Cluster Description

Cluster Title: Zambia: Activities led by International Water Management Institute (IWMI)

Activities: WorldFish

Start Date: 2024-01-01.

End Date: 2024-12-31.

Reporting period: 1st January 2024 to 31st December 2024

Project Component

- PDO: Project Development Objective Indicators
- KS: 1. Knowledge Generation and Sharing
- PD: 2. Strengthening Partnerships for Delivery of Climate-Smart Innovations in Agriculture
- CSA: 3. Validating Climate-Smart Agriculture Innovations through Piloting

Executive Summary

Contribution to Monitoring, Evaluation, and Learning (MEL)

The AICCRA Zambia achievements have been reported in MARLO with WorldFish's support (see AICCRA Zambia Progress report on the 2024 Annual work plan, see https://hdl.handle.net/10568/149255). Hosting the project M&E staff, WorldFish compiled project deliverables from AICC RA Zambia partners and ensured their timely upload on CG Space, followed by comprehensive reporting in MARLO. WorldFish led various MEL functions, supporting the IWMI cluster leader in planning and reporting in MARLO. This collaborative approach enhances the accuracy and efficiency of monitoring and reporting processes within the AICCRA Zambia cluster. The table below highlights the key contribution of WorldFish to the cluster and these form part of the annual report submitted in MARLO. WorldFish also presented the progress of the work on the Zambia AICCRA bundle to the AICCRA steering committee.

Contribution to Climate Smart Agriculture (CSA) technologies

WorldFish reviewed 13 proposals for the accelerator grant initiative and selected Toda Raba Limited as the winning grantee (see the winning proposal https://hdl.handle.net/10568/169032). WorldFish strengthened the capabilities of 2 Small and Medium Enterprises (SMEs) by contributing to AICCRA Zambia CSA Bundle 2 on the Integrated Aquaculture Agriculture System (IAAS). These SMEs include Toda

Raba Investment Ltd and Aqua360. WorldFish also hosted a training workshop training 37 people (25 men, 12 women) representing aquaculture SMEs, lead farmers, and extension officers (see report https://hdl.handle.net/10568/169030).

WorldFish also hosted a four-day workshop to validate the Chichewa climate-smart aquaculture training manual to a Nyanja dialect of Chichewa that most Zambians are familiar with. The workshop was also part of a pretest process of the training manual to assess the level of accuracy in the translation. The 10 participants included Fisheries Specialists, Conservationists and Small Scale Farmers in Zambia's Central, Southern and Eastern parts. Nyanja is a simplified and common dialect used widely in almost all parts of Zambia. The workshop resulted in a validated version of the Nyanja climate smart aquaculture manual (see https://hdl.handle.net/10568/158291), now used by Nyanja-speaking smallholder farmers. WF translated the manual to ensure its accessibility and useability by women and others with low levels of formal education but who can read the local language.

From 45 154 farmers reached between 2022 and 2024, 15,700 use the disseminated climate-smart and innovative aquaculture technologies. From the 14,500 subscribers to our YouTube channel, 1,621 had viewed the accelerator partner story for Bundle 2 as of December 31 2024.

Climate Information Services (CIS)

WorldFish, in collaboration with the University of Stellenbosch, published a working paper on developing a temperature-based, early warning alert system for fish farmers in Zambia. The paper focuses on the developed air-water temperature relationship algorithm used to forecast pond water temperatures for integration with the data hub of the Intelligent Agricultural Systems Advisory Tool (iSAT) and an early temperature warning decision-tree matrix for smallholder farmers (See https://hdl.handle.net/10568/159626).

WorldFish developed a prototype for the Aquaculture Advisory Tool for hosting iSAT. The prototype has demonstrated that the platform can send messages and be stable when linked to weather data/ information sources to generate advisories for aquaculture farmers. The prototype is linked to an AI Model the team developed for the air and pond water temperature algorithm (See https://hdl.handle.net/10568/169026).

WorldFish staff contributed to an AICCRA collaborative study evaluating climate information services' effectiveness on farmer preparedness for climate events in Zambia (See report https://hdl.handle.net/10568/168986). This study examined the effectiveness of climate information systems in AICCRA Zambia, focusing on their

contribution to adaptive capacity and productivity improvement within the different bundles.

Gender Equality and Social Inclusion.

WorldFish contributed to strengthening capacity on gender and climate change by training 37 people (25 men, 12 women) representing aquaculture SMEs, lead farmers, and extension officers on GESI (https://hdl.handle.net/10568/169030). The training was also used as a basis by Toda Raba to develop its gender equality and social inclusion strategy for the 2025 aquaculture-accelerator bundle work plan. WF also translated the Climate-Smart Agriculture (CSA) training manual into Nyanja, a local language. Women also validated the Nyanja manual to ensure it met their needs. The previous accelerator grantee continued to utilize radios to effectively disseminate Climate Information Services and Climate Smart Aquaculture technologies to ensure that vulnerable community members, especially women, are reached by CIS information and knowledge. We also documented the gender implications of our work through blogs and videos (see outcome stories and blogs section).

Outcome stories and blogs

WorldFish published a blog about how the private sector is helping to scale the adoption of 'climate-smart' aquaculture in Zambia and boosting the role of women in aquaculture (See blog https://aiccra.cgiar.org/news/private-sector-helping-scale-adoption-climate-smart-aquaculture-zambia-boosting-womens-role). WorldFish also contributed to the GESI video showcasing how gender has been included in the integrated agriculture aquaculture enabling women and children to get better nutrition, access to income, and provide school needs for siblings and children (See video https://youtu.be/BW1poO2eRd4). The roles of women and youth are also being changed as they are now making important economic contributions to their families and communities. WorldFish contributed to an impact blog entitled “Transforming Livelihoods: AICCRA Zambia Empowers Smallholder Fish Farmers with Climate-Smart Aquaculture Solutions’ https://cgspace.cgiar.org/server/api/core/bitstreams/4b6d0c60-2993-44b8-a4ce-ce7ccf6ae905/content. The team documented outcome stories for accelerator partners focusing on the Integrated Aquaculture Agriculture. The video highlights the benefits that the AICCRA intervention has had on local fish farmers: improved access to fish, enhanced nutrition, and job opportunities for women and youth in Zambia's urban, peri-urban, and rural areas in Northern and Luapula. WorldFish, through the MEL person, contributed to the impact story on work done by the Community Markets for Conservation (COMACO) organization under AICCRA (see https://cgspace.cgiar.org/items/ab45d077-17e8-4b68-845f-b1706bd9df75).

WorldFish Contributions to the cluster by deliverables

ID	Deliverable title		Status	Dissemination Handle
D25891	Evaluating the effectiveness of climate information services on farmer preparedness for climate events in Zambia (Research Report)	Research Report	Complete	https://hdl.handle.net/10568/168986
D25893	The private sector is helping to scale the adoption of 'climate-smart' aquaculture in Zambia	Blog	Complete	https://aiccra.cgiar.org/news/private-sector-helping-scale-adoption-climate-smart-aquaculture-zambia-boosting-womens-role
D25900	Climate-smart aquaculture, climate information services and gender training for the Aquaculture Bundle	Training workshop Report	Complete	https://hdl.handle.net/10568/169030
D25901	CSA/CIS Climate-smart Aquaculture for Smallholder Fish Farmers: Integrated Fish and Small Livestock Farming - Malimidwe okonzekera ndi olimba panyengo paulimi wansomba: Kugwirizanitsa ulimi wansomba ndi ulimi waziweto zing'onozing'ono. AICCRA Training Materials.	Training Manual	Complete	https://hdl.handle.net/10568/158291

ID	Deliverable title		Status	Dissemination Handle
D25906	Stories of Gender and Social Inclusion in Zambia-Aquaculture (Video)		Complete	https://youtu.be/BW1poO2eRd4
D25909	Protoype on the integration of the Aquaculture decision tree and algorithm iSAT	Technical Report	To be completed in 2025	https://hdl.handle.net/10568/169026
D25914	Transforming Livelihoods: AICCRA Zambia Empowers Smallholder Fish Farmers with Climate-Smart Aquaculture Solutions	Blog	Complete	https://hdl.handle.net/10568/168794
D25924	Zambia Accelerator Grant: Toda Raba Farm	Technical Proposal	Complete	https://hdl.handle.net/10568/169032
D25929	Climate information systems (CIS) for aquaculture. Development of a temperature-based, early warning alert system for fish farmers in Zambia.	Working Paper	Complete	https://hdl.handle.net/10568/159626
D25991	An Accelerator Partners' Story for Bundle Two: A Video Showing Scaling Climate Smart Aquaculture Innovations	Outcome Story	Complete	https://hdl.handle.net/10568/158290 https://www.youtube.com/watch?v=TpfICTziK5k&t=127s
D25992	Report AICCRA Zambia's Progress on the 2024 Work Plan	Project Report	Complete	https://hdl.handle.net/10568/149255

ID	Deliverable title		Status	Dissemination Handle
D26316	Empowering Smallholder Farmers in Zambia's Climate Hotspots through Climate-Smart Innovations	Outcome Story	Complete	https://hdl.handle.net/10568/169323

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