

Subsidies improve compliance in the Tanzanian dagaa fishery at Lake Victoria

MultiTip Policy Brief #4

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Buy-back programs for illegal gear are often discussed as a tool to solve compliance issues in fisheries. But buy-back programs create problems of their own. When fishers can sell their illegal nets to the government for a profit, the program simply increases illegal net production. A new study on the Tanzanian dagaa fishery at Lake Victoria shows that there is an effective alternative: a subsidy program for legal nets. Offering a 20% price discount on the price of legal nets makes half of all dagaa fishing operations in Tanzania comply with mesh-size regulations. This is the result from research at 20 landing sites using an innovative methodology.

Key Insights:

- 1. Buy-back programs for illegal gear have unwanted side effects:** When fishers receive money to turn in their illegal nets, policy makers around the globe hope that non-compliance decreases. But evidence from around the world shows that what sounds like an appealing approach to fight illegal practices can backfire and waste governmental budget. Most buy-back programs fail. One reason is that because nets can be sold to the government for a profit, buy-back programs simply increase illegal gear production.
- 2. A subsidy program for legal gear is an effective alternative:** At the current market price, less than 20% of all dagaa operators in Tanzania have demand for legal fishing nets. However, when legal nets are cheap enough, demand increases drastically. At a 22% discount of the market price, 50% of all dagaa operators buy a legal net. Compliance increases to up to 75% when nets are offered at half the market price.
- 3. With a subsidy program for legal gear, illegal gear use is no longer profitable:** After illegal nets wear out, dagaa operators will replace them with legal nets if they are offered at a discount. The subsidy program compensates the operator for the productivity loss of using a net with a larger mesh size: Illegal gear use is no longer profitable.

4. **Increasing compliance to 50% of all dagaa operations in Tanzania will cost no more than \$175,000 in subsidies per year:** The study presents a cost analysis of the subsidy program. Conservative estimates suggest that the compliance rate with the mesh-size regulation in the Tanzanian dagaa fishery can be increased from just over 30% to about 50% with a budget of no more than \$175,000 per year. A 75% take-up rate will need a budget of around \$500,000 per year. A higher target take-up rate of legal nets will generally necessitate a higher budget (Fig. 1). The calculations assume that the dagaa fisheries in Tanzania use a total of 8,129 seine nets (2020 Frame Survey) with a mesh-size regulation compliance rate of 32.5% at status quo (based on the data in Diekert et al. 2022).

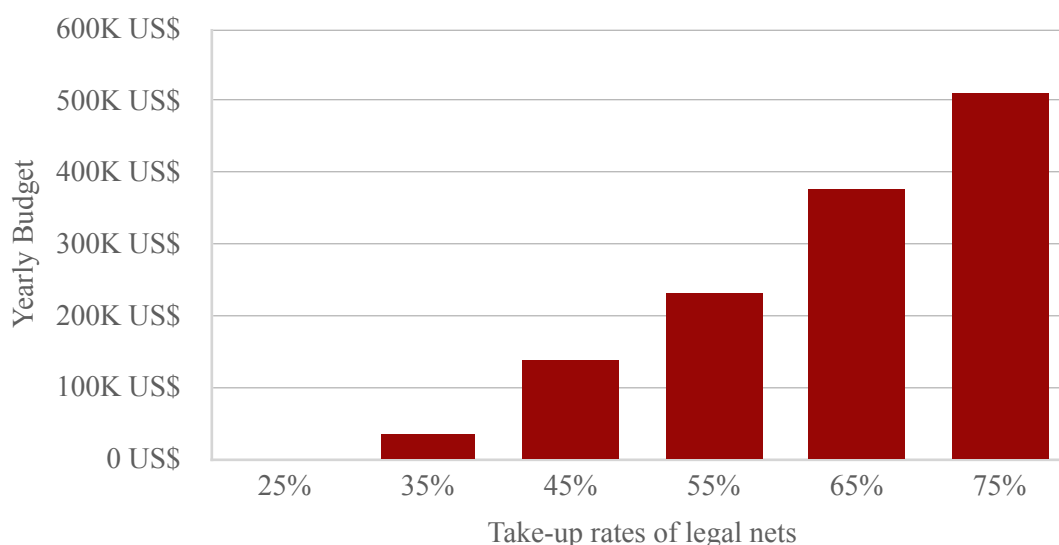


Figure 1: Estimated yearly budget for lake-wide take-up rate of legal net

5. **A successful subsidy program makes monitoring and enforcement less costly:** A subsidy program supports the livelihood in fishing communities by incentivizing compliance instead of punishing non-compliance. Policy makers can expect that the subsidy program improves compliance with gear regulations as illegal gear use becomes less profitable. With more compliance, the need for a monitoring and enforcement budget is reduced. With the cost-analysis provided, regulators may weigh the costs and benefits of a subsidy program in the Tanzanian dagaa fisheries, both in the short- and the long-term.

Methodology

In November 2021, researchers from Germany and TAFIRI conducted a joint field intervention at 20 landing sites in Tanzania. With a novel multiple price list approach for multiple units, the study is able to precisely calculate the demand for legal nets. Interpreted with respect to the market price for legal nets, the necessary discount is estimated.

References:

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