Piloting inclusive business and entrepreneurial models for smallholder fish farmers and poor value chain actors in Zambia and Malawi

The Hatchery Operator Model

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The Hatchery Operator Model

The Need

- Access to quality fish seed is regarded as one of the biggest constraints to aquaculture growth (Brummett, 2008; Kaminski et al., 2017; 2018; Lundeba et al., in press)

- The majority of farmers purchase fingerlings from neighbouring farmers (Census, 2020)

- The recycled fingerlings coupled with lack of quality feed has implications on the production and productivity of smallholder farmers' ponds

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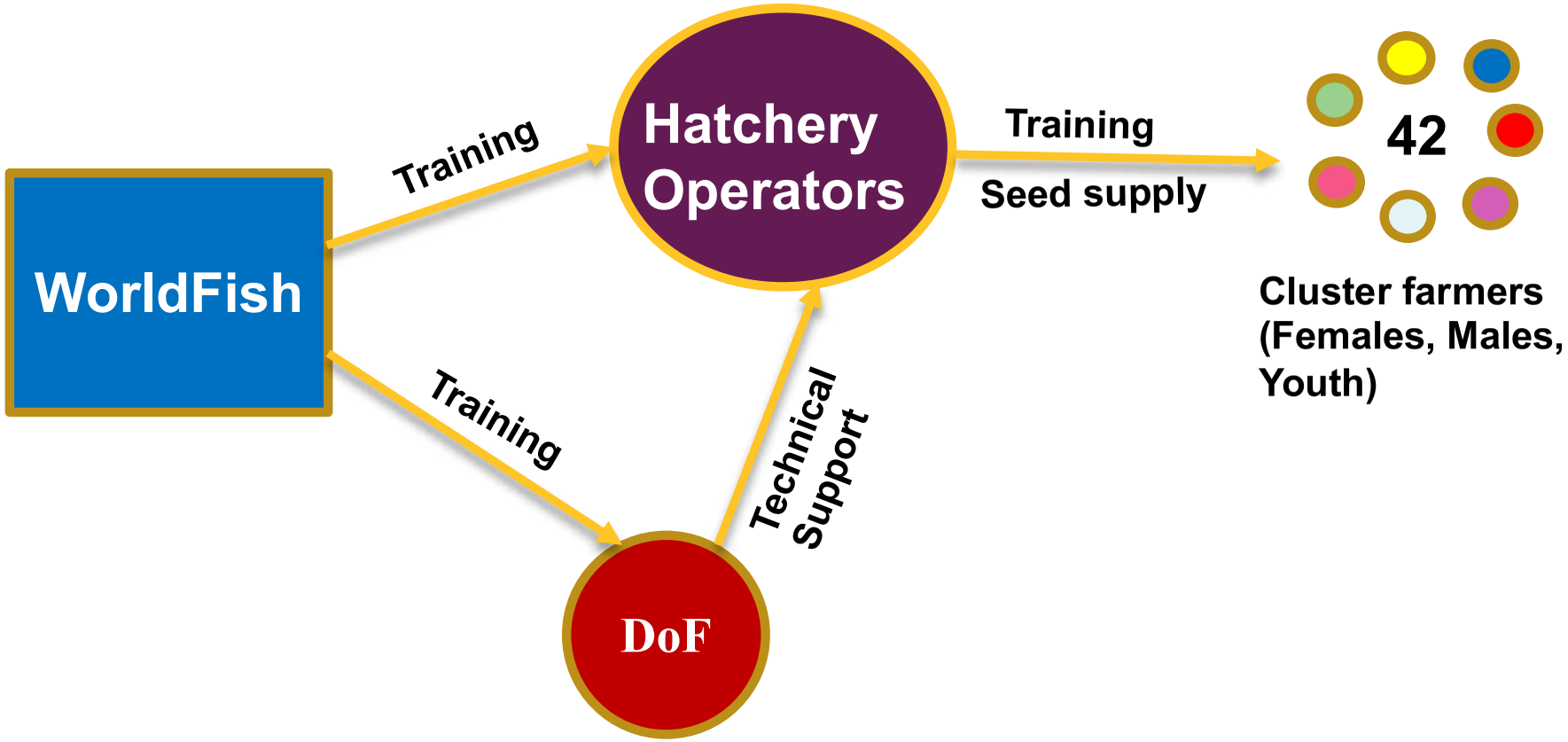
Hatchery Operator Model



The Hatchery Operator Model

- The model will increase the availability and accessibility of quality seed by smallholder farmers

- The model will mitigate the shortage of fingerlings and erratic supplies from government fish farms, private hatcheries and other development organizations

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Distribution and Seed Supply

The model will facilitate the following:

- Production and distribution/supply of fish seed to cluster farmers

- Sale of fingerlings (business) by hatchery operators in their respective communities

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Assessment and Selection of HOs

- WorldFish and Musika conducted a smallholder fish farmer census in selected Districts of Northern and Luapula Provinces

Northern: Mpulungu, Mbala, Mungwi, Luwingu and Mporokoso (Kasama-Pretest)

Luapula: Samfya, Mansa, Chipili and Kawambwa

- Census data along side a developed selection criteria were used to assess and select potential HOs for this IBEM

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Operational Model

- Project provides HOs with hapas and a sample of other accessories to support a hapa-based seed production system

- HOs purchase more accessories/materials such as aerators, scoop nets, scales, etc., to be used in the production system

- Project supports HOs with initial broodstock of 106 each inclusive of 10% mortality and 2 bags of feed each
- HOs devise systems/ways of seed transportation to their customers
- HOs train their cluster farmers on BMPs using materials developed by WorldFish

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Projected Profitability Assessment

Particulars	Amounts per IBEM in Kwacha
Revenue	228,750.00
Optimal number of fingerlings to be produced	305,000.00
Price per fingerling	0.75
Production costs incurred per cycle	12,000.00
Fixed costs	16,434.00
Total cost	28,434.00
Rate of Return on Investment (after 8 months)	8.04
Payback period	1 cycle (8 months); with an additional margin of K200,316
Benefit Cost Ratio (after recouping fixed cost investment)	19.06

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Sustainability of the Hatchery Operator IBEM

- HOs to collaborate closely with DoF and other partners
- Establish links amongst themselves
- Re-invest their profits in the seed production and supply chain and keep records effectively for business performance evaluation
- HOs to stock own ponds with unsold fingerlings
- HOs to be linked to other related organizations

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Hatchery Operator IBEM Progress

Field Activities

Progress to date

- Identification and selection of HOs (17 and 13)
- The 30 HOs have been trained (4 women are individual HOs and 3 women are from a cooperative)
- Distribution of hapa materials and other accessories has been done
- Broodstock and feed distribution is under way
- Recruitment of broodstock from Lake Mweru-Luapula is in progress

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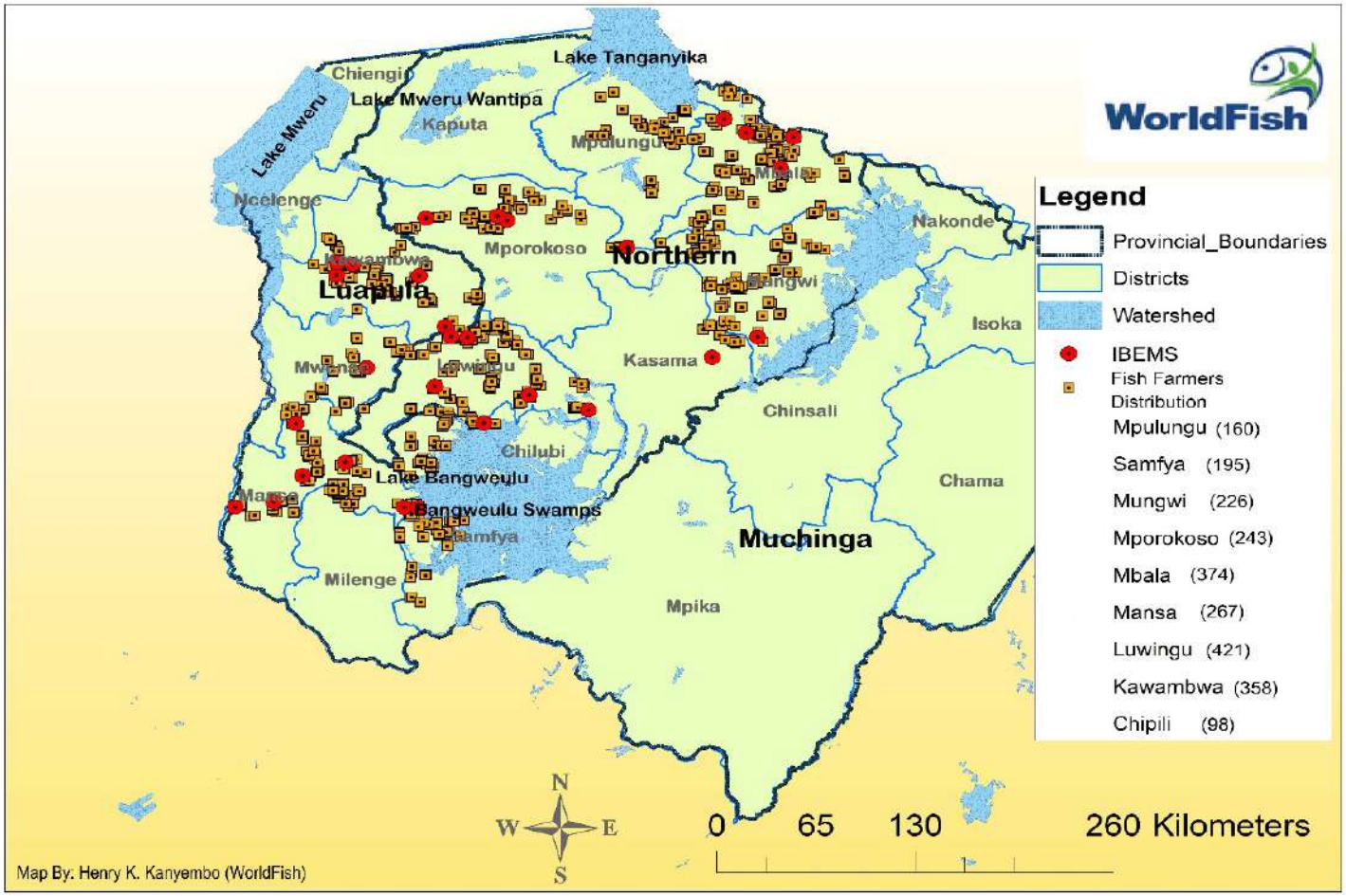
Distribution of Hatchery Operators



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Activity Implementation

Ground work

Next Steps

- Continue to distribute broodstock to HOs
- Continue to recruit broodstock from farmers to distribute to HOs
- Continue to recruit broodstock from Lake Mweru-Luapula (to be quarantined and screened for disease)

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Thank You

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