



**Development and Scaling of Sustainable Feeds for Resilient Aquatic Food Systems in Sub-Saharan Africa:**  
Gender and inclusive development action plan (GIDAP)  
outcome report

# Development and Scaling of Sustainable Feeds for Resilient Aquatic Food Systems in Sub-Saharan Africa: Gender and inclusive development action plan (GIDAP) outcome report

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## About Development and Scaling of Sustainable Feeds for Resilient Aquatic Food Systems in Sub-Saharan Africa (FASA)

WorldFish has partnered with the Norwegian Agency for Development Cooperation (Norad) on a 5-year project to develop low-cost and highly nutritious aquatic feeds based on novel ingredients. The project, known as Development and Scaling of Sustainable Feeds for Resilient Aquatic Food Systems in Sub-Saharan Africa (FASA), will run from 2022 to 2027 with Norad funding the initiative through a NOK 80 million (approximately USD 8 million) grant. The project aims to enable 5000 smallholder aquatic food producers in Kenya, Nigeria and Zambia to test and use these feeds and ingredients, which will increase their income and improve their nation's food security as well as reduce waste and pollution. An estimated 30 and 40 percent of aquatic food producers engaged in the project will be women and youths, respectively.

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## Disclaimer

This report must be read, and the results considered, in conjunction with the climate and environmental analysis report as well as the country outcomes report for Kenya, Nigeria and Zambia under the FASA project.



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# Executive summary

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## Introduction

Development and Scaling of Sustainable Feeds for Resilient Aquatic Food Systems in Sub-Saharan Africa (FASA) is a project that operates in Nigeria, Zambia and Kenya, with funding from the Norwegian Agency for Development Cooperation (Norad) and research support from Malaysia and Sweden. Includovate leads the gender equality and social inclusion (GESI) work in FASA, directed by the WorldFish project leader based in Malaysia.

Fish feeds are critical for aquaculture. Returns are limited, though, because of high production costs for small-scale aquaculturists. To address this, it is important to explore alternative affordable and nutritious fish feeds. However, introducing new ingredients could inadvertently impact other aspects of small-scale aquaculture, especially for women, altering their control over assets. The FASA project's gender and inclusive development action plan (GIDAP) aims to integrate gender and social inclusivity into all project aspects, ensuring no harm comes to women or excluded groups.

## Recommendations based on a GESI analysis

FASA conducted GESI assessments for each country, revealing barriers and inequalities limiting the participation of women, youths and marginalized groups in the aquaculture sector. The assessment identified gaps in policies, access, resources and societal norms. Eight consolidated recommendations emerged:

1. Policy amendments: Advocate for gender-responsive policies and equal representation in fisheries management.
2. Improving feed quality: Raise awareness and provide skills to women for diverse, sustainable fish feeds.
3. Equal access to resources: Support women-led initiatives, improve access to resources and ensure market-based solutions for women and marginalized groups.
4. Visibility and decision-making: Promote women and youths in decision-making roles and challenge gender norms.
5. Strengthen extension services: Offer tailored support to women, youths and marginalized communities in fish feed innovations.
6. Time-saving technologies: Raise awareness on shared domestic duties and positive masculinity.
7. Financial inclusion: Improve women's access to information and financial resources.
8. Monitoring and evaluation: Implement a robust system to assess progress and effectiveness.

## Gender inclusive development action plan

The GIDAP aligns with these recommendations in the following ways:

- Policy advocacy: Collaborate with entities for policy alignment and share gender studies with policymakers.
- Improving feed quality: Engage with women's groups to diversify feed ingredients and enhance skills.
- Equal resource access: Partner with the private sector, enhance awareness and provide tailored technologies.
- Visibility and decision-making: Empower women in decision-making and challenge existing norms.
- Strengthen extension services: Provide customized assistance to women, youths and small-scale farmers.
- Time-saving technologies: Promote shared domestic duties and positive masculinity.
- Financial inclusion: Collaborate with local suppliers to make resources consistently available and to create innovative financing mechanisms.
- Monitoring and evaluation: Collect gender-disaggregated data, assess progress and adjust strategies.

**Gender and social inclusion-related outreach**

Highlight successful women in fisheries as role models, conduct mentorship programs, provide training, celebrate achievements and engage communities for gender-responsive outreach.

**Stakeholder engagements**

Maintain an updated stakeholder list, including gender-disaggregated data, level of involvement and areas of expertise. Regularly update the list and analyze data for effective engagement.

**Staff capacity development**

Enhance staff expertise through training, mentorship programs and skill development initiatives focusing on GESI in fisheries management.

**Conclusion**

FASA's GIDAP, rooted in a comprehensive GESI analysis, stands as a blueprint for gender-responsive and socially inclusive interventions. By aligning policies, improving resource access, challenging norms and fostering inclusive communities, FASA aims to transform the aquaculture sector across Nigeria, Zambia and Kenya.

# 1. Introduction

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Fish feeds are a fundamental resource for aquaculture. Yet the high costs of standard feeds, as much as 40–70 percent of total production, limit returns for small-scale aquaculturists.<sup>1,2</sup> To reduce costs, especially in low-income countries, it is necessary to find alternative affordable and nutritious fish feeds. However, introducing new ingredients could create competition and socioeconomic strain on other aspects of small-scale aquaculture production. For example, women might feed local ingredients such as peels to small livestock or use them in other types of livelihood activities on which they depend for their own (only) income. As such, redirecting these ingredients to fish feed could inadvertently undermine women’s control over assets or cause household tension. There is thus a need for alternative local ingredients that can mitigate the escalating cost of traditional fish feeds, without incurring perverse consequences.

The FASA project wants to mainstream gender and ensure no harm or risks come to women or excluded groups throughout the project, or as a result of its activities. To this end, the GIDAP outlines a comprehensive approach that incorporates gender and social inclusivity across all project aspects, such as design, implementation, partnerships, staffing, and monitoring and learning. This plan delineates FASA’s strategy in planning, structuring, implementing and evaluating supported activities. It aims to address gender norms, roles, inequalities and social inclusion concerns, raising awareness and taking necessary actions to enhance the sustainability and impact of the project’s interventions.

## 2. Recommendations based on a GESI analysis

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FASA carried out GESI assessments for each country namely Nigeria, Kenya and Zambia, considering the lack of sufficient information on local ingredients for sustainable use in fish feeds. This GESI assessment used the ADS 205 domains of the United States Agency for International Development: (1) laws, legal rights, policies and institutions, (2) cultural norms and beliefs, (3) gender roles, responsibilities and time use, (4) access to and control over assets and resources, and (5) patterns of power and decision-making. It is focused on identifying key gender and social inclusion-related issues and constraints, with a specific emphasis on how proposed interventions would impact women, men, youths and other marginalized social groups.

The assessment found that there are significant gaps and barriers in the existing policy and regulatory environment, as well as in the sociocultural context, that limit the participation and empowerment of women, youths and other marginalized groups in the aquaculture sector. These include (i) lack of awareness, representation and enforcement of gender-responsive policies, (ii) unequal access to information, training, finance, markets and technology, (iii) prevailing gender stereotypes and norms that constrain women's mobility, decision-making and bargaining power, (iv) and low levels of organization and leadership among women and youth groups. The assessment also identified potential opportunities and entry points for the FASA project to address these challenges and promote gender equality and social inclusion in the development and scaling of sustainable feeds. These include (i) leveraging existing networks and platforms of stakeholders, (ii) engaging with policymakers and influencers to advocate for gender-responsive reforms, (iii) providing tailored and accessible information, training and support to women and youths, (iv) fostering inclusive and participatory decision-making processes at the household and community levels, (v) creating links and partnerships with relevant actors along the value chain, and (vi) recognizing and rewarding the achievements and contributions of women and youths in the industry.

The findings from the GESI analysis across Nigeria, Zambia and Kenya revealed a commonality in challenges women and youths face within the aquaculture sector. The similarities in the barriers, constraints and opportunities observed in these countries show a consistent pattern of gender disparities and social inequalities prevalent in the fisheries industry across these countries. By adopting a standardized set of recommendations, the FASA project can effectively tackle gender disparities and social inequalities in the aquaculture sector, promoting inclusivity and sustainable development throughout Nigeria, Zambia and Kenya. Based on the GESI analysis, this GIDAP is organized around the following eight consolidated recommendations that are based around the ADS.

## **#1 Propose amendments in policies, laws and regulations to explicitly address gender disparities, ensuring equal opportunities and rights for all participants in the fisheries sector**

*(relates to ADS laws, legal rights, policies and institutions)*

Use the enabling environment outlined in the National Gender Policies and the Sustainable Development Goals to influence policy alignment and share any gender studies with policymakers. Collaborate with regional entities, encompassing civil society organizations and nongovernmental organizations (NGOs), in formulating and executing strategies and action plans aimed at accomplishing gender equality and equity objectives, which can be translated into national initiatives. Create provisions that directly cater to the requirements and hurdles women confront in the fisheries sector, guaranteeing their engaged involvement and safeguarding their rights. This includes increasing women's access and user rights. Promote the representation of women, youths and people with disabilities in decision-making bodies and other pivotal roles within fisheries management boards and committees.

- In Nigeria, integrate *gender-sensitive* approaches that promote equitable access, benefits and decision-making across all related policies.
- In Zambia, ensure a gender balance in the country's aquaculture-related bodies in alignment with the Water Management Act, and promote a *gender-responsive* approach in alignment with the National Water Policy.
- In Kenya, enhance the institutional capacity of the Water Resource User Associations and Beach Management Units to include women, youths and marginalized groups in fish feed production and to advocate for compliance and coherence across policies. Adopt a *gender-transformative* approach that aligns with the National Gender and Development Policy.

## **#2 Improve the quality of what women feed their fish by engaging with women's groups to raise awareness about the importance of feed ingredient diversity and by providing them with the necessary skills to improve their fish feeds** *(related to ADS access to and control over assets and resources)*

Despite the majority of women across all three countries strongly agreeing on the need to improve fish feeds, many of them are unsure if they have the necessary skills to do so. Women need to build their confidence, and they need messages and training in formats they can understand.

Support community-driven initiatives that are gender responsive and focused on developing and using aquacultural inputs in pictorial and learn-by-doing approaches, as these make the content easier for women to learn. Engage proactively with local communities to promote awareness about the importance of sustainable ingredients in fish feed production, and consider couple training and separate training for men and women to ensure women are reached. The survey data reveals that morning is the preferred training time for both women and men across the countries, except in Zambia, where respondents, especially women, also prefer 14:00.

## **#3 Encourage equal access to resources for women and marginalized communities, including economic assets, vital services, financial support, education, information, technology, capacity building and market opportunities** *(relates to ADS access to and control over assets and resources)*

Most respondents, more so among women than men, across all three countries do not have the resources and assets they need to improve the quality of their fish feeds. FASA should provide support for initiatives targeted at women and marginalized groups. These initiatives should be designed by women for women working in fish feed and the fisheries supply chain. These solutions should be market-based and address women's unique needs, concerns and challenges to improve their access to and management of resources.

Encourage the formation of women's cooperatives or associations in fisheries to collectively address common challenges and increase their bargaining power. Promote the inclusion of women in existing fisheries cooperatives and ensure their voices are heard. Provide women with improved access to appropriate technologies and mechanized tools for processing and formulation to improve the quality and efficiency of fish feed.



#### **#4 Increase the visibility of women and other disadvantaged groups through participation and decision-making** *(relates to ADS patterns of power and decision-making)*

Recognize and promote the active participation of women and youths in various decision-making processes by implementing programs and initiatives that encourage and support women to take on more independent decision-making roles, especially regarding income and household matters. Provide educational and awareness campaigns to challenge gender stereotypes and promote gender equality in decision-making and participation.

Target younger individuals through educational and outreach programs to improve their understanding of fish feed-related initiatives. Establish youth-oriented initiatives within the aquaculture industry, fostering their active participation through specialized programs. These initiatives should encompass training and platforms for youths to experiment with novel feed ingredients to foster innovation and help individuals across different age groups learn from each other.

#### **#5 Strengthen extension services to provide tailored support to women and youths in overcoming barriers to fish feed innovation**

Enhance extension services to offer customized assistance to women, youths and marginalized communities, addressing specific challenges related to fish feed. This involves providing tailored guidance and support to help these groups overcome barriers in fish feed production. Additionally, create ways for women, youths and small-scale fish farmers to access vital resources, assets and financial support, ensuring their active participation and sustainability in the field of fish feed production.

#### **#6 Introduce time-saving technologies and mechanization for producing fish feeds, and work with men to promote positive masculinity and encourage them to contribute to unpaid domestic workload** *(relates to ADS gender roles, responsibilities and time use)*

Use gender-transformative approaches to raise awareness among men on the benefits of sharing domestic duties and the rights of women and youths. These can focus at the community, group and household levels.

#### **#7 Help male-run businesses and financial inclusion businesses to reach more women and youths** *(relates to ADS cultural norms and beliefs)*

Most respondents across all three countries are either unsure or disagree about how to access information about new fish feed ingredients. Men and women tend to do so differently.

Collaborate with local agricultural suppliers to ensure the consistent availability of inputs throughout the year, and help them reach women. Strengthening the supply chain is essential to overcoming challenges associated with seasonal variations and ensuring a steady provision of vital resources to farmers. However, women lack information, access and the resources to take advantage of any improvements. This will require financial innovations, such as offering guarantees to women-led cooperatives who borrow funds as well as payment plans with input supplies.

#### **#8 Implement a monitoring and evaluation system to assess the progress and effectiveness of the action plan**

Collect data on women's participation, equipment acquisition, income levels and group formation. Conduct regular surveys and assessments to gauge the impact of empowerment and training programs. Adjust strategies based on feedback and emerging needs. Share success stories to inspire and motivate other women.

**Box 1.** What to look for during planning, designing, monitoring and evaluation.<sup>3</sup>

- Ensure that the project considers gender and intersectionality from start to finish and does not add it as an afterthought.
- Make sure that the number and percentages of women and men reached, benefitted, empowered, transformed, in leadership positions, etc., are documented and well tracked.
- Keep in mind that addressing gender is not about working with women but about addressing unequal gender relations with both women and men.
- Remember that women are not a homogenous group and that other aspects of social identity are also of key importance to determine outcomes of value chain participation.
- Check that the project does not use gender stereotypes in internal and external communication and/or introduce gender-reinforcing interventions.
- Check internal project dynamics and practices for such pitfalls, and ensure that all staff, not just those involved with the social dimensions of the project, are aware of and responsible for integrating gender.
- Ensure that the appropriate capacity is available for gendered value chain analysis and design of interventions.
- Monitor and address any unintended consequences of interventions that add to women's workload, such as gender-based violence (GBV) and appropriation of technologies or businesses by other household members. This means actively looking beyond planned outcomes.

The GIDAP is structured based on these eight GESI recommendations, which align with the scope and duration of the FASA project. This plan delineates the integration of gender and inclusive development considerations into all pertinent FASA technical products and services, encompassing aspects of design, implementation, and monitoring and evaluation. Derived from the findings of the GESI analysis, the GIDAP incorporates essential insights and defines a series of priority interventions aimed at overcoming significant challenges related to GESI within fish feed and fisheries management across Nigeria, Zambia and Kenya.

### 3. Gender inclusive development action plan

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**Primary project goal: To develop low-cost, highly nutritious fish feeds based on novel ingredients, and enable 5000 smallholder fish farmers in the African countries to test and adopt these ingredients and feeds, leading to increased income, improved food security, and reduced waste and pollution.**

As stated in Section 2, this GIDAP is organized around the eight consolidated recommendations that arise out of the GESI analysis:

1. Propose amendments in policies, laws and regulations to explicitly address gender disparities, ensuring equal opportunities and rights for all participants in the fisheries sector
  - Collaborate with government and civil society partners to communicate obstacles hindering women's equal access and ownership of land and ponds.
  - Assist policy initiatives that work to remove barriers, including outdated inheritance practices.
  - Interact with various stakeholders from the public, private and civil sectors to identify solutions for overcoming household hindrances to pond access. For instance, consider testing initiatives like community ponds or tanks managed by women's groups.
  - Aid the government in guaranteeing the protection and implementation of women's rights.
2. Improve the quality of what women feed their fish by engaging with women's groups to raise awareness about the importance of diversifying feed ingredients and by providing them with the necessary skills to improve their fish feeds.
3. Encourage equal access to resources for women and marginalized communities, including economic assets, vital services, financial support, education, information, technology, capacity building and market opportunities.
  - Establish partnerships with the private sector that explicitly acknowledge women, youths and farmers with lower incomes as valued clients. Collaboratively create business models that prioritize enhancing the access of women and marginalized actors to essential resources, such as seeds, feed, market information and medicine, within the fish value chain.
  - Explore inclusive strategies that leverage existing networks and practices that women use, such as accessing information or inputs from neighbors and mobile traders. Experiment with transformative approaches that integrate women into mainstream channels, enabling them to access inputs and information through tailored local service provider models. This involves enhancing the awareness and capabilities of input and service providers.
  - Implement innovative technologies that alleviate workload and enhance quality, encompassing advancements in aquaculture production, processing technology and communication tools. Collaborate with financial institutions, including moneylenders, microfinance institutions and banks, to develop products tailored to various types of entrepreneurs. Promote gender awareness and capacity building within these institutions. Encourage the formation of women-led aquaculture cooperatives or groups where members can share experiences, knowledge and resources. Facilitate networking opportunities with successful women aquaculturists.
  - Address societal norms and attitudes related to decision-making and control over assets and resources through gender-transformative strategies, focusing on challenging and changing existing social and gender norms.
4. Increase the visibility of women and other disadvantaged groups through participation and decision-making.
  - Enhance the collective and individual empowerment of women to overcome obstacles in the sector. This could involve integration into existing farmer or business groups or the formation of new ones, ensuring that women can actively participate and take leadership roles within mixed-gender groups.

5. Strengthen extension services to provide tailored support to women and youths in overcoming barriers to fish feed innovation.
6. Introduce time-saving technologies and mechanization for producing fish feeds, and work with men to promote positive masculinity and contributions to unpaid domestic work.
7. Help male-run businesses and financial inclusion businesses reach more women and youths.
8. Implement a monitoring and evaluation system to assess the progress and effectiveness of the action plan.

As a part of the FASA project, the GESI outcomes and associated outputs are outlined in Table 2. It also illustrates the conceptual alignment and relationship between the consolidated GESI analysis recommendations and the project's outcomes and outputs.

The interventions will be carried out in collaboration with stakeholders through socialization and understanding initiatives, capacity building programs and targeted external communication efforts aimed at key stakeholders in Nigeria, Zambia and Kenya. This inclusive approach will involve engaging with various local entities such as cooperatives and feed millers, women's and youth groups, and local NGOs representing disadvantaged and underrepresented communities. Fostering partnerships with these diverse stakeholders will effectively tailor the interventions to address the unique challenges different groups face within the fisheries sector.

**Box 2.** Youth-focused interventions.

- Organize workshops and mentorship programs for young fish farmers, focusing on introducing them to innovative fish feed ingredients and sustainable farming practices. Encourage their active participation in aquaculture activities.
- Implement skill development programs for youths, focusing on areas related to fisheries, aquaculture and entrepreneurship. Equipping them with relevant skills can empower them to actively participate in the sector and engage with grassroots organizations effectively.
- Use community leaders, elders and respected individuals to disseminate information. Incorporating traditional channels can enhance trust and credibility among community members, making them more receptive to the messages.
- Develop youth-oriented awareness campaigns, using social media platforms and interactive workshops to inform young men and women about the organizations addressing fish feed barriers. Use relatable content to capture the attention of the younger generation.
- Organize events that bring together youths from different communities, providing them with a platform to share experiences, ideas and challenges. Foster a sense of community and collaboration among young individuals in the fisheries sector.

Norad's thematic priority areas	Link to FASA	Link to ADS 205	Link to the GESI recommendations
Women's political rights and empowerment	Women gain equal leadership in groups, etc., associated with the project.	<ul style="list-style-type: none"> <li>• Cultural norms and beliefs</li> <li>• Gender roles, responsibilities and time use</li> </ul>	2, 3, 4, 5, 6
Women's economic rights and empowerment	Any value chain opportunities equitably benefit women, and any income derived is equitably shared.	<ul style="list-style-type: none"> <li>• Patterns of power and decision-making</li> <li>• Access to and control over resources</li> <li>• Gender roles, responsibilities and time use</li> </ul>	2, 3, 4, 5, 6, 7
A life free of violence and harmful practices	Adopt a "do no harm" approach that involves checking to ensure GBV does not increase with income and empowerment and ensures that markets are safe places for women.	<ul style="list-style-type: none"> <li>• Laws, policies, regulations and institutional practices</li> <li>• Patterns of power and decision-making</li> </ul>	1, 2, 3, 4, 5, 6, 7

**Table 1.** What these priority areas will mean for the FASA project and how to link these priority areas with ADS 205.

See Table 2 for an illustration of the alignment and relationship between the project's outcomes, outputs (copied from the project's logframe) and the eight consolidated GESI analysis recommendations.



## 4. Monitoring, evaluation and learning

The FASA project will actively monitor the implementation of key GIDAP interventions through its monitoring, evaluation and learning (MEL) plan. Specifically, the project will track the contributions made toward outcomes and outputs as per the GESI cross-cutting strategy. The project will conduct the monitoring using GESI-specific indicators detailed in its MEL plan. To ensure a comprehensive analysis, FASA will collect data disaggregated by sex and age, providing valuable insights into the effectiveness of the implemented interventions across different demographic groups.

Core component	Project outputs	Indicators to monitor progress	Relevant partners	GESI recommendation	Timeframe
<b>Outcome 1:</b> The capacity of at least two stakeholder groups in each of the three target countries has been enhanced to integrate best practices toward a more sustainable feed sector, and new knowledge has been adopted on the nutrient requirements of multiple improved strains of tilapia and African catfish.	<b>Output 1.2:</b> Viable opportunities and pathways for women and youths are more integrated into the fish feed sectors identified in the three focus countries, as well as benefits from them, and they are made widely available, with a focus on feeds derived from (novel) local ingredients.	Calculate the percentage increase in the participation of women and youths within the fish feed sectors following the implementation of the program. This can include their involvement in production, management and decision-making processes.	Local cooperatives/groups of feed millers and fish farmers, women's and youth groups, local NGOs	1, 2, 3, 4, 5, 6, 7	Year 1
		Track the number of initiatives, businesses or projects within the fish feed sectors initiated and led by women and youths as a result of the program's interventions.			
<b>Outcome 2:</b> The quality of at least 15 local ingredients has been improved through various processing techniques, and the ingredients are being used by stakeholders in the three target countries, including local millers and farmers, to produce nine novel, cost-efficient feed formulations that will improve aquaculture productivity and resilience.	<b>Output 2.1:</b> New data and knowledge on local ingredients is generated and used to formulate novel fish feeds and made widely available.	Count the number of women specifically trained in the processing techniques and formulation of novel feed.	NARS, CORAF, ICIPE, Aller Aqua Africa, local cooperatives/groups of feed millers and fish farmers, women's and youth groups; research, development, policy and finance organizations	2, 3, 4, 8	Year 2
		Evaluate the percentage of women entrepreneurs among the stakeholders involved in using the improved local ingredients to produce feed.			
		Collect feedback specifically from women stakeholders regarding the usability, effectiveness and challenges faced in adopting and implementing the novel feed formulations.			
<b>Outcome 3:</b> A total of 5000 farmers directly or indirectly linked to the project access, test and use novel fish feeds and feed solutions using the knowledge and innovations developed by the project, with support from a range of strategic scaling partners and other stakeholders.	<b>Output 3.1:</b> Integrated knowledge for enabling the scaling environment (including exploring barriers and bottlenecks to scaling), and strategies for scaling up the use of novel feeds and feed management approaches in the three target countries are co-developed with stakeholders and used to guide selection of country scaling strategies.	Monitor the participation of women in decision-making processes related to the formulation, production and use of novel feed.	NARS, CORAF, ICIPE, Aller Aqua Africa, local cooperatives/groups of feed millers and fish farmers, women's and youth groups; research, development, policy and finance organizations	2, 3, 4, 5, 6, 7	Year 3
		Count the number of farming cooperatives led or predominantly managed by women that are engaged in scaling up the use of novel feeds.			
		Track the percentage of female farmers among the total number of farmers accessing and using the novel fish feeds.			
		Monitor the participation of women in capacity building initiatives related to scaling up novel feeds.			

**Table 2.** The proposed GESI-related indicators to monitor progress.

## 5. Gender and social inclusion-related outreach to target populations

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Engaging in gender and social inclusion-related outreach initiatives is pivotal for fostering equitable development within diverse communities. Targeting specific populations, especially women and youths, these efforts aim to provide essential resources, education and opportunities. By addressing gender disparities and social inequalities, these outreach initiatives pave the way for a more just and balanced society, where every individual has the chance to thrive regardless of their gender, age, ethnicity or social background.

In alignment with these efforts, key informants were queried about the most successful woman they knew of who was engaged in fish feed activities.

In Nigeria, the key informants suggested one specific woman, who is an inspiring pillar and a model for many others. She is actively engaged in the entire fish farming value chain, including hatchling production, grow-out fish production and marketing fish products. Moreover, she helps other women sell their harvest in the market and serves as an exemplary figure, motivating and inspiring numerous women to participate in fish farming.

In Zambia, the key informants suggested a successful woman who is involved in fish feeds. She is well known for her production achievements, contribution to the local value chain, ability to adapt and explore alternative feed options and her dedication to continuous learning and training.

In Kenya, the key informants suggested a woman who is an active member of the aquaculture feed school, a platform dedicated to enhancing knowledge and skills in the field of aquaculture. Having attended several aquaculture training sessions, she has developed a fish feed formulator machine by using a meat mincer to process karadina, a vital ingredient in fish feeds, and to dry the pellets.

These individuals serve as inspiring examples of gender and social inclusion in the fisheries and aquaculture sectors in their respective countries. To target populations for gender and social inclusion-related outreach, the following approaches can be considered:

1. Mentorship programs
  - Promote mentorship programs in which individuals like these three women can share their experiences, knowledge and success stories with aspiring women and youths in fisheries and aquaculture.
  - Encourage mentorship relationships that provide guidance, support and motivation to women and youths interested in entering or advancing in these sectors.
2. Training and workshops
  - Organize training sessions and workshops led by these successful individuals to impart practical skills and technical knowledge to women and youths.
  - Focus on topics such as fish farming, grow-out fish production, fish feed production and marketing, among others.
3. Visibility and recognition
  - Highlight the achievements and contributions of these role models through media, including television, radio, newspapers and social media.
  - Celebrate their success stories through awards and recognition ceremonies to inspire others and raise awareness about the potential for women and youths in fisheries and aquaculture.

4. Community engagement
  - Organize community engagement programs where these role models can interact directly with local communities, women's groups and youth associations.
  - Engage in open dialogues, answer questions and provide guidance on how to overcome challenges and barriers in fisheries and aquaculture.
5. Resource mobilization
  - Encourage partnerships with government agencies, NGOs and private sector entities to provide resources, funding and support for initiatives led by these role models.

By leveraging the experiences and achievements of individuals like the three women mentioned above, outreach efforts can effectively target women and youths in fisheries and aquaculture, inspiring them to actively participate, learn and succeed in these sectors.

## 6. Stakeholder engagements

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The section outlines the plan for stakeholder engagement and building gender-related competency.

### 6.1. Building gender-related competency

**Objective:** To enhance the gender-related competency of the implementing partner's staff through training.

1. Training
  - Organize gender sensitivity and awareness training sessions for all staff members, regardless of their role within the organization.
  - Conduct specialized training for key personnel responsible for project management, design and implementation.
  - Collaborate with external gender experts or organizations to provide training on gender mainstreaming best practices.
  - Include gender-related topics in the organization's regular training curriculum.

### 6.2. Ongoing stakeholder list for gender-responsive engagement

**Objective:** To maintain an updated stakeholder list that tracks the sex of primary stakeholders and their involvement in the project, including gender experts, women's associations and relevant organizations.

1. Stakeholder identification
  - Identify primary stakeholders involved in the project, including staff, partners, beneficiaries and external organizations.
  - Categorize stakeholders based on their roles, interests and relevance to gender-related aspects.
2. Gender-disaggregated data
  - Collect and maintain gender-disaggregated data for each stakeholder, specifying their sex (male, female, other).
  - Include additional information such as the role and responsibilities of each stakeholder.
3. Level and types of involvement
  - Define the level of involvement of each stakeholder, ranging from minimal to active engagement.
  - Specify the types of involvement, such as advisory, implementation or evaluation roles.
4. Gender experts
  - Identify gender experts within the organization and external experts engaged in the project.
  - Document their areas of expertise and roles within the project.
5. Women's associations and businesses
  - Maintain a list of women's associations and businesses that are involved or potentially interested in project activities.
  - Describe their contributions, interests and specific engagement in gender-focused initiatives.
6. Other relevant organizations
  - Document other organizations collaborating on gender-related aspects of the project.
  - Specify their roles, responsibilities and areas of expertise.
7. Regular updates
  - Update the stakeholder list regularly to reflect any changes in involvement or new additions.
  - Ensure that gender-disaggregated data is consistently collected and maintained.
8. Reporting and analysis
  - Use the stakeholder list to generate reports on the gender composition of stakeholders and their roles.
  - Analyze stakeholder data to assess the impact of gender-responsive engagement on project outcomes.

By implementing this plan, the implementing partner can enhance its staff's gender-related competency and maintain an updated stakeholder list that supports gender-responsive engagement throughout the project's life cycle.

Organization	Resources	Opportunity area
<b>Nigeria</b>		
Nurturessence International Ltd.	<a href="https://www.facebook.com/nurturessence.org/">https://www.facebook.com/nurturessence.org/</a>	This education organization is passionate about providing a transformational learning experience.
Today for Tomorrow Foundation	<a href="https://www.tftfoundation.org.ng/index.php/who-we-are/">https://www.tftfoundation.org.ng/index.php/who-we-are/</a>	This is a youth-led, youth-serving nonprofit NGO founded in 2016 with the responsibility of involving adolescents and young people in developing, planning and implementing solutions aimed toward solving identified problems in society.
Chantali Foundation	<a href="https://nigeria24.me/chantali-foundation">https://nigeria24.me/chantali-foundation</a>	Educate and equip the next generation of young people through proper mentoring, counseling services, leadership development, advocacy support and improved well-being.
Tony Elumelu Foundation	<a href="https://www.tonyelumelufoundation.org">https://www.tonyelumelufoundation.org</a>	This organization is the leading champion of entrepreneurship in Africa.
Justice Development and Peace Commission (JDPC)	<a href="https://jdpcibadan.org">https://jdpcibadan.org</a>	The JDPC promotes holistic human development through conscientization of people, who are central to sustainable and meaningful development.
<b>Zambia</b>		
Citizens Economic Empowerment Commission (CEEC)	<a href="https://www.ceec.org.zm">https://www.ceec.org.zm</a>	A statutory under the Ministry of Small and Medium Enterprises Development, the CEEC is a body corporate established through the enactment of the Citizens Economic Empowerment Act No. 9 of 2006 to foster broad-based economic empowerment in Zambia.
Ministry of Fisheries and Livestock	<a href="https://www.mfl.gov.zm">https://www.mfl.gov.zm</a>	The ministry is responsible for the development and management of the fisheries and livestock subsector in Zambia.
Musika Development Initiative	<a href="https://www.musika.org.zm">https://www.musika.org.zm</a>	Musika stimulates and supports private investment in the agricultural market, with a particular focus on both smallholder and emerging farmers.
<b>Kenya</b>		
Aquaculture Business Development (ADB)	<a href="https://www.abdpcu.org">https://www.abdpcu.org</a>	The ABD is jointly funded by the government and the International Fund for Agricultural Development. Its geographical scope is 15 counties with high aquaculture potential.
Kenya Climate Smart Agricultural Project (KCSAP)	<a href="https://www.kcsap.go.ke">https://www.kcsap.go.ke</a>	This is a government project jointly supported by the World Bank. KCSAP's development objective is to increase agricultural productivity and enhance resilience by copying mechanisms to climate change risks in targeted smallholder farming and pastoral communities in Kenya. In the event of an eligible crisis or emergency, it provides immediate and effective response.
National Agricultural and Rural Inclusive Growth Project (NARIGP)	<a href="https://narigp.go.ke">https://narigp.go.ke</a>	Another government project, the NARIGP is implemented through the Ministry of Agriculture, Livestock Fisheries and Cooperatives for crop development and agricultural research, with funding from the World Bank.
Kenya Market Led Aquaculture Programme (KMAP)	<a href="https://www.farmafrica.org/kenya/kenya-fish-farming-">https://www.farmafrica.org/kenya/kenya-fish-farming-</a>	With funding from the Embassy of the Kingdom of the Netherlands in Kenya, KMAP has worked across the entire fish farming value chain in 14 counties. The project aims to increase productivity, strengthen market systems and make the policy environment conducive so that farmers can turn their ponds into thriving businesses.

Note: The list of potential partners is not exhaustive. Leverages are as reported by the key informants.

**Table 3.** Potential partners and their resources that can be leveraged.



## 7. Staff capacity development

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This GIDAP will initiate capacity development initiatives to enhance the expertise of the current FASA project staff in the realm of GESI considerations in regional fisheries management, particularly focusing on fish feed, and to cultivate new technical skills related to gender and social inclusion within the team. These initiatives will encompass training sessions and mentorship programs tailored for the technical staff of the FASA project. The extent of these opportunities will be determined based on available financial resources, ensuring a comprehensive approach to staff skill development in the field of gender and social inclusion.

## 8. Conclusion

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Fish feeds are a cornerstone for aquaculture. Yet their high costs pose challenges, especially for small-scale aquaculturists, where feeds account for a substantial portion of production expenses. To address this, FASA seeks affordable, nutritious fish feeds without adverse effects, particularly on women's livelihoods. The GIDAP embodies a holistic approach, embedding gender and social inclusivity across all project facets: design, implementation, partnerships, staffing, and monitoring and learning. By challenging gender norms, roles and inequalities, the plan aims to enhance the sustainability and impact of FASA's interventions.

The GESI analysis recommendations were pivotal, revealing gaps in policies, sociocultural contexts, and gender dynamics that hinder women, youths and marginalized groups in the aquaculture sector. These insights fuel the eight consolidated GESI recommendations that shape the GIDAP:

- Propose amendments in policies, laws and regulations to explicitly address gender disparities, ensuring equal opportunities and rights for all participants in the fisheries sector.
- Improve the quality of what women feed their fish by engaging with women's groups to raise awareness about the importance of diversifying feed ingredients and by providing them with the necessary skills to improve their fish feeds.
- Encourage equal access to resources for women and marginalized communities, including economic assets, vital services, financial support, education, information, technology, capacity building and market opportunities.
- Increase the visibility of women and other disadvantaged groups through participation and decision-making.
- Strengthen extension services to provide tailored support to women and youths in overcoming barriers to fish feed innovation.
- Introduce time-saving technologies and mechanization for producing fish feeds, and work with men to promote positive masculinity and unpaid domestic workload contribution.
- Help male-run businesses and financial inclusion businesses reach more women and youths.
- Implement a monitoring and evaluation system to assess the progress and effectiveness of the action plan.

These recommendations align with Norad's thematic priorities, connecting with ADS 205 domains and emphasizing inclusivity, empowerment and equal opportunities for women and youths. Furthermore, the plan outlines extensive stakeholder engagements, gender competency building and strategic partnerships with organizations in Nigeria, Zambia and Kenya. Through these concerted efforts, the FASA project aims to revolutionize aquaculture by providing sustainable, affordable fish feeds. The success of FASA will not just be measured in economic terms but in the empowerment of women, youths and marginalized communities, fostering an equitable, and inclusive, aquatic food system across Sub-Saharan Africa.

# Notes

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- <sup>1</sup> Enyidi UD, Pirhonen J, Kettunen J and Vielma J. 2017. Effect of feed protein: Lipid ratio on growth parameters of African catfish *clarias gariepinus* after fish meal substitution in the diet with bambaranut (*Voandzeia subterranea*) meal and soybean (*Glycine max*) meal. *Fishes* 2(1):1.
- <sup>2</sup> Singh P, Paul BN and Giri SS. 2018. Potentiality of new feed ingredients for aquaculture: A review. *Agricultural Reviews* 39(4):282–91.
- <sup>3</sup> McDougall C, Newton J, Kruijssen F and Reggers A. 2021. Gender integration and intersectionality in food systems research for development: A guidance note. Penang, Malaysia: CGIAR Research Program on Fish Agri-Food Systems. Manual: FISH-2021-26.

A large, stylized graphic of a fish's tail, rendered in various shades of blue, occupies the right side of the page. The tail is curved and has several distinct, rounded lobes. The background is a solid, dark blue color.

## **About WorldFish**

WorldFish is a leading international research organization working to transform aquatic food systems to reduce hunger, malnutrition and poverty. It collaborates with international, regional and national partners to co-develop and deliver scientific innovations, evidence for policy, and knowledge to enable equitable and inclusive impact for millions who depend on fish for their livelihoods. As a member of CGIAR, WorldFish contributes to building a food- and nutrition-secure future and restoring natural resources. Headquartered in Penang, Malaysia, with country offices across Africa, Asia and the Pacific, WorldFish strives to create resilient and inclusive food systems for shared prosperity.

For more information, please visit [www.worldfishcenter.org](http://www.worldfishcenter.org)