

# China – IFAD South South and Triangular Cooperation Facility

Promoting Sustainable Cage Aquaculture in West Africa (ProSCAWA)

## Progress Report

9 March 2020 to 31st December 2020



Report No. 1  
March 2021

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## ACRONYMS

ARDEC: Aquaculture Research and Development Centre

BMP: Best Management Practices

CGIAR: Consultative Group on International Agricultural Research

HR: Human Resources

ICLARM: International Center for Living Aquatic Resources Management (WorldFish)

IFAD: International Fund for Agriculture Development

M&E: Monitoring and evaluation

MEL: Monitoring, Evaluation and Learning

MoFAD: Ministry of Fisheries and Aquaculture Development

MOU: Memorandum of Understanding

PL: Project Leader

POs: Partnership Officers

ProSCAWA: Promoting Sustainable Cage Aquaculture in West Africa

SSTC: South-South and triangular cooperation

TOR: Terms of References

TAAT: Transforming African Agricultural Technologies

TNA: Training Needs Assessment

## Summary

This first annual progress report of *Promoting Sustainable Cage Aquaculture in West Africa* (ProSCAWA) project, spotlights the progress of the work plan and budget for the first year of implementation of the project in the two West African countries, Ghana and Nigeria. PROSCAWA is financed by the People's Republic of China under the China-IFAD SSTC Facility, in the second cycle of the grant. The project became effective on 9 March 2020 for a duration of 24 months with the completion date set for 31 March 2022. The grant recipient is WorldFish, and implementing the project in collaboration with two private sector companies, Sugarland Farms Ltd in Ghana and Orisha Farming NG in Nigeria. The project aims to empower and transform livelihoods of smallholder farms in West Africa through enhanced Sino-Afro application of knowledge, sustainable technologies and expertise in cage aquaculture. Among the beneficiaries of the project are private sector farms, as incubation centres for cage aquaculture technology, and small-holder farmers (including youth and women) through capacity building and access to improved inputs for increased aquaculture production.

The effective date of the project almost coincided with the declaration of COVID-19 as a global pandemic (on 11<sup>th</sup> March 2020), hence COVID situation dictated most of the year's activities and results. Activities in the 2020 Annual Work Plan and Budget (AWPB) suffered significant delays, and many have not been initiated so far. The WorldFish teams could not travel to Ghana and Nigeria for many months, and movements within the two countries were severely restricted. Procurement of equipment and inputs for cage aquaculture activities from China could not proceed as borders were closed and shipment costs escalated, besides the difficulty to establish linkages with Chinese suppliers during the pandemic.

Activities implemented in the reporting period included a virtual launch of the project, involving WorldFish and the project collaborators, to explain the project and the role of each partner. The meeting refined the work plan for the first-year activities with budget allocation for each activity. When COVID-19 restrictions eased towards the end of the year, two inception workshops were conducted physically; one in each country. These were attended by 64 participants, including WorldFish and collaborators, Government staff, value chain actors, farming community, aquaculture institutions and other stakeholders. The project arranged field visits to fish farms and hatcheries for stakeholders attending the inception workshops. Training events on aquaculture Best Management Practices (BMP) were conducted in Ghana targeting smallholder farmers. Feasibility studies for cage aquaculture have been conducted and the ideal sites for establishing cages selected in both countries, with the participation of private sector collaborators. The project has finalised the monitoring and evaluation (M&E) plan and uploaded it on the WorldFish Monitoring, Evaluation and Learning (MEL) platform, to be used for tracking the activities and results.

The Project Management Team are operating from WorldFish Egypt office, although WorldFish has a small office presence in Nigeria but which does not play any significant role in the project. This has certainly presented some challenges for travel, coordination and decision-making on the ground. As a way of addressing the gaps, WorldFish has contracted two Partnership Officers – one for each project country – to support the work on ground. In addition, two technical consultants were recruited to conduct cage aquaculture feasibility studies in each country, and will continue supporting development of aquaculture activities. WorldFish and the private sector collaborators signed Partnership agreements through MoUs.

On budget execution, the project has recorded very low expenditure amounting to US\$ 63,454 of China-IFAD funds, which represents 20.8% of the AWPB target and 12.7% of the overall China-IFAD commitment of US\$ 500,000 for this project. The low expenditures is reported across all budget categories, with the exception of salaries and allowances at 68.3%, while workshops (33.9%), consultancies (27.6%) and travel and allowances (12.7%). Expenditures on goods, services and inputs were extremely low at 0.8% of AWPB target. None of the budget categories has been overspent, therefore no reallocation of funds is envisaged or requested at this stage.

The project is expected to continue using both virtual modes of communication and meetings, and increasingly, physical activities on the ground while COVID-19 situation improves. Going forward, WorldFish will consider options to strengthen their presence on the ground or delegate responsibilities more effectively to the POs. WorldFish will assess and streamline the composition and roles of PMT staff to ensure the budget category on salaries and allowances is not overspent before project completion. More attention be given for the inclusion of smallholder farmers as core beneficiaries, enabling them to access training, technologies and improved inputs to enhance impacts from the project.

## I. Introduction

*Promoting Sustainable Cage Aquaculture in West Africa* (ProSCAWA) project is funded by the China-IFAD SSTC Facility and implemented by WorldFish (legally known as ICLARM) in collaboration with two private sector firms, Sugarland Farms Ltd in Ghana and Orisha Farming NG in Nigeria. The two firms will serve as incubation centres for cage aquaculture technology linked to Chinese actors for technology and material supplies and to smallholder fish farmers for learning and application of improved technologies and inputs. The project management team mainly operates from WorldFish Egypt centre and with some involvement of the WorldFish Office in Nigeria, although the latter's actual role remains unclear.

The main objective of ProSCAWA project is to empower and transform livelihoods of smallholder farms in West Africa through enhanced Sino-Afro application of knowledge, sustainable technologies and expertise in cage aquaculture.

The project is developed in the context of South-South and Triangular Cooperation and is aligned with IFAD's SSTC objectives since it seeks to support the sharing of knowledge-based solutions and investment opportunities through collaboration with Chinese firms and local institutions in Ghana and Nigeria and with IFAD and WorldFish on cage aquaculture technology. The two private sector firms will benefit from partnerships that will enable them to venture into sustainable fish farming using cages placed in small waterbodies, and in turn, provide a learning platform for smallholder farmers on improved technologies. The project was launched in March 2020, just at the time when COVID-19 was declared a global pandemic, which has presented significant challenges throughout the first year of implementation. The project's financial report reflects the first disbursement received in August 2021, hence nearly 5 months of project time was lost in-between. This report covers the project's progress of AWPB physical execution and outputs as well as summary of budget progress, covering the period 9 March – 31 December 2020.

### **General Information**

IFAD Division: **Sustainable Production, Markets and Institutions (PMI)**

Executing/implementing Agency: **WorldFish** (Legally Known as ICLARM), a member of the CGIAR

Local partners: **Sugarland Farms Ghana; Orisha Farms Nigeria**

Countries and Region: **Ghana, Nigeria (West Africa)**

Starting Date: **9 March 2020**

Expected Closing Date: **31<sup>st</sup> March 2022**

Contact person (e-mail address): Ahmed Nasr Allah ([a.allah@cgiar.org](mailto:a.allah@cgiar.org))

### **Financial Information**

Grant/Project number: **000003181**

Amount approved: **USD 500,000**

**Amount disbursed:** **USD 274,375**

**Amount to be refunded:**

Co-financing (source/amount/rate): **USD 89,400**

**Overall objective:** Empower and transform livelihoods of smallholder farms in West Africa through enhanced Sino-Afro application of knowledge, sustainable technologies and expertise in cage aquaculture.

**Expected project outcomes:**

- i) Developed capacity of farmers, policy makers, and businesses for sustainable cage culture farming systems in Nigeria and Ghana
- ii) Enhanced employment, incomes and nutritional status of rural households through productive and sustainable cage farming in water bodies
- iii) Linkages established between Chinese and West African aquaculture entrepreneurs for transfer of knowledge and development of viable business partnerships

**Target group:** The ProSCAWA project is targeting Small-holder farmers; feed producers; hatcheries; youths and women as main beneficiaries.

## II. Status of Implementation Progress

### a. Overall Implementation Progress

Following the launch of the project in March 2020, the first two months were spent on preparatory work for upcoming fieldwork and other planned events. Due to the COVID-19 pandemic and stringent travel restrictions enforced in many countries, including the project countries, project meetings and some events were initially held virtually. In particular, the project management team held regular virtual meetings with the private sector collaborators. The project launch workshop held in April 2020 also followed this format. WorldFish used the launch workshop to share detailed information about ProSCAWA with the project collaborators, including project objectives, expected outcomes, activities, deliverables, alignment to the CRP, Intellectual Property Rights, risk management, MEL, implementation arrangements etc.). In addition, they identified the project team roles and responsibilities (Detailed inception workshop report on this link: [link](#)). WorldFish team managed to travel to both Nigeria and Ghana to conduct the inception workshops in October 2010 and December 20210 respectively and to start the policy dialogue with policy makers, stakeholders and farmers.

Terms of Reference (ToRs) were developed for consultants to provide services and for the appointment of Partnership Officers (POs) under the project. Following this, the project contracted Partnership Officers and Consultants to support project work on the ground in both countries. POs were contracted through a competitive selection interview process following the WorldFish recruitment policies.

WorldFish also drafted Memorandum of Understanding (MoU) for partnership with the two private sector collaborators and their TORs. Following discussion between the three parties and reaching an agreement, WorldFish signed MOUs separately with Orisha Farm NG and Sugarland Farms Ltd.

In general, there was little progress in many activities in the 2020 AWPB, mostly blamed on COVID-19 challenges. Among the key activities affected were the inception workshops of the project in both countries, which were delayed for several months as WorldFish staff based in Egypt were not able to travel to Nigeria and Ghana until October and December 2020 respectively. Exchange learning visits of the project beneficiaries to China and Egypt also had to be postponed. Towards the end of the year, the project made contact with potential cage materials suppliers and obtained quotations from some suppliers in China who could ship the materials to Nigeria and Ghana. However, a part from this initial consultation, actual procurement of cages was not started. This particularly has serious ripple effects as the project



results and outcomes are based on establishment of cage aquaculture technology in the two countries.

#### **b. Activities carried out during the reporting period**

### **Component 1. Developed capacity of farmers, policy makers, and businesses for sustainable cage culture farming systems in Nigeria and Ghana**

#### **Activity 1.1 Conducting Workshop with national experts, Radio talk shows**

Two project inception workshops were conducted in Nigeria and Ghana involving policy makers, government staff, aquaculture experts, private sector value chain actors and other stakeholders. Participants who represented the government of Ghana are Head of Aquaculture, Fisheries Commission of the Ministry of Fisheries and Aquaculture Development (MoFAD), and Officer-In-Charge of Genetically Improved Tilapia station, of the Aquaculture Research and Development Centre (ARDEC) at Akosombo Water Research Institute. Governmental officials from Nigeria included representatives of Department of Extension and Communication Technology, Lagos State University and Lagos State College of Fisheries.

Participants discussed the status and future of aquaculture in Nigeria and Ghana and raised their concerns and ideas to the government officials attending. Number of participants was 47 (11 female) in Nigeria and 17 (4 female) in Ghana. During this event in Nigeria the Project Leader participated in a radio talk show, but which is yet to be broadcast.



*Inception workshop - Nigeria*

Among the participants was the Director of Fisheries Commission in Ghana, who made a presentation on the status of aquaculture and fisheries in Ghana, challenges facing the sector and the way forward. The participants discussed some of the challenges and issues raised in the Director's presentation and how PROSCAWA can address some of the cage aquaculture challenging issues such as: i) high cost of inputs, especially feed, ii) Weak institutional coordination and linkages for regulation, extension, training and research, iii) Disease incidence, iv) Inadequate fingerling production, v) Inadequate human capacity, and vi) Inadequate compliance and enforcement of regulations. Participants agreed optimistically that the ProSCAWA project components are targeting most of these issues, especially issues related to seed, feeds and capacity building.

IFAD Ghana Country Director was invited but was not able to attend the inception workshop due to COVID-19 travel restrictions, however he provided significant assistance to enable WorldFish staff to get entry visa to Ghana for the workshop.

In Nigeria, a meeting was held with Transforming African Agricultural Technologies (TAAT) project team, which focused on the lesson learned and steps to boost project implementation. The meeting discussed the benefit of cooperation between TAAT project and ProSCAWA project to improve networking and link stakeholders across the value chain. The discussions included developing a manual on fish cages in cooperation with the TAAT project. TAAT is a

programme of the African Development Bank launched in 2018, which seeks to ensure the growth of the agricultural sector, improve food security, and encourage inclusive growth by involving more women and youth. The overall goal of TAAT is to improve agriculture as a business across Africa by deploying agricultural productivity-increasing technologies within nine priority commodities that include aquaculture.

In Ghana, there were useful deliberations during the inception workshop with participants pledging their support to the project. The workshop discussed the next steps for implementation of the project, which included procurement and installation of cages, training activities, procurement and testing of genetically improved fish seed and formulation and testing of fish feed from locally available sources.

The reports on the inception workshops, stakeholders' meetings and Refresher training for extension staff in Nigeria are on this link ([link](#)) and Ghana ([link](#)).



*Inception workshop - Ghana*

### **Activity 1.2a Local exchange visits for farmer-to-farmer learning**

Locally, the project organizes for stakeholders and farmers attending workshops to visit some fish farms and hatcheries for learning purposes. In addition the project has facilitated exchange learning visits for the private sector collaborator, Orisha Farm Ltd. to Nurudeen tilapia hatchery and Sej farm and processing facility in Nigeria. They have also visited cage aquaculture activities and engaged in discussions regarding fish stocking rate, feed management, cage management and marketing of aquaculture fish. Furthermore, this enables them to obtain information for preparing simple budget calculations for cage farming activities.



*Exchange visits made to some farms and hatcheries in Nigeria*



### **Activity 1.2 b International exchange visits to China and Egypt for exposure to new aquaculture technologies**

As earlier mentioned, the project did not organize the exchange visits to China for project collaborators and beneficiaries as planned, due to the prevailing COVID-19 situation.

Training needs assessment (TNA) survey was conducted with collaborators in both countries, including three respondents from Ghana and one from Nigeria. This will help to identify the skills gap and prioritise the training needs to consider in the program to be covered during the exchange visits. In both project countries, at least the private sector collaborator and farmers are on the initial list of persons to make the exchange visits, as they will directly apply the technologies and knowledge gained from China trip to increase fish production. The project has started consultations to identify the firms, organizations and farmers in China to consider for collaboration for the exchange visits.

### **Activity 1.2 c Conduct Basic Aquaculture Training**

WorldFish team (together with the project consultant and Partnership Officer in Ghana) conducted the first training session on aquaculture Best Management Practices (BMP) for Sugarland staff who will be managing the aquaculture cages. In addition, farmers from the local community around the farm area attended. The training took place at Sugarland farms and four main topics were covered; (1) Water quality monitoring and best management practices, both theoretical and practical (2) Principles of Biosecurity and fish health management (3) BMP for fish seed production and handling and (4) Fish processing methods. Number of participants in the training was 18 (8 females). Of them 12 (4 females) participants completed the four training sessions/topics. Booklets about general aquaculture were also shared with all participants.

The project equipped Sugarland Farm with items to be used in future training events for aquaculture farmers from the community, including chairs, printed posters showing the most common disease symptoms in tilapia and water quality test kits (see activity 1.5).

### **Activity 1.3 Conduct Advocacy campaigns and awareness creation**

The two project inception workshops – one in each country - have involved a wide range of stakeholders, including Government officials involved in policy processes, private sector value chain actors, research and knowledge-based institutions, non-Government actors and farmers. These forums have served to initiate engagement on policy issues affecting the aquaculture sector in the two countries, allowing free exchange of information and ideas between the participants. However, it is unlikely that these events alone may have significant influence on policies. More focus should be to use the results from the cage aquaculture activities and demonstrated positive impacts from such investments to shape the policy discussions.



*Basic Aquaculture Training – Ghana*

The workshops have also served to raise the level of awareness about the project objectives and activities towards promoting cage aquaculture among small-holder farming communities in West Africa. Participants' comments mostly focused on financing mechanisms and how they can get support from the government and the technical officers in each country. Side meetings after the workshops provided a good chance for establishing communication between stakeholders and also for networking among value chain actors. During these meetings, issues such as sources of improved seeds and feed were raised and connections established between suppliers of feed and seed with farmers.

#### **Activity 1.4 Conduct refresher training for extension staff**

As mentioned previously (under Activity 1.2 c), a technical training session was conducted in Ghana involving Sugarland Farm, 18 existing fish farmers and some crop farmers interested to start fish farming and included 2 aquaculture extension staff. The training covered four main topics namely; Aquaculture Better Management Practices; Fish Health Management and Biosecurity in Aquaculture; Management Practices from seed to harvest; and Fish Processing Technologies. Furthermore, the extension staff participated with the project consultant during the site selection study, giving them an opportunity to learn learn and gain some experience about fish cage aquaculture.



*Refresher Aquaculture Training – Ghana*

### **Activity 1.5 Laboratory retooling**

WorldFish provided a number of water-quality test kits and meters to Sugarland Farm (Ghana) to use in monitoring the water quality in fish cages and to train farmers on use of those test kits. The test kits provided to Sugarland are (one of each item): Multi parameter meter (pH – Salinity – Electric conductivity and temperature), Ammonia test kit (colour comparator), Nitrite test kit (colour comparator), Nitrate test kit (colour comparator) and Total hardness test kit (a mini spectrophotometer model).

In Nigeria, the Partnership Officer visited Lagos State University to discuss the possibility of providing analysis services and to identify the required tools/equipment that the project could supply to the laboratory so it can provide analysis services to fish farmers and project beneficiaries.

## **Component 2. Enhanced employment, incomes and nutritional status of rural households through productive and sustainable cage farming in water bodies**

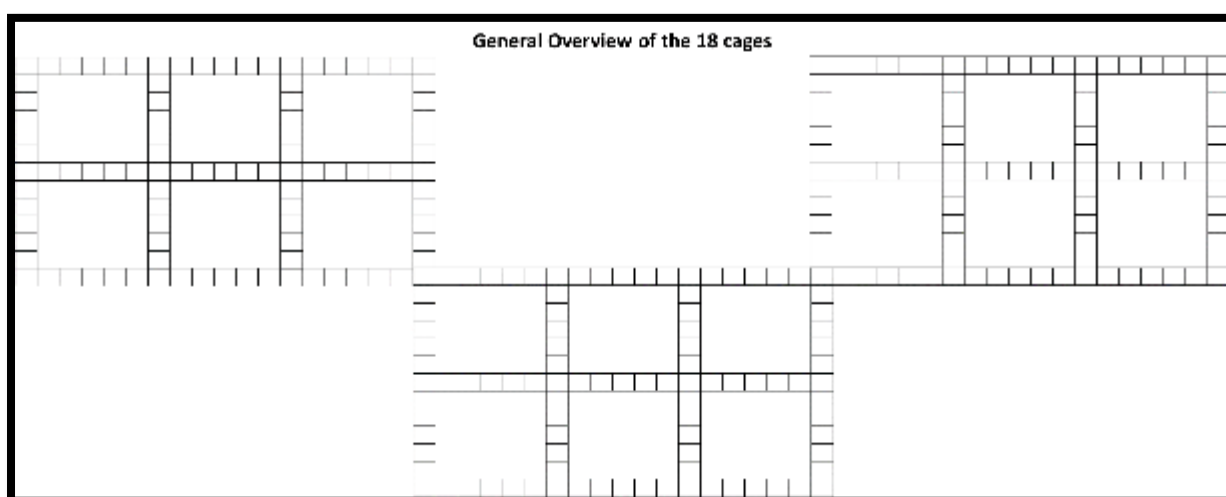
### **Activity 2.1 Procurement of cages and processing facility**

Procurement plan was discussed after receiving the final reports of the site selection studies from the consultants in both project countries. The site-selection study reports provided recommendations on the design and specifications of suitable fish cages for each site. From these designs, the Project Management Team together with the private sector collaborators, consultants and Partnership Officers selected the best design and then developed a list of the required materials. Most materials are still planned to be purchased from China, however, the pandemic has increased logistics costs and the duration to deliver goods to project countries.



WorldFish Procurement Officer and Finance team initiated communications with Chinese suppliers in order to get a list of the available cage materials and their willingness to provide quotations. They had challenges to make a commitment as it was at the peak of COVID-19 with much uncertainty globally, including both project countries. By end of December 2020, when COVID-19 situation eased, the Procurement Officers managed to contact several suppliers of cage materials (nets, floats, and frames) and requested quotations.

Consideration was also made for procuring imported cage materials from China through local Ghanaian and Nigerian suppliers, rather than directly from Chinese suppliers, and visits made to some local suppliers in Ghana to understand the market situation. As a way forward, the Project has made a decision to procure materials for constructing 6 cages from local suppliers of materials originating from China. Consideration will be made to procure the remaining cages directly from China based on analysis of costs and quality/durability between locally-supplied and imported cage materials. The project has obtained quotations for the cage materials and need to speed up the procurement process.



*Layout of the selected design for fish cages*

### **Activity 2.2 Procurement of works**

This is mainly to do with construction works for the cages for aquaculture. The procurement process has not started due to COVID-19 lockdown and the delay in procuring cage material. However, some discussions were started with Orisha farm, the private sector collaborator in Nigeria, to identify some potential service provider.

### **Activity 2.3 Site selection/feasibility studies**

Following the WorldFish recruitment policies, two consultants were contracted for three months, one in each project country to conduct the cage aquaculture feasibility study in cooperation with the private sector collaborators. The main objective is to assess feasibility and identify the best sites for establishing fish cages for tilapia aquaculture in two locations in Ghana and Nigeria. The project leader (PL) and the human resources (HR) manager developed TORs for the position and advertised on the WorldFish website ([www.worldfishcenter.org](http://www.worldfishcenter.org)). A short list of applicants were interviewed for each country, of which the best candidate was selected and contracted. Series of virtual meetings were held with the consultants and the private sector collaborators and the Partnership Officers to discuss the work plans and way of implementation. The Consultants were advised on the importance of following COVID-19 health precautionary measures while carrying out their work.

The Consultants conducted field work in close cooperation with the private sector collaborators in both countries, and submitted a site-selection feasibility report including the potential farm site, tilapia cage culture requirements and specifications. Another round of virtual meetings was held with both consultants to discuss their reports and information that need to be added to improve the reports. After further field visits, the two consultants submitted the final studies with required information and quality that was accepted by project management. According to their TORs and contracts, the Consultants will provide technical support for establishing the cages in each site. They also explained and presented findings of their studies during the project inception workshops.



*Consultant and assistants during site selection survey in Volta river and Klebu lake in Ghana*

The following plan is recommended for Orisha farm in Nigeria for structures for Tilapia Cage aquaculture:

- i. Walk way: A concrete walk way of about 15 feet will be constructed to enable the farmer and other workers to walk along the edges of the floating cages to carry out management functions and activities such as stocking, feeding and cleaning and harvesting of stocked fish.
- ii. Store house. A land space of 120' by 60' has been reserved for constructing a store house, which will serve as a small farm office, warehouse and for other related purposes.
- iii. Floating cages: Five (5) Units of floating cages is recommended to be installed on the site. Each unit consists of 4 cage compartments of 5 x 5 x 3 m. The recommended five units will therefore contain 20 compartments, which will enable the farmer to use available space more efficiently for maximum production.

The Ghanaian consultant provide the following action plan and recommendations:

- i. To site the cages for the ProSCAWA project on the Volta River, after checking the water quality parameters and the necessary authorization.



- ii. To ensure adequate flushing of nutrients and ensure that wastes and excess feed do not accumulate at the bottom of the cage, the depth of the cage nets should be not more than 2m
- iii. Cage frames must be made of durable, HDPE and netting made with high-quality material with fouling-resistant properties
- iv. Cages should be sited perpendicular to the flow of the current
- v. Due to the nature of floating patches of water hyacinth that are prevalent in the area, cages must be observed carefully daily to ensure the nets are free of any trapped plants
- vi. Floating and emergent vegetation in the littoral zone of cage locations should be cleared routinely
- vii. The cages should be covered with “bird netting” to prevent predation by birds.
- viii. Security must be readily available to avoid theft
- ix. It is recommended that the relevant regulatory authorities are consulted before actual operations begin, even though the operations involve three proposed cages.

#### **Activity 2.4 Procurement and testing of genetically improved fish seed**

This activity is not yet performed, however, consultations were initiated between potential suppliers of genetically improved fish seed with the two private sector collaborators, farmers and also involving the project consultants in both countries. In Ghana, the Director of the Akosombo Station, which produces genetically improved Nile tilapia seed, participated in the inception workshop and held discussions with the fish farmers. The Project Partnership Officers made multiple visits to genetically improved fish seed stations in Ghana and Nigeria for such consultations. As a result of this initiative, an agreement has been reached that the private sector collaborators and farmers will get genetically improved tilapia seeds from Akosombo station and other suppliers when the cages are established and ready for fish stocking.



*Seed production stations visited in Ghana and Nigeria*

### Activity 2.5 Formulation and testing of fish feed from local available sources

This activity is not yet performed, but the WorldFish scientist of fish nutrition identified available local feed ingredients in the project countries using secondary data that are available from previous studies under the FISH CRP research program which surveyed and tested potential local feed ingredients. Scientist will develop the potential feed formulas to feed tilapia in fish cages. In addition, partnership officers had done multiply visits to various feed mills to check locally available ingredients to formulate fish feed. In addition, the project facilitated contacts for the two private sector collaborators with the local branches in Nigeria and Ghana of Aller Aqua company, a leading global fish feed manufacturer.



*Partnership officer visit to a feed mill in Nigeria*

### Activity 2.6 Water quality and productivity monitoring

The Project Consultants conducted analysis of water quality status in both sites identified for cage aquaculture. They measured water quality parameters namely; dissolved oxygen, salinity, pH, turbidity, Total Dissolved Solids and water temperature. In addition, a training session was held for some fish farmers and staff from Sugarland farm in Ghana where they learnt how to use water test kits provided by the project. The consultants' reports provide information on the characteristics of each selected site with sets of recommendations. The Nigerian consultant indicated that the selected site was very suitable for the project's activities. The available data on the environmental aspects, including the physical and chemical parameters, are ideal for Tilapia Cage aquaculture. In Ghana, Water quality and physico-chemical parameters from the Volta River showed favourable conditions for the siting of aquaculture cages, including good water circulation and flushing rate and the presence of coarse sand (rather than mud) as sediment. The consultants will train the staff of Sugarland and Orisha farms on monitoring and managing the water quality parameters.



### **Activity 2.7 Fish growth monitoring**

This activity has not started, and will be carried out when the fish cages have been established.

### **Activity 2.8 Fish health monitoring**

A training session on fish health management and biosecurity was delivered by the WorldFish fish health scientist, to 18 participants from the Sugarland staff and other fish farmers in Ghana in December 2020 as part of the WorldFish team mission to conduct the inception workshop and start the BMP training. During training, fish farmers learned principals for disease prevention and identification including common symptoms for fish diseases that can be identified visually.



*Training of Fish health and biosecurity in Sugarland farm - Ghana*

### **Activity 2.9 Best management practices training**

The best management practices (BMP) training was held in Ghana during the WorldFish team visit to Sugarland in December 2020. Project team discussed the need to develop draft BMP training plans and present this for review and approval. The project targets to train 1000 farmers (500 in each country), however this activity has also been affected by the delay in the establishment of fish cages.

### **Component 3. Linkages established between Chinese and West African aquaculture entrepreneurs for transfer of knowledge and development of viable business partnerships**

Little progress was made in the implementation of activities under this component due to the COVID-19 travel restrictions. The project management has discussed ways to speed up implementation of the delayed activities in year 2, with intentions for the use of virtual meetings and workshops for the key events where travel is not possible.

### **Activity 3.1 Meetings, seminars and workshops**

No progress was made specifically on the events and seminars to link West African aquaculture with the China aquaculture industry. However, as earlier mentioned, some workshops and virtual meetings were held between WorldFish experts and the private sector collaborators in both Nigeria and Ghana, in addition to two inception workshops which brought together 64 stakeholders, aquaculture experts, governmental representatives and research institutes and universities (see activity 1.3).

### **Activity 3.2 Business plan development**

The project consultants developed a draft and submitted two business plans included in their reports. In addition, details for business plan development were presented during the inception workshop. The Business Plans need to be further discussed, refined and validated with the Private Sector collaborators.

### **Activity 3.3 Networking events**

Virtual meetings and physical meetings during inception workshop provided opportunity for networking between different stakeholders, including project partners, value chain actors (input suppliers, producers, traders etc.), government officials, research and knowledge institutions etc. In Ghana, side meetings were held between farmers, Fisheries Director and Manager of a hatchery producing genetically improved seed to establish linkages.

### **Activity 3.4 Production of IEC materials**

Production of IEC materials to be used for coordinated information sharing and communication events is planned for year 2.

### **Activity 3.5 Development of online fish market information portal**

The project has planned to initiate development of online fish market information portal in year 2.

## **c. Outputs/Outcomes**

The overview of the achievements in terms of outputs and outcomes is summarized hereafter for each project component. Also, see Appendix 1.

### **Component 1**

**Output 1** - Multi-stakeholder innovation platforms formed: multi-stakeholders representing the fisheries and aquaculture value chains participated in 4 workshops held in the two countries, Ghana and Nigeria. Communication was initiated between Orisha Farm and Tilapia Development Association in Nigeria (TADAN) and other cage farming in the area.

**Output 2** - Knowledge sharing events conducted: Several virtual and physical meetings were conducted to introduce the ProSCAWA project objectives and activities to participants, who represented both public and private sector organizations in Ghana and Nigeria. In addition, two inception workshops held (one in each country) where 64 stakeholders representing fish value chain segments, research and development organizations and governmental representatives participated and got the opportunity to gain information and knowledge about PROSCAWA project as well as aquaculture in west Africa.

**Output 3** - Capacity building of Trainers: The training needs assessment was conducted for private sector collaborators from both countries, with 3 respondents from Ghana and 1 from

Nigeria. In addition, four training sessions were held in Sugarland farm, Ghana, for 18 participants from Sugarland and the surrounding community. The POs and the two consultants will prepare training plans for each country in consultation with the private sector collaborators.

**Output 4** - Capacity building for extension staff, Aquaculture institutions strengthened: The project has engaged extension staff from both countries, including 4 who were interviewed and appointed for long-term engagement with the project as Partnership Officers and Project consultants based in the project countries (2 staff per country). During the consultancy mission in each country for site selection survey, additional extension staff also participated as assistants to the project consultants.

## **Component: 2**

**Output 1** - Cages procured: This is currently in progress and channels initiated with some cage fabricators and cage materials (frames, floats and nets) suppliers in China, Ghana and Nigeria. Quotations were requested from some suppliers and procurement process is ongoing.

**Output 2** - Cage culture demonstration sites constructed: Construction has not started, however, site feasibility studies have been done. Initial communication was also started with the private sector collaborators, POs and consultants to identify the required works and potential service providers locally for each site.

**Output 3** - Cage culture experimental trials conducted and climate smart technologies demonstrated: This has not been started pending the establishment of cages.

**Output 4** - Feed from local available sources tested: This has not been done.

**Output 5** - West African farmers trained in new cage culture technologies: Already started by delivering training to 18 farmers in Ghana on the best management practices in aquaculture.

## **Component 3**

**Output 1** - Aquaculture entrepreneurs linked to financial institutions: The activity is not started and planned for year 2.

**Output 2** - Aquaculture entrepreneurs linked to experts: linkage established with input suppliers (seed, feeds and cage fabricators) and fisheries experts in Nigeria. In Ghana, linkage established with improved seed, feed and cage nets. The project team identified cage suppliers in China and shared their contacts with private sector collaborators for networking and Orisha Farm already contacted some input suppliers in China.

**Output 3** - IEC materials (on market & regulatory issues such as business registration, licencing, health & safety, employment law, legal structures, taxation, procurement & tendering, patents & copyright, insurance, and quality assurance standards) provided: This will be done in Year 2.

## **Component: 4**

**Output 1** - Project launched: The project was launched in April 2020 through a virtual meeting between the WorldFish team and the two private sector collaborators in Ghana and Nigeria. In addition, two inception workshops were held in Nigeria and Ghana in October and December 2020.

**Output 2** - M&E system in place: The M&E system has been developed and uploaded on the WorldFish MEL platform.



#### d. Financial Progress

##### Overview on expenditure

Financial report was submitted to IFAD on 15 February 2021. The report included; Statement of Funds Status, Statement of Expenditures and Transactions Lists. The response from the Financial Team working on the project has been very good, including providing additional information timely when requested for.

The report shows that expenditure by the project from 1 March 2020 to 31 December 2020 is US\$87,025. This includes expenditure of IFAD funds of US\$ 63,454 and WorldFish counterpart contribution of US\$ 23,571 (Table 1). The project's low spending is due to COVID-19 travel restriction and the delay in signing partner agreements.

The project has recorded very low expenditures across all budget categories, except under the salaries and allowances at 68.3%. The other budget categories are; workshops (33.9%), consultancies (27.6%) and travel and allowances (12.7%). Comparatively, expenditures on goods, services and inputs was extremely low at 0.8% of AWPB target. The project therefore spent only 20.8% of the amount of IFAD AWPB target during the year, and representing 12.7% of the total IFAD commitment for this project. In terms of the WorldFish counterpart contribution, the project spent US\$ 23,571 out of the AWPB target of US\$ 39,990, representing an expenditure rate of 58.9% of AWPB. Combining both the IFAD financing and WorldFish counterpart contribution, the 2020 project expenditure amounted to US\$ 87,025, which represents 25.2% of total AWPB target and 14.8% of overall project budget. None of the budget categories has been overspent, therefore no reallocation of funds is envisaged or requested at this stage.

**Table 1. IFAD fund received and spent**

Item	Amount (USD)
Funds Received	274,375
Expenditure	63,454
Balance as on 31 December 2020	210,921

##### IFAD contribution spending

Table 2 shows IFAD fund expenditures by budget categories during the reporting duration. Due to COVID-19 travel restriction, a number of activities were not implemented, which is reflected in the low spending across most categories. However, salaries (and some allowances) continued to be paid from the time of project launch, which is the only budget line that has been drawn significantly.

**Table 2. Donor fund spending by budget categories**

Description	Actual Expenditures	AWPB target	% expenditure of AWPB
Consultancies	4,961	18,000	27.6
Travel and Allowances	10,789	84,700	12.7
Goods, services and inputs	902	109,800	0.8
Workshops	6,043	17,800	33.9
Salaries and Allowances	36,044	52,800	68.3
Overheads (Management fees)	4,715	21,900	21.5
<b>Total</b>	<b>63,454</b>	<b>305,000</b>	<b>20.8</b>

WorldFish counterpart contribution, which is in kind, is presented in Table 3, of which salaries accounted for USD 10,544 covering WorldFish project team time. Goods, services and inputs accounted for US\$ 13,027 of WorldFish counterpart expenditure.

**Table 3. WorldFish contribution spending**

<b>Item</b>	<b>Amount (USD)</b>
Salaries	10,544
Goods, services and inputs	13,027
<b>Total</b>	<b>23,571</b>

Detail of project spending during 2020 by activities are presented in Appendix 2 and the financial report (submitted).

#### **e. Knowledge Management and SSTC**

Training and knowledge sharing started towards end of the year (December 2020), but the planned training products have not been developed and will be generated in year 2. Reports of the cage aquaculture site selection survey were developed and explained the characteristics of water bodies that are suited for cage aquaculture. The reports also contain information on optimal water quality and other parameters for aquaculture. The project team started consultations for drafting information and communication materials about the project, which will include factsheets, info-graphics, and training manuals. In second year of the project life span, these materials will be made available for project beneficiaries and other stakeholders. More figures are shown in Appendix 3.

#### **f. Project Management**

##### **Component 4. Project management**

The project is managed by WorldFish Egypt (with some involvement of WorldFish Nigeria office) and in collaboration with the private sector farms, Sugarland and Orisha, in Ghana and Nigeria respectively. The WorldFish Nigeria office have a relatively peripheral facilitative role (such as helping the Egypt team to connect with potential partners and stakeholders for project activities and for sending out invitations for workshops). There are two Partnership Officers contracted by the project to run activities on the ground, one in each country, and two consultants engaged on a 3-month contract to conduct cage aquaculture feasibility studies, water quality monitoring and site selection and support establishment of cage aquaculture. MOUs were developed and signed with the two private sector collaborators in Ghana and Nigeria, which explain the role and responsibility of each private sector collaborator and obligations of WorldFish.

The location of Project Management team in Egypt has presented challenges, particularly during COVID-19 peak periods when they could not travel to the two countries and inception workshops had to be postponed for several months. The POs have limited decision-making responsibilities on the ground, and among the considerations going forward, will be to strengthen WorldFish presence on the ground or greater delegation of responsibilities and decision-making to the POs and consultants. Alternatively, greater involvement and responsibility to WorldFish Nigeria office could address some of the challenges.

There were changes in the top leadership of the project as Dr. Harrison Charo, the former Project Leader, left WorldFish following the expiry of his contract in November 2020. He was replaced by Dr. Ahmed Nasr-Allah as the new Project Leader.

## Activity 4.1 Project launch and inception

The project held a kick-off meeting virtually in April 2020, which involved WorldFish team and the private sector collaborators. In addition, WorldFish teams from Egypt travelled to Nigeria (in October 2020) and Ghana (in December 2020) to conduct the inception workshops (see activity 1.1). Reports of the project kick-off meeting and the inception workshops are available and uploaded to the WorldFish MEL platform.

## Activity 4.2 Monitoring & Evaluation

The WorldFish Monitoring, Evaluation & Learning (MEL) team in Egypt (with support from teams in Bangladesh and Malaysia) reviewed the project proposal and work plans and extracted the required information for Monitoring and Evaluation (M&E) plan. The project M&E plan is made available online <https://dx.doi.org/20.500.12348/4559>. A Project webpage ([Promoting Sustainable Cage Aquaculture in West Africa \(ProSCaWA\) \(cgiar.org\)](https://mel.cgiar.org/projects/ProSCAWA)) created on MEL platform (<https://mel.cgiar.org/projects/ProSCAWA>); activities mapped in WorldFish MEL; activity reports updated. The project impact pathway was also developed, and then uploaded the project webpage.

### g. Communication and Visibility

The project has gained some visibility mainly through the inception workshops held in each country which were attended by different stakeholders, including Government officials, private sector, value chain actors and the farming community. Farm visits organized during the workshops, and thereafter, allowed interactions with additional partners. Also, during the inception workshop a press release about the cooperation between the ProSCAWA project and the Lagos State University was shared on the FishSite (Nigerian university receives equipment donation from Worldfish | The Fish Site). The project leader posted on Twitter about the cooperation with Lagos State University ([Twitter: "Building strong partnerships in Nigeria through the IFAD SSTC funded ProSCAWA"](#)). Some other posts shared on social media by workshops and training participants, for example, [LASU gets \\$4,000 worth of water quality equipment from Worldfish | EduCeleb](#) , [EduCeleb.com - Worldfish has named the Lagos State... | Facebook](#) , [Whats Fishy. - Cage aquaculture ProsCAWA Sustainable cage... | Facebook](#) . A webpage has been established on the WorldFish centre's website via its MEL platform to report on project activities (see Activity 4.2).

## III. Implementation Constraints and Measures Taken

COVID-19 was the greatest challenge facing the project in the first year of implementation. With stringent travel controls across many countries, project activities including exchange visits, trainings, meetings, workshops and other social events, were delayed or postponed altogether. The project's inception workshops were delayed till October 2020 in Nigeria and December 2020 in Ghana as WorldFish team could not travel from Egypt. Due to COVID restrictions, the project has relied mostly on virtual communication modes to coordinate activities between the Management Team in Egypt, Private Sector collaborators and teams on the ground (POs and consultants). This is expected to continue for the coming months, however it is more possible to conduct physical travel and site visits in the two countries. Nonetheless the project teams have to continue observing COVID-19 safety protocols during field travel and meetings.

Lack of a strong WorldFish presence on the ground in the targeted countries is also a factor in some of the delayed project activities. While WorldFish has made effort to close the gaps by contracting Partnership Officers and consultants to work on the ground, there seems to be limited delegation of decision-making responsibilities for POs on the ground. Options for immediate consideration by WorldFish are to enhance their presence on the ground, delegate

more decision-making responsibilities for POs or to use the WorldFish Nigeria office more effectively for project activities.

Procurement challenges are also evident in the process of buying materials for fish cages, which has dragged on for some months. Partly this is due to the difficulties of conducting international procurements during COVID-19 situation as shipment costs have escalated and uncertainties with many potential suppliers. As a way forward, the project has resolved to buy materials of Chinese origin for the construction of initial fish cages through local suppliers in the two countries. This has to be done in close coordination with the private sector coordinators.

The budgetary expenditure imbalance, represented by 68.3% spending on salaries and allowances against 0.8% on goods, services and inputs that are a key factor in generating project results and impacts, raises some concerns. As a way forward, WorldFish to assess and streamline the composition and roles of PMT staff to ensure this budget category is not exhausted before project completion.

The project remains with just one year to its original completion date, with limited outreach so far and many activities yet to be started, particularly those directly impacting on the smallholder farmers. More attention will be given to the target group, particularly to enable the smallholder fish farmers to access training on aquaculture best management practices and improved inputs (seed and feed) as a way of promoting their adoption.

#### IV. Future Implementation Plans

The overview plan of major project activities, actions for the second project year is shown in table 4 below:

**Table 4. Tentative time frame for Year 2 (March 2021- March 2022)**

Activity	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb
<b>Developed capacity of farmers, policy makers, and businesses for sustainable cage culture farming systems in Nigeria and Ghana</b>												
Policy debate workshops, Radio talk shows												
Exchange visits a Visit to cage system in China for 9 persons (4 Ghana, 4 Nigeria, 1 WF)												
Exchange visits b 2 Chinese entrepreneurs and trainers visit to project sites (Ghana and Nigeria)												
Basic Aquaculture Training, 8 TOT trainers visit FAIH in Egypt for basic aquaculture training, 4 from Ghana, 4 Nigeria												
Advocacy campaigns and awareness creation												
Refresher training for extension staff												
Laboratory retooling												

At least one lab in each country will be defined and equipped with water quality sets														
<b>Enhanced employment, incomes and nutritional status of rural households through productive and sustainable cage farming in water bodies</b>														
Procurement of cages and processing facility														
Procurement of works														
Site selection/feasibility studies														
Farmers identified for project activities linked to private sector														
Procurement, testing and promoting use of genetically improved fish seed														
Formulation, testing and promotion for adoption of fish feed from local available sources														
Water quality and productivity monitoring														
Fish growth monitoring														
Fish health monitoring														
Best management practices training														
<b>Linkages established between Chinese and West African aquaculture entrepreneurs for transfer of knowledge and development of viable business partnerships</b>														
Meetings, seminars and workshops														
Networking events														
Business plan development														
Production of IEC materials														
<b>Project Management &amp; Partnerships</b>														
Project inception														
M & E														
Identifying collaborators and farmers linked to the private sector														
Developing TOR for consultancy														
Contracting project team														
Identifying resource needed for project management														
Project management committee meetings														
Mapping project activity to FISH CRP														



## V. Acknowledgement

This work was managed by WorldFish under the “Promoting Sustainable Cage Aquaculture in West Africa project (ProSCAWA) under the FISH program.

## VI. References

Nigeria site selection visibility study report: [ProSCAWA-Nigeria-Site-Selection-Study](#)

Ghana site selection visibility study report: [ProSCAWA-Ghana-Site-Selection-Study](#)

Full report of ProSCAWA project inception workshop and Stakeholders Meetings in Nigeria [link](#)

Full report of ProSCAWA project inception workshop, Stakeholders Meetings and Refresher training for extension staff in Ghana [link](#)

Full report of ProSCAWA kick-off Meeting [link](#)

## Appendix 1: Updated Results Measurement Framework: Progress against Objectives, Outcomes and Outputs

Results Hierarchy	Physical outreach target by each activity	Indicators	Target for each indicator	Status for each indicator	Means of Verification
<b>Development Objective:</b> Empower rural communities through sustainable cage culture					
<b>Outcome 1:</b> Developed capacity of farmers, policy makers, and businesses for sustainable cage culture farming systems in Nigeria and Ghana					
<b>Outputs:</b>					
1.1. Multi-stakeholder innovation platforms formed	Policy debate workshops, Radio talk shows	Number of policy debate workshops conducted Number of Radio talk shows	4 policy debate workshops 4 radio talk shows	4 policy debate workshops 1 radio talk show	Activity reports
1.2. Knowledge sharing events conducted	Exchange visits	Number of exchange visits Number of people taking part in exchange visits	2 exchange visits to/from China/West Africa 10 West African farmers, 4 Chinese business people with interest in aquaculture	0 visits to and from China  0	Activity reports/ Back to office reports  Activity reports/ Back to office reports
1.2. Knowledge sharing events conducted	Advocacy campaigns and awareness creation	Number of advocacy and awareness creation campaigns conducted Number of people reached through advocacy and awareness creation campaigns	16 advocacy campaigns  400 people	4	Activity reports  Attendance lists, activity reports
1.3. Aquaculture institutions strengthened	Refresher training for extension staff	Number of trainings Number of people trained	2 refresher trainings, one in each country 20 extension staff, 10 in each country	1  6	Activity/training reports  Training attendance lists

1.3. Aquaculture institutions strengthened	Laboratory retooling	Number of laboratories retooled	2 labs, one in each country provided with water quality testing sets, and assorted disposables for fish health and growth monitoring	1	Procurement records
<b>Development Objective:</b> Enhanced employment, incomes and nutritional status of rural households through productive and sustainable cage farming in water bodies					
<b>Outcome 2:</b> Enhanced employment, incomes and nutritional status of rural households through productive and sustainable cage farming in water bodies					
<b>Outputs:</b>					
2.1. Cage culture demonstration sites constructed	Procurement of cages Procurement of works Site selection/feasibility studies	Number of cages procured Number of demonstration sites constructed	6 cages procured, 3 for each demonstration site 2 demonstration sites including processing facility, one in each country	0 0	Procurement and associated project reports  Feasibility study report
2.2. Cage culture experimental trials conducted and climate smart technologies demonstrated	Procurement and testing of genetically improved fish seed Formulation and testing of fish feed from local available sources Water quality and productivity monitoring Fish growth monitoring Fish health monitoring	Quantity of genetically improved fish seed procured No of feed diets formulated and tested Number of water quality growth and health monitoring analyses conducted	20,000 fingerlings  10 formulated diets  At least four water quality analyses conducted	0  0  2	Procurement record  Activity reports  Report by Fish feeds scientist Water quality growth, and health monitoring reports
2.3. West African farmers trained in new cage culture technologies	Best management practices (BMPs) training	Number of BMP trainings conducted Number of people trained	100 BMP training sessions 1,000 farmers trained	4  22	Activity reports, training reports  Attendance lists
<b>Development Objective:</b> Establish linkages and partnerships for improved rural entrepreneurship and livelihoods					

<b>Outcome 3:</b> Linkages established between Chinese and West African aquaculture entrepreneurs for transfer of knowledge and development of viable business partnerships					
<b>Outputs:</b>					
3.1. Aquaculture entrepreneurs linked to financial institutions	Meetings, seminars and workshops	Number of Meetings, seminars and workshops	4 meetings, seminars and workshops	4	Activity reports/ Meeting minutes/ workshop reports
	Business plan development	Number of people attending meetings, seminars and workshops	100 people	64	Attendance lists
	Hold networking events	Number of Business plans developed	20 business plans	2	Consultants' reports and procurement records
		Number of networking events	4 networking events	4	Back to office reports
3.2. Regular fish market information provided	Development of online fish market information portal	Number of online market information users	1 online portal shared by the 2 countries	0	WebSphere Performance Monitoring Infrastructure (PMI) data
	Develop mobile apps				
3.3. IEC materials on market & regulatory issues such as business registration, licencing, health & safety, employment law, legal structures, taxation, procurement &		Number of IEC materials Produced/printed	1,500 copies of BMP guidelines, flyers, banners, factsheets; 2 videos	0	Procurement records
	Production of IEC materials	Number of IEC materials distributed	1,500 copies of BMP guidelines, flyers,	1 0	Activity reports, back to office reports

tendering, patents & copyright, insurance, and quality assurance standards provided			banners, factsheets; 2 videos		
3.4. Business-to-business (B2B) linkages facilitated	Nigeria and Ghana aquaculture farms linked with Chinese cage manufacturers and model aquaculture farms in China	Number of linkages made	At least 5 two-way linkages	0	Communication trail documents (e.g. emails, air tickets etc)



## Appendix 2: Financial Performance by Component and Activity

ProSCAWA project Activities based budget - Year 1 (March - Dec 2020)										
Budget item by Component and Activity	SSTC Facility Grant (USD '000)						Co-Financing (USD '000)			Physical Progress  (not started/ on-going/co completed)
	Reporting Period March 2020 – December 2020			Cumulative			Cumulative			
	Planned	Actual	Variance	Planned	Actual	Variance	Planned	Actual	Variance	
<b>Component 1 Developed capacity of farmers, policy makers, and businesses for sustainable cage culture farming systems in Nigeria &amp; Ghana</b>										
Activity 1.1 Policy debate workshops, Radio talk shows	10,700	4,950	5,750				1,650	2,000	-350	ongoing
Activity 1.2 a,b Exchange visits (Local & International)	62,000		62,000				2,080		2080	ongoing
Activity 1.2 c Basic Aquaculture Training	17,000	5194.5	11,805.5				1,550		1550	Started
Activity 1.3 Advocacy campaigns and awareness creation	3,400	3,003	397				1,945		1945	Started
Activity 1.4 Refresher training for extension staff	9,500	4,850	4,650				2,910	2,083	827	Started

Activity 1.5 Laboratory retooling	8,700		8,700				4,520		4520	Ongoing
<b>Subtotal</b>	<b>111,300</b>	<b>17,998</b>	<b>93,303</b>				<b>14,655</b>	<b>4,083</b>	<b>10,572</b>	
<b>Component 2 Enhanced employment, incomes and nutritional status of rural households through productive and sustainable cage farming in water bodies</b>										
Activity 2.1 Procurement of cages and processing facility	97,300	5,225	92,075				1,420		1,420	Started
Activity 2.2 Procurement of works	2,700		2,700				1,420		1,420	Ongoing
Activity 2.3 Site selection/feasibility studies	7,200	8,033	-832.5				1,750	1,163.2	586.8	Completed
Activity 2.4 Procurement, testing and promoting use of genetically improved fish seed	5,600		5,600				1,350		1,350	ongoing
Activity 2.5 Formulation and testing of fish feed from local available sources	9,600		9,600				1,750		1,750	ongoing
Activity 2.6 Water quality and productivity monitoring	7,400		7,400				2,310		2,310	Not yet
Activity 2.7 Fish growth monitoring	4,900		4,900				265		265	Not yet
Activity 2.8 Fish health monitoring	7,800		7,800				1,285		1,285	Not yet
Activity 2.9 Best management practices training	7,400	3,400	4,000				1,385		1,385	Started

<b>Subtotal</b>	<b>149,900</b>	<b>16,658</b>	<b>133,243</b>				<b>12,935</b>	<b>3,163.2</b>	<b>9,771.8</b>	
<b>Component 3 Linkages established between Chinese and West African aquaculture entrepreneurs for transfer of knowledge and development of viable business partnerships</b>										
Activity 3.1 Meetings, seminars and workshops	6,800	6,800	300				1,715	2,108.8	-393.8	
Activity 3.2 Business plan development	4,100	4,100	0				1,155		1,155	
Activity 3.3 Networking events	6,700	2,100	4,600				1,945		1,945	Started
Activity 3.4 Production of IEC materials	5,600		5,600				1,815		1,815	
Activity 3.5 Development of online fish market information portal	10,500		10,500				2,340		2,340	
<b>Subtotal</b>	<b>33,700</b>	<b>13,000</b>	<b>20,700</b>				<b>8,970</b>	<b>2,108.8</b>	<b>6,861.2</b>	
<b>Component : 4 Project management</b>										
Activity 4.1 Project inception	5,300	6,265	-965				1,815	5,272	-3457	completed
Activity 4.2 Monitoring & Evaluation	4,800	4,819	-19				1,615	2,000	-385	Ongoing
Overheads (Management fees)		4,715						6,943	-6,943	
<b>Subtotal</b>	<b>10,100</b>	<b>15,799</b>	<b>-5,699</b>				<b>3,430</b>	<b>14,215</b>	<b>-10,785</b>	
<b>Total (Component 1,2,3 &amp; 4)</b>	<b>305,000</b>	<b>63,454</b>	<b>241,546</b>				<b>39,990</b>	<b>23,570</b>	<b>16,420</b>	

### Appendix 3: Status Update on Knowledge Management and SSTC related indicators

Descriptions	Planned	Actual
Number of technologies transferred	1	0
Number of solutions made available		1
Number of innovations piloted	4	1
Number of knowledge products produced	0	0
Number of online knowledge exchange platforms made operational	1	1
Number of on-site trainings organised	2	1
Number of knowledge sharing workshops organised	4	2
Number of exchange visits organised	2	2
Number of institutional capacity-building or policy dialogues convened	2	1
Number of foreign experts mobilized	0	7
Number of Chinese experts mobilized	0	0
Number of B2B linkages or private-public-partnership established	5	0
Number of South-South partnerships established	0	0
Amount of co-financing/investments mobilized (including in-kind)	0	0
Number of South-South investment or cooperation projects envisaged following the grant	0	0

## Annexes:

### Annex 1 List of participants in the project kick-off virtual meeting

<b>First and Last Name (Attendees)</b>	<b>Title</b>	<b>Contact</b>
Harrison Karisa	Project leader, Country Director, Egypt and Nigeria	h.karisa@cgiar.org
Ahmed Nasr-Allah	Scientist, aquaculture	a.allah@cgiar.org
Chukwuma Daniel	Collaborator, Orisha farms, Nigeria	orishafarmsng@gmail.com
Diaa Kenawy	Scientist, water & pond management	d.kenawy@cgiar.org
Doaa Hanafy	HR & Training Manager	d.hanafy@cgiar.org
Hala Khalil	Post-Doctoral Fellow, fish nutrition	h.khalil@cgiar.org
Hani Mostafa	Procurement Coordinator	h.m.ali@cgiar.org
Ibrahim Elsira	Research Assistant (Fisheries)	i.elsira@cgiar.org
Innocent Bikara,	Monitoring and Evaluation Specialist	i.bikara@cgiar.org
Mohamed Attiatullah	Senior Accountant	m.ahmed@cgiar.org
Nabil Ebrahim	Scientist, fish genetics	n.ibrahim@cgiar.org
Obinna Ezeakunne	Collaborator, Orisha farms, Nigeria	
Shimaa Ali	Scientist, Fish health	shimaa.ali@cgiar.org
Udoka Ulasi	Collaborator, Orisha farms, Nigeria	
Wael Abdelall	Finance Coordinator	w.fahmy@cgiar.org
Yaw Vandyke	Collaborator, Sugarland limited, Ghana	yvandyke@sugarlandltd.net



## Annex 2 Nigeria inception workshop agenda



### Promoting Sustainable Cage Aquaculture in West Africa (ProSCAWA) Funded by IFAD and Implemented by WorldFish In Collaboration with Orisha Farm

Inception Workshop Programme

Wednesday, 14<sup>th</sup> October 2020

Venue: FAMS EMBASSY Hotel and Suite, Ibereko, Badagry Conference Room

Date/Time	Activity
09.00-09: 45	Arrival and Registration of participants WorldFish, IFAD, TAAT Team, Orisha team, Stakeholders and Consultant
9.45 – 10.00	Opening Remarks/Introduction of participants
10.00 – 10.15	ProSCAWA Project collaborator: <i>Orisha Farms</i> Welcome Address/Goodwill Speech - <i>Mr. Daniel Chukwuma</i> Site Brief- <i>Dr. Adeleke M. Lydia</i>
10.15 – 10.30	Presentation of expected project goals, objectives, outcomes, outputs, and proposed activities – WorldFish – <i>Dr. Ahmed Nasr-Allah</i>
10.30 – 10.40	IFAD remarks on ProSCAWA project - <i>Dr. Richard Abila</i>
10.40 – 11.00	Aquaculture production in Nigeria – production system and constrains- <i>Prof. Shehu Akintola</i>
11.00 – 11.20	Technologies for African Agricultural Transformation (TAAT) Brief & Experience with focus on Nigeria - <i>Prof. Bernadette Fregene</i>
11.20 – 11.30	Q&A discussion ( <b>Project Inception Launch</b> )
11.30 – 11.50	<i>Short break-Tea/coffee Break</i>
11.50 – 12.10	<b>Presentation1: Seed producer:</b> Tilapia culture in Nigeria - the journey so far and the way forward ( <i>Mr. Remi Ahmed</i> )
12.10 – 12.30	<b>Presentation 2:</b> Feed mill: Feed production in Nigeria- the journey so far and the way forward ( <i>Mr. Adediji</i> )
12.30 – 12.50	<b>Presentation 3:</b> Cage producer: Cage culture in Nigeria ( Lagos State case study) - the journey so far and the way forward ( <i>Mr. Gansallo</i> )
12.50 – 1.00	<b>Questions and Answers</b>
1.00 – 2.00	<b>Meetings</b> <ul style="list-style-type: none"> <li>• Government Representatives (LSADA, ADP)</li> <li>• Meeting HOD Department of Fisheries, LASU- <i>Prof. Shehu Akintola</i></li> <li>• Fish feed mill</li> <li>• Cage supplier</li> <li>• Tilapia Aquaculture Developer Association of Nigeria (TADAN)</li> <li>• Community Representatives</li> </ul>
2.00 – 3.00	<b>Presentation 4: Prof. Yemi Akegbejo (Project Consultant)</b> Orisha Farms Team and Collaborators

### Annex 3 Nigeria inception workshop list of participants

Names	Organization	Phone /Email
Dr. Nasr-Allah Ahmed	WFC	
Prof. Fregene B.	WFC	08033476184
Mrs. Ajibola A.	WFC	08028832654
Prof. Yemi Akegbejo-Samsons	ProSCAWA	08035021748 <a href="mailto:samsons56@yahoo.co.uk">samsons56@yahoo.co.uk</a>
Dr. Oladipo Opadokun	ADPA	
Mr. Remi Ahmed	Seed producer/TADAN	08032482115
Prof. Shehu Akintola	HOD Fisheries, LASU	
Mr. Ekong Emmanuel	Team Assistant	
Mr. Sylvester Gansallo	Cage fabricator	
Sejiro Michael Oke-Tojinu	SejFarm Visit	08060025961 <a href="mailto:sejfarmgroup@yahoo.com">sejfarmgroup@yahoo.com</a>
Mr. Nurudeen Tihamiyu	Hatchery Owner and vice chair of TADAN	08023224264 <a href="mailto:pashoman@yahoo.com">pashoman@yahoo.com</a> <a href="http://www.amoleseaqua.com">www.amoleseaqua.com</a>
Dr. Fakoya Kafayat	LASU team member	
Dr, Ayojesutofunmi	Lagos State College of Fisheries (team member)	
Dr. Ayodele Omowunmi	Department of Extension and Communication Technology, FUTA	
Mr, Ayodele Idowu	Programme Engr./Operator and Anchor	
Mr. Wole Adediji	Feed Milling	08023059018
Orisha Farm _Mr. Daniel Chukwuma	ProSCAWA	08160303153 <a href="mailto:orishafarmsng@gmail.com">orishafarmsng@gmail.com</a>
Dr. M.L. Adeleke	ProSCAWA –Partnership Officer	08060097865 <a href="mailto:mosunmolalydia@gmail.com">mosunmolalydia@gmail.com</a>
Baale Hehe Abiodun	Afowo community, Badagry	
Solomon Monday	Afowo community, Badagry	
Kukumo Hunkokoe	Afowo community, Badagry	
Francis Azanpo	Afowo community, Badagry	
Mrs. Ester Gandonu	Afowo community, Badagry	
Olori Janet Popogbe	Afowo community, Badagry	
Saturday Ajose	Afowo community, Badagry	
Patrick Avose	Afowo community, Badagry	
Sunday Jehe	Afowo community, Badagry	
Jehe Gabriel	Afowo community, Badagry	
Nikky Sejfarm	Afowo community, Badagry	
Victor Apatare	Afowo community, Badagry	
Ada Imoh	Afowo community, Badagry	
Nwagborogu Sochima	Afowo community, Badagry	
Warri Blessing	Afowo community, Badagry	
Oyebadejo Opemipo	Orisha farm team member 1	
Obinna Ezeakunne	Orisha farm team member 2	
Alfred Ebenezer	Orisha farm team member 3	
Justina Eze	Observer	
Adesina Boluwaji	Observer	

Ashaka Moses	L.S.A.D.A.	
Stephen Jehe	Afowo community, Badagry	
Onipede Mary	L.S.A.D.A.	
Adewumi Micheal	Feed Milling	
Emmanuel Essien	SejFarms	
Hon. Kehinde Togbeda		
Oke Opeyemi, David	Director of Communication/ Representative of Commerce and Industry	0808164222430 www.baccima.ng
Marcauley F.Y.	L.S.A.D.A.	
Mr. Ife Afowo	Afowo Community	07036953104
Miss Recheal Ojo	Afowo community	09048371735

## Annex 4 Ghana inception workshop agenda

<b>Promoting Sustainable Cage Aquaculture in West Africa (ProSCAWA)</b>		
<b>Inception Workshop, Ghana</b>		
<b>At Aseda River Resort, Akuse, 15<sup>th</sup> December 2020</b>		
<b>PROGRAMME</b>		
TIME	ACTIVITY	RESPONSIBILITY
08:30 a.m. – 09:00 a.m.	Arrival and Registration	All Workshop Participants
09:00 a.m. – 09:10 a.m.	Opening Prayer	One Workshop Participant
09:10 a.m. – 09:20 a.m.	Introduction of Workshop Facilitator	Dr. Shima Ali
09:20 a.m. – 09:45 a.m.	Workshop Facilitator's Response	Dr. Godfred Ameyaw Asiedu
09:45 a.m. – 10:00 a.m.	Welcome Address by Sugarland Farms	Mr. Yaw Vandyke
10:00 a.m. – 10:20 a.m.	Statement by Ag. Head, IFMAD, FC	Mr. Mathew Oyih
10:20 a.m. – 10:40 a.m.	Statement by IFAD Delegation, Ghana	Dr. Hani Elsadani
10:40 a.m. – 11:00 a.m.	Keynote Address by WorldFish	Dr. Diaa Al-Kenawy
<b>11:00 a.m. – 11:15 a.m.</b>	<b>Group Photograph and Snack Break</b>	<b>All Workshop Participants</b>
11:15 a.m. – 11:35 a.m.	Overview of ProSCAWA Project	Dr. Diaa Al-Kenawy
11:35 a.m. – 11:50 a.m.	Discussion	All Workshop Participants
11:50 a.m. – 12:10 p.m.	Overview of Aquaculture in Ghana	Mr. Mathew Oyih
12:10 p.m. – 12:25 p.m.	Discussion	All Workshop Participants
12:25 p.m. – 12:45 p.m.	Overview of WRI - ARDEC Activities	Dr. Seth Koranteng Agyarkwa
12:45 p.m. – 13:00 p.m.	Discussion	All Workshop Participants
<b>13:00 p.m. – 14:00 p.m.</b>	<b>Lunch</b>	<b>All Workshop Participants</b>
14:00 p.m. – 14:20 p.m.	Overview of Sugarland Farms Activities	Mr. Yaw Vandyke
14:00 p.m. – 14:15 p.m.	Discussion	All Workshop Participants
14:00 p.m. – 14:15 p.m.	Business Development and Entrepreneurship	Mr. Bernard Ofori
14:15 p.m. – 14:30 p.m.	Discussion	All Workshop Participants
14:30 p.m. – 14:45 p.m.	Expectations of Stakeholders	All Workshop Participants
14:45 p.m. – 14:50 p.m.	Closing Remarks	Dr. Diaa Al-Kenawy
14:50 p.m. – 14:55 p.m.	Vote of Thanks	Dr. Godfred Ameyaw Asiedu
14:55 p.m. – 15:00 p.m.	Closing Prayer	One Workshop Participant
<b>15:00 p.m.</b>	<b>Departure</b>	<b>All Workshop Participants</b>

## Annex 5 Ghana inception workshop list of participants

No.	Name	Position	Organization	Email/Phone	Attendance Signature
1	Dr. Olu Kenawy	Scientist	WorldFish Egypt	O.kenawy@worldfish.org	<i>[Signature]</i>
2	Dr. Shima Ali	Scientist	WorldFish Egypt	Shima.Ali@worldfish.org	<i>[Signature]</i>
3	Dr. Olu Kenawy	Partnership Officer	CSIIR-Egypt Research Institute	oluk@worldfish.org	<i>[Signature]</i>
4	Dr. Aminah Kweh	Consultant	Kwame Capital Services	aminahk@kcservices.com	<i>[Signature]</i>
5	Mr. Matthew Ochi	Advisor, IFAD	Fisheries Commission	mog@fishcom.gov.gh	<i>[Signature]</i>
6	Dr. Saif Ayoubi	ARDEC	CSIIR Water Research Institute	ayoubi@worldfish.org	<i>[Signature]</i>
7	Mr. Beniamin Ochi	Managing Director	Blue Catcher Grill, Accra	beniamin@bluecatchergrill.com	<i>[Signature]</i>
8	Kwame Esh	Managing Director	Deacon (10) Fish-based Industries	kwameesh@deaconindustries.com	<i>[Signature]</i>
9	Yaw Vandyke	Managing Director	Sugarland Ltd	006537474	<i>[Signature]</i>
10	Judith Agbenyegh	Director of Finance	Sugarland Ltd	0065367082	<i>[Signature]</i>
11	Fikun Dadaogun	Director of Operations	Sugarland Ltd	006533019	<i>[Signature]</i>
12	Adeniyi Adeniyi	Chairman	Sugarland Ltd	0045883682	<i>[Signature]</i>
13	Mr. Mark Bawa	Traditional Authority	Dagbani	004661463	<i>[Signature]</i>
14		Traditional Authority			

No.	Name	Position	Organization	Email/Phone	Attendance Signature
14	Samuel Kwame Bawa	Local Govt Fish Officer	Eastern District Council	004846194	<i>[Signature]</i>
15	Adeniyi Adeniyi	Owner	Adeniyi Fish Farm	008241937	<i>[Signature]</i>
16	Coop. P. Adju	Fish Farmer	Cooperative Fish Farm	00821130	<i>[Signature]</i>
17	Yaw Vandyke	Fish Farmer	Sugarland Ltd	006537338	<i>[Signature]</i>
18	Esther Kweh	Fish Processor/Wholesaler	Esther's Fish	006536562	<i>[Signature]</i>
19	Mr. Mark Bawa	Fish Processor	Mark's Fish	006534832	<i>[Signature]</i>
20		Fish Processor			



## Annex 6 Program of the aquaculture training kick-off session in Ghana

### Promoting Sustainable Cage Aquaculture in West Africa (ProSCAWA) Project Inception Workshop, Ghana

#### First Training program

**Target audience:** Site farmers and farm operators

**Number of trainees:** 8 – 10 participants (*for safety, please ensure health precautions and social distance*)



**Venue:** Sugerland farm

**Date:** 16 December 2020

#### Training program:

<b>Activity</b>	<b>Description</b>	<b>Time: minutes</b>	<b>Trainer</b>
Introduction to aquaculture practices	Exploring the best practices in fish farming	30	Diaa Kenawy
Fish health and biosecurity	Emphasis on practices and precautions that keep fish healthy	30	Shimaa Ali
Water quality parameters	Learn how to measure the most critical water quality parameters in the field	45	Diaa Kenawy
Suggest topic	Fish processing principles	30	Godfred Ameyaw
Suggest topic	Aquaculture principles and precautions	30	Jemimah Kassah
Q & A		30	All

## Annex 7 List of participants in the aquaculture training kick-off session in Ghana

**Promoting Sustainable Cage Aquaculture in West Africa (ProSCAWA)**  
**Project Inception Workshop, Ghana**  
*Training at Savannah Farms, 16/12/2020*  
**List of Participants**

No.	Name	Position	Organization	Email/Phone	Attendance Signature
1	Dr. Dana Kerawy	Salariat	WorldFish-Egypt	D.kerawy@worldfish.org	<i>[Signature]</i>
2	Dr. Shamsa Ali	Scientist	WorldFish-Egypt	Shamsa.Ali@worldfish.org	<i>[Signature]</i>
2	Dr. Godfred Agyemang Asiedu	Partnership Officer	CSIR-Food Research Institute	gagyeas@csir.gov.gh	<i>[Signature]</i>
3	Dr. Jemimah Kassah	Consultant	Kassah Capital Services	jemimahkassah@gmail.com	<i>[Signature]</i>
4	Mr. Matthew Oyin	Ag. Exec. IFMA/G	Fisheries Commission	moyin@fcom.gov.gh	<i>[Signature]</i>
5	Dr. Seth Agyarkwa	Officer in Charge, ARDFC	CSIR-Water Research Institute	agyseth@csir.gov.gh	
6	Mr. Bernard Osei	Managing Director	The Catfish Grill, Accra	bernard@thecatfishgrill.com 050-282074	
7	Kwame Poku	Managing Director	Benson H. (P) & Sons Feed Industries	kwameulab@getso.com 050-282074	
8	Yaw Vandyay	Managing Director	Sugarland Ltd	050-282074	<i>[Signature]</i>
9	Jucata Agyemang	Director of Finance	Sugarland Ltd	050-282074	<i>[Signature]</i>
10	Felix Dzidzienyoh	Director of Operations	Sugarland Ltd	050-282074	<i>[Signature]</i>
11	Akwasi Agyemang	Chairman	Sugarland Ltd	050-282074	<i>[Signature]</i>
12	Mr Mark Brown	Traditional Authority	Deceba	05-6644653	<i>[Signature]</i>
13		Traditional Authority			

**Promoting Sustainable Cage Aquaculture in West Africa (ProSCAWA)  
Project Inception Workshop, Ghana**

14	Nursery	Local agent	Raman feeds	0218443194	
15	Colias Kwabena	Owner	RC Gibens Farms	0508241937	
16	George Fofah	Fish Farmer		0508935301	
17	<del>Sam Yaw Kwabena</del>	Fish Farmer	<del>Manning</del> Sugarland Farms	0541655536	
18		Fish Farmer			
19		Fish Processor			
20		Fish Processor			
(21)	Jennifer Abohene	Farm Staff	Sugarland Farms	0539451942	
(22)	Fr. Raymond Dasi-Tate	Roman Catholic Priest	St. Anthony Catholic Church	0545189905	
(23)	Charles Pessie	Church Member	St. Anthony Catholic Church	0242220752	
(24)	Baptiste Yao Dzamekpor	Church Member	St. Anthony Catholic Church	0208925819	
(25)	Sarah Angongior	Trader	Resident, Kintokor Community	0552233523	