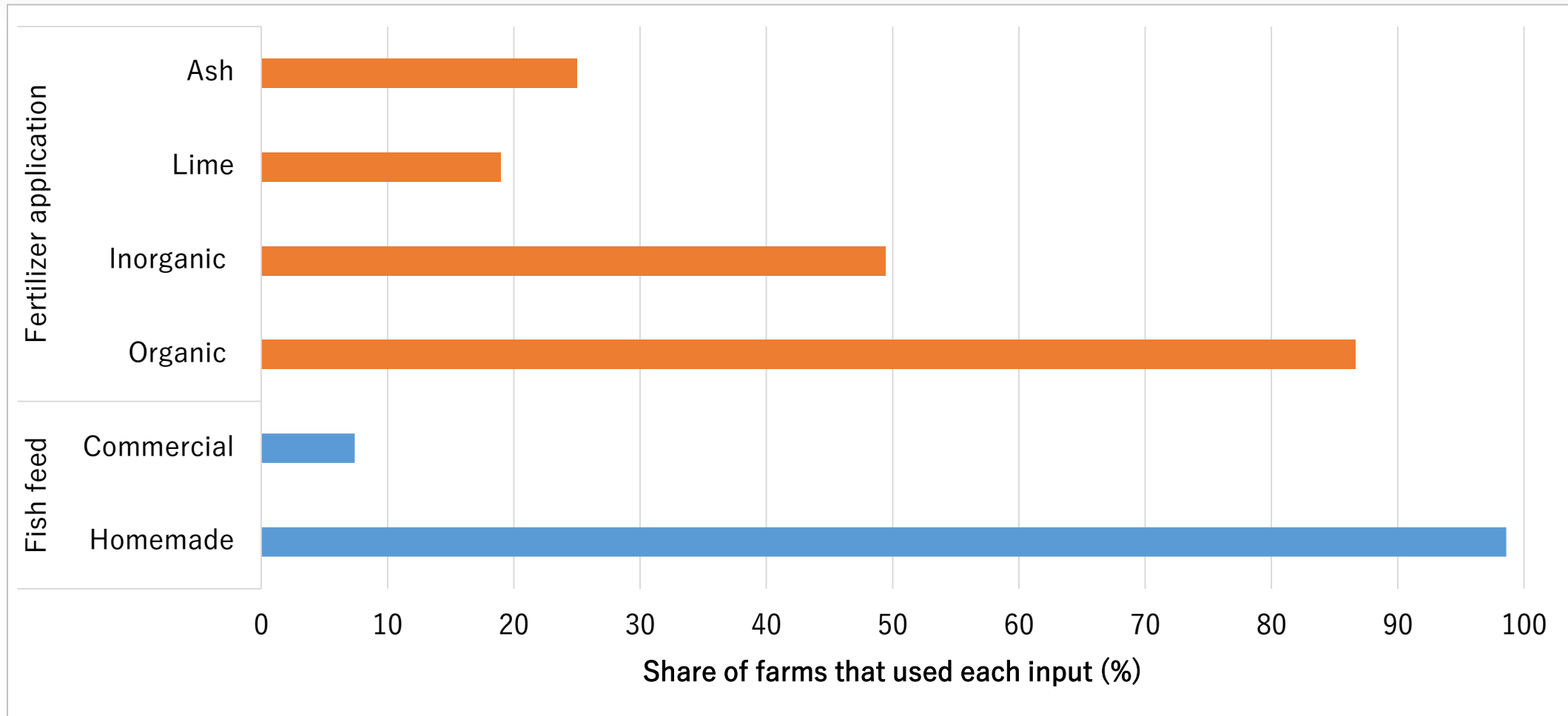
Characteristics of fish farms



Fish production

Fish species	% of farms	Quantity (kg/farm)	Yield (kg/m ²)
Chilunguni	53.3	145.1	0.8
Makumba	57.2	147.2	0.6
Chambo	18.8	90.8	0.7
Mlamba	1.8	341.1	1.4

Usage of inputs

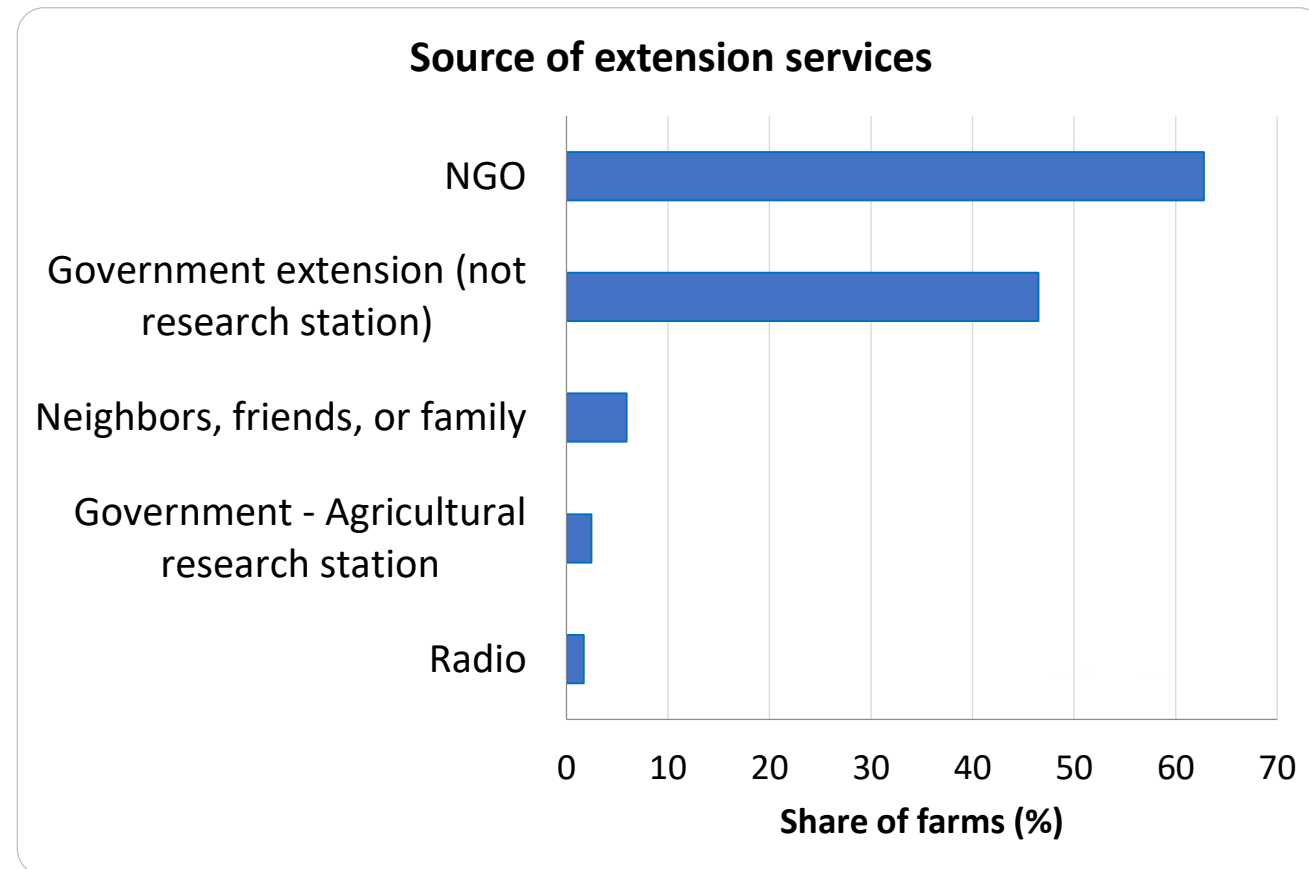


Access to extension services and credit

🌅 72.8% of the fish farms accessed extension services

🌅 6.2% of the fish farms accessed agricultural credit

Source of credit	% of farms
Village bank	56.3
Relatives/neighbors/friends	30.0
Money lenders	6.1
NGO	2.0
Microfinance institution	1.9
MERDEF/MRFC/NEEF	1.6
Input supplier/agro-dealer	1.9
Commercial bank	0.0
SACCO	0.0
Output buyer/trader/processor	0.0



Is small-scale fish farming profitable?

Category	Gross margin (Mean MK)	Gross margin per pond of size 299.5 m ²
<i>Overall</i>	116,258	97,041
<i>By farm type</i>		
Individually owned	128,012	108,525
Community farm	38,876	21,945
<i>By production system</i>		
Continuous production	62,765	101,980
Production cycles	262,509	95,274
<i>By species</i>		
Makumba	79,440	79,146
Chilunguni	106,113	84,957
Chambo	54,942	105,517
Mlamba	247,884	66,051
<i>By region</i>		
Southern Region	124,487	112,957
Central Region	47,502	75,784
Northern Region	142,083	65,560
<i>By farm size</i>		
0-200 m ²	34,516	126,057
200-1,000 m ²	91,771	63,238
>1,000 m ²	693,008	8 96,166

Although the average profit is likely too low to attract many new entrants to fish farming, the average productivity in terms of profit per hectare is **MK 3.2 million per hectare or approximately USD 3,888 per hectare**, which exceeds the average productivity per hectare for crop farming.

Challenges affecting small-scale aquaculture









Opportunities for the growth of small-scale aquaculture in Malawi

- 🌅 Feed production
- 🌅 Fingerling production
- 🌅 Access to formal markets
- 🌅 Provision of loans / credit
- 🌅 Cage farming



Policy recommendations (1)

-  Improve access to high quality fish feed
-  Incentivize private sector investment in production of floating fish feed
-  Explore the use and cost effectiveness of insects, such as Black Soldier Fly (BSF), as fish feed
-  Train certified hatchery operators
-  Improve fish farmers' access to loans and credit
-  Promote the active participation of youths and women in small-scale fish farming through targeted interventions and strategies

Policy recommendations (2)

- 🌅 Organize small-scale fish farmers into groups/ organizations/ cooperatives and strengthen existing farmers' associations
- 🌅 Promote and disseminate best fish farming practices and technologies
- 🌅 Invest in aquaculture extension services
- 🌅 Encourage fish farmers to embrace farming as a business



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