

## Subsidies, not Buybacks: Dagua Nets at Lake Victoria

### MultiTip Policy Brief #5

Florian Diekert, Tillmann Eymess, Timo Goeschl, Santiago Gomez-Cardona, Joseph Luomba



Policymakers at Lake Victoria have discussed buyback programs for illegal gear to solve compliance issues in the Dagua fisheries. But buyback 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 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 at Lake Victoria comply with mesh-size regulations. This is the result from research at 20 landing sites in Tanzania using an innovative methodology.

### Key Insights

1. **Buyback programs for illegal gear have unwanted side-effects:** When fishers receive money to turn in their illegal nets, policymakers hope that non-compliance decreases. But what sounds like an appealing approach to fight illegal fishing practices can backfire and waste governmental budget.<sup>1</sup> Most buyback programs fail. One reason is that because nets can be sold to the government for a profit, buyback 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 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 legal nets. Compliance increases up to 75% when nets are offered at half the market price.

<sup>1</sup> Ferrazares, T., Sabia, J. J., & Anderson, D. M. (2021). *Have US Gun Buyback Programs Misfired?* (No. w28763). National Bureau of Economic Research.

**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 at Lake Victoria will probably cost no more than \$550,000 in subsidies per year:** Conservative estimates suggest that the lake-wide compliance rate with the mesh-size regulation in the dagaa fishery can be increased from less than 20% to about 50% with a budget of no more than \$550,000 per year. More optimistic estimates suggest that a yearly budget of \$325,000 is sufficient to induce 50% compliance. A higher target take-up rate of legal nets will necessitate a higher budget, see Figure.

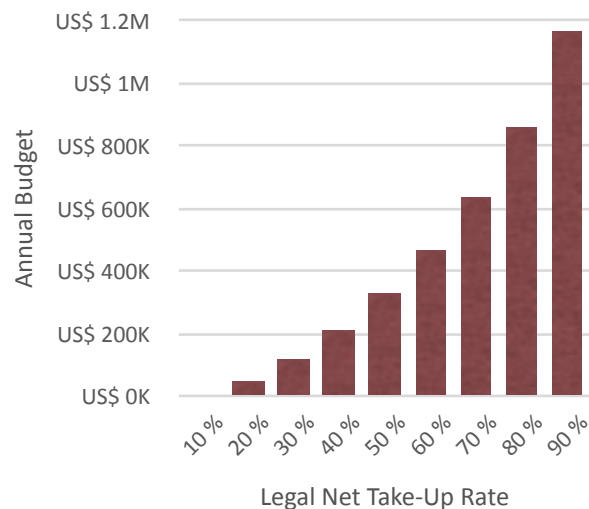


Figure: Estimated yearly budget for lake-wide take-up rates of legal nets.

**5. A successful subsidy program makes monitoring and enforcement less costly:** Policymakers can expect that compliance with gear regulations is higher with a subsidy program for legal gear. Illegal gear use becomes less profitable. Non-compliance decreases. With more compliance, the need for a monitoring and enforcement budget is reduced. Also, a subsidy program supports the livelihood in fishing communities by incentivizing compliance instead of punishing non-compliance.

## 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.

### Reference:

Diekert, F., Eymess, T., Goeschl, T., Gómez-Cardona, S., & Luomba, J. (2022). Subsidizing Compliance: A Multi-Unit Price List Mechanism for Legal Fishing Nets at Lake Victoria. AWI Discussion Paper 711, Heidelberg University. <https://archiv.ub.uni-heidelberg.de/volltextserver/31340002F>