.:αкΣ *Consulting*:.

IMPROVEMENT OF AQUACULTURE PRODUCTIVITY AND INCOME IN GHANA

EVALUATION OF TECHNICAL AND FINANCIAL REPORTS (FINAL)

To

AFRINIC Ltd.

Patricia SENGHOR – Cooperation & Project Development Manager

By

AKS Consulting

Kenneth SANVI, PMP – Consultant in International Development

Table of Contents

EXECUTIVE SUMMARY

I. CONTEXT AND DESCRIPTION

FIRE is a Grant and Awards program designed by AFRINIC in order to support and encourage the development of solutions to information and communication needs in the Africa Region. It places particular emphasis on the role of the Internet in the social and economic development for the benefit of the African community.

Launched in May 2012, the program is partly funded by two donors: IDRC and SIDA International Development Agencies. In 2013, AFRINIC selected eleven grant recipients which received 10 000 USD each for their project.

The grantees are bound by several obligations, which are among other things:

- Implementation and use of the project funds solely to perform the objectives and activities of their project
- Use the funds in accordance with the budget set out in their application
- Submission of an Interim and a Final Report in accordance with AFRINIC's report guidelines outlined in the Memorandum of Grant Conditions.

II. PURPOSE AND EXPECTED USE

AFRINIC required this evaluation in order to confirm that the project is run in accordance with the following criteria:

- Quality and reliance of design
- Effectiveness
- Efficiency of implementation
- Impact and potential of sustainability
- Replicability

AFRINIC also requires this evaluation to be run on the basis of the Interim and Financial Reports sent by the project in accordance with their obligations.

III.   OBJECTIVES

AFRINIC requires this evaluation to ensure of the following:

- The project meets identified objectives;

- Enhance the Design and the implementation of FIRE programme;

- Demonstrate and Improve the impact of the various projects on the local community;

- Develop recommendations to improve the implementation and the monitoring of future projects;

- Ensure that funds allocated to the various projects are used efficiently and within the initial identified scope.

IV.   FINDINGS AND CONCLUSIONS

The aim of this project was to scale smallholder fish farmers' access to timely and relevant package of agricultural information to improve productivity, income and autonomy. Though there are some lacks in the report, the project seems to have been well managed. Project team, through the results mentioned, seem to have worked conscientiously to achieve the objectives of the project. One of the problems related in the interim report, which did not seem to obtain any solution is the way the project team will cope with the transactional costs problem.   The project also worked hard to ensure a good assessment of the impact of the project. Furthermore, the report failed to give details on the risks encountered.

V.   KEY RECOMMENDATIONS

The aim of this project was to scale smallholder fish farmers' access to timely and relevant package of agricultural information to improve productivity, income and autonomy. Though there are some lacks in the report, the project seems to have been well managed. The project team seems to have been managed conscientiously. The results have been obtained even the reports shows some lacks. We encourage the project team to work hard in order to continue the dissemination and the sustainability.

THE EVALUATION

1. BACKGROUND INFORMATION

1.1. PURPOSE

AFRINIC required this evaluation in order to confirm that the project is run in accordance with the following criteria:

- Quality and reliance of design
- Effectiveness
- Efficiency of implementation
- Impact and potential of sustainability
- Replicability

AFRINIC also requires this evaluation to be run on the basis of the Interim and Financial Reports sent by the project in accordance with their obligations.

AFRINIC requires this evaluation to ensure of the following:

- The project meets identified objectives;

- Enhance the Design and the implementation of FIRE programme;

- Demonstrate and Improve the impact of the various projects on the local community;

- Develop recommendations to improve the implementation and the monitoring of future projects;

- Ensure that funds allocated to the various projects are used efficiently and within the initial identified scope.

This evaluation is also required by AFRINIC in order to help the project in its implementation in accordance with the Memorandum of Grant Conditions.

1.2. AUDIENCE AND USE

The stakeholders who will make use of the evaluation reports are:

1. FIRE programme – AFRINIC

2. International Development Research Center (IDRC)

3. Swedish International Development Agency (SIDA)

4. The grantees

5. Prospective applicants to FIRE program

1.3. OBJECTIVES

AFRINIC requires this evaluation to ensure of the following:

- The project meets identified objectives;

- Enhance the Design and the implementation of FIRE programme;

- Demonstrate and Improve the impact of the various projects on the local community;

- Develop recommendations to improve the implementation and the monitoring of future projects;

- Ensure that funds allocated to the various projects are used efficiently and within the initial identified scope.

1.4. METHODOLOGY

The evaluation methodology is linked with the objectives, the evaluation questions and the type of evaluation.

Evaluation criteria	Key Results Areas	Evaluation questions	Data sources
Design	Assess the extent to which the project responds to priority issues and identified objectives.	• Are the project objectives still valid? • Has the project team put in place the appropriate strategies? • Are there major risks that have not been taken into account?	• Design documentation. • Project objectives. • Interim and final technical reports.
Effectiveness	Assess the project major key results.	• Are the obtained results aligned with planed objectives? • Are the results in	• Interim and final technical reports. • Project management

		acceptable both in terms of the quantity and their quality?	plan. • Result monitoring report.

Efficiency	Assess the extent to which:
	
	  - Project plan has been followed;
	
	  - Project reports are up to date.
		• To which percentage has project plan been achieved to date?
		
		• Are expenses aligned with established budget?
		
		• Have data collected archived for future use?
			• Project management plan.
			
			• Monitoring and control reports.
			
			• Financial reports.
			
			• Interim and final technical reports.

Impact	Assess to which extent the project will have a long-term positive impact on local community.	To which extent has the project's general objectives and final goals been achieved?	• Project objectives • Interim and final technical reports. • FIRE programme objectives
Sustainability	Assess to which extent the project has been socially and politically adopted by the local community.	• Will the project contribute to long-term benefits? • Would the long-term benefits be materialized by the implementation of an organization? • What are the costs implications for scaling up impact? • Are there savings that could be made without compromising delivery?	• Project benefits report. • Project cost report. • Project monitoring report.

1.5. TEAM

M. Kenneth SANVI, PMP, is a Canadian Consultant in International Development, specialized in all areas of project management. M. SANVI is a seasoned expert with many audits and evaluations projects in several countries in Africa. He is also a trainer in many areas among which, monitoring and evaluation.

Ms. Rebecca GIDEON, CISA will perform the evaluation of Information Technology aspects of the reports. Ms. Gideon is an experienced Information Technology professional with over seven years of diversified experience.

2. THE PROJECT

2.1. CONTEXT

Aquaculture production in Ghana has high growth potential. Ghana's per capita consumption of fish is 25Kg, which is among the highest in the world, compared to the world average of 13 Kg. However, fish demand far outstrips production. For example in 2012, the Ministry of Fishery and Aquaculture Development, Ghana, noted demand for fish was about 968,000 metric tonnes, while fish production for the same year stood at 486,000 metric tonnes. The shortfall was made for by importing 175,000 metric tonnes of fish at an estimated cost of $157 million. An estimated 6,000 smallholder fish farmers are present in Ghana and according to a study conducted by the University of Cape Coast, fish farmers are least informed of best aquaculture practices. And like most smallholder farmers in Ghana, they are limited by access to essential agricultural services including timely and relevant agricultural information to improve production, market access and increase income. Another big concern to the development of the sector is, in Ghana, there is only one agriculture extension agent (AEA) for every 2000 farmers which make site visits and provide expertise to farmers. Farmers in more remote locations are visited less frequently, and many smallholder farmers will go an entire year without meeting an AEA. Given the limited capacity of Extension Officers in the Fish Farming and the Fisheries Commission of the Government to address the changing needs of the industry, the role of Farmerline in addressing this deficit is essential.

In December 2012, Farmerline was awarded £5,200 by The Indigo Trust for a six months pilot project of SMS and voice technology to 500 fish farmers in Southern Ghana. Fish farmers were selected as the pilot for the paid information delivery services because of the high cost of information failure, the importance of timely information, the strong and growing market for fish farming, and the capacity of fish farmers to afford mobile service (UNESCO - INRULED 2012). Ghana is import dependent on fish to meet overwhelming domestic demand because of its economic, cultural and dietary significance.

However, there are significant challenges to increasing domestic production which include: "inadequate intensive extension delivery, irregular formal and informal farmer training resulting in appropriate pond site selection, good pond engineering practices, lack of quality fingerling supplies, inefficient feeding, improper management of ponds and difficult access to market"

(Attah 2013). There are widespread poor fishing practices witnessed first-hand during Farmerline monitoring field visits to a number of fish farms in Ashanti region of Ghana. Moreover, the Ghana Fisheries Commission "keeps no farmer records of any value" which contributes to the knowledge gap between farmers and basic farming practices (UNESCO- INRULED 2012: 7).

The initial pilot was launched in September 2012 and was completed in March of 2013. It initially consisted of 15 farmers but in order to demonstrate the scalability of the service was increased to 500 farmers given the financial support from Indigo Trust. The second pilot began in March 2013 and concluded in August 2013. The expansion of the pilot project illustrates Farmerline's adaptability, and responsiveness to farmers' demand.

According to the Impact Assessment results, between the previous production cycles (prior to 2012) and the last production cycle (2012/2013), farmers have increased weight of fish produced by 6% since they began receiving Farmerline's services. This was possible because stocking density decreased by 0.5%. Improved farming practices were sent to the farmers weekly in their local language, which reduced the competition for feed in the pond. Information on proper handling of fish during stocking, sampling and harvesting have accounted for the decrease in fish mortality. The best feeding practices including quantity, quality, timing, observing permanent feeding stations among others were sent to farmers. This might contributed to per unit weight increase of the stocks.

Prices at which fishes were sold greatly increased by 44%, as farmers were better informed about market prices per kilo of fish through Farmerline messaging platform. This influenced the way they negotiated on the farm and market when selling to buyers or intermediaries. The harvesting time of fish was generally reduced by 2.2% due proper feeding practices. The last production cycle (2013) saw reduction in harvest time as compared to the previous productions before Farmerline.

Income of farmers improved since both total weight and production increased 7% and 44% respectively. Moreover, farmers were be better off economically as they were informed on how to feed such as bit by bit feeding, and the need to calculate feed per fish pond.

Following a successful pilot of the system for 1,000 smallholder fish farmers, Farmerline seeks to scale the pilot to reach more than 3,000 smallholder fish farmers across Ghana to access timely and relevant package of agricultural information (such as best aquaculture practice, weather, inputs, finance and market access) to improve productivity, income and autonomy.

2.2. UNDERLYNG RATIONALE

The main objective of this project is to scale smallholder fish farmers access to timely and relevant package of agricultural information (such as best aquaculture practice, weather, inputs, finance and market access) to improve productivity, income and autonomy.

Specially:

1. Signup about 3,000 more smallholder fish farmers across the country within 12 months

2. Provide fish farmers the opportunity to access finance and guaranteed markets

3. Deliver timely and relevant best aquaculture practices including market prices, inputs suppliers and weather information

2.3. STAKEHOLDERS AND BENEFICIARIES

2.3.1. Stakeholders

a. FIRE programme – AFRINIC

b. International Development Research Center (IDRC)

c. Swedish International Development Agency (SIDA)

d. The grantees

e. Prospective applicants to FIRE program

f. Fish farmers and fish farmer associations

g. Ministries of agriculture, fisheries and aquaculture development

h. Fisheries Commission

i. USAID Aquafish

j. Agricultural Extensions Officers

k. Farm Input Suppliers

l. Financial Institutions

The report provided a table of stakeholders with their involvement or not in the project. Based on this report, we can conclude that a good analysis of stakeholders has been done and the comments made in the interim report have been taken in account.

2.3.2. Users & Beneficiaries

It is estimated that 6,000 smallholder fish farmers are currently in Ghana. Out of this, Farmerline has already reached out to 1,000 in Ashanti, Brong Ahafo and Western regions of Ghana. The project will seek to reach more than half of the remaining 5,000 smallholder fish farmers across the country. They want to continue partnering with institutions such USAID AquaFish, the Ministries of Agriculture, Fisheries and Aquaculture Development and Fisheries Commission to provide relevant information for farmers.

The project will further expand its database of input suppliers, finance institutions and markets across the country to support farmers. Farmerline connects with agribusiness, NGOs and farmer cooperatives, which distribute the service to small-scale farmers.

The outcome of this project (ie. Reports) could be used by various stakeholders in their policy decisions and/or future project formulations.

2.4. CONCEPTUAL MODEL

2.4.1. Resources and activities

The main activities of the project are:

- Registering and training farmers
- Delivering minutes of contents to farmers

The report failed to present the resources involved in each of the activities.

2.4.2. Expected results

Expected result from this project is to scale an existing pilot to reach more than 3,000 smallholder fish farmers across Ghana. The system should provide farmers with best aquaculture practices, weather, inputs and finance and market access in their own local language in order to improve productivity, income and autonomy.

2.5. RESULT CHAIN AND LOGICAL FRAMEWORK

The project team is made of six (6) members, strengthened by 10 part-time paid employees (helpline and local managers) who help in engaging the farmers at different levels. The capacities of the part-time employees have been built through training.

Farmerline leverages on using its Voice Technology Platform to deliver services such as best practice information, record keeping service, access to input suppliers and market access information to farmers in their local languages using mobile phone system that farmers are familiar with. Contents on BAMPs are developed based on the outcomes of farmer workshops and monthly meetings with the farmer associations.

2.6. PROJECT MONITORING SYSTEM

Project monitoring archiving of data gathered is an inbuilt feature of the Farmerline system. The dashboard of the system provides managers with real-time statistics of project activities. Using the survey feature of the system, the project team is able to collect data on project impact. An M&E staff at Farmerline will be responsible for generating and analyzing, on monthly basis, report on project targets.

The central question for the monitoring and evaluation (M&E) framework will be whether customers saw value in the service and measure the effect on yields, profit and autonomy for fish farmers. Below is the framework of indicators for assessment developed during the pilot phase of the project in 2012/13:

- *What will fish farmers pay for access to market? Will they pay for high-quality aquaculture best practices messaging?*
- *Are farmers learning and applying the content we are providing?*
- *Does Farmerline help farmers connect to markets more easily?*
- *Does the service help customers improve yields and income?*
- *Does the service help increase customer autonomy?*

Based on the report, we see that the project team conceived a M&E system which seems to be well documented.

2.7. EVALUATION FINDINGS

2.7.1. DESIGN

➢ Valid objectives

The project objectives remain valid. The objectives are being reached and as stated in this interim report, farmers' incomes have grown as result of the project interventions.

At the end of the project, the farmers' productivity and income has increased and the Subscription payments from NGOs and Governments (agencies) to use the Farmerline platform have increased. Some Farmer Based Organisations have started paying monthly subscription through their associations fees for relevant information packages for a production cycle of between 6-9months.
Farmerline has started scaling the system to other sub-sectors in Ghana and to other countries in Africa such as Zimbabwe, Sierra Leone, Cameroon and Nigeria.

➢ Appropriate strategies

The report failed to clearly demonstrate the strategies used by the project team as recommended in the interim report

➢ Major risks not accounted for

The report did not mention enough information about the risks encountered by the project. Even the report mentioned some risks the project team did not demonstrate how they have been mitigated and the way they really impacted the project.

2.7.2. EFFECTIVENESS

➢ Results aligned with planed objectives

As stated in the report, the results are aligned with the planed objectives and many efforts are made by the project team to achieve all the planned objectives.

➢ Results acceptability

Based on the report the results of the inputs are acceptable in terms of the quantity and quality of outputs obtained. The report mentioned that 3101 beneficiaries have received voice messages from the famerline platform.

2.7.3. EFFICIENCY OF PLANNING AND IMPLEMENTATION

> Percentage of achieved project plan

Farmerline has at the end of the project, delivered a total 11,198 voice messages covering 38 specific field of information have been sent out to 3,101 people in all. The average call listened duration is 82.90% of the total messages sent having been listened. And a total of 86:23:22 hours was listened to, which represents 82% of the overall calls duration. Messages sent were in the Twi language. The farmers started receiving voice messages from the system on June 18, 2014 after the fish farmer associations meetings attend by the Farmerline team in the various communities to register and explain the project and take feedbacks and suggestions. There are three thousand, one hundred and 101 (3,101) unique beneficiaries or contacts receiving voice messages from the Farmerline platform.

> Expenses aligned with budget

Based on the report the project received an amount of 25 350.38 GHS from the FIRE program. A total of 32 916.40 GHS has been spent. There is a surplus of 5 216.40 GHS according to the planned budget. The report should have mentioned how the project will manage the surplus.

> Archive of collected data

Based on the report and as highlighted, there have been many monitoring activities and we can infer that many data will be collected. Nonetheless, the report failed to provide information regarding the archiving process of data. All the report mentioned is the technology used to perform the archiving activity. It would be interesting to get more details on how this is performed.

2.7.3. IMPACT

Farmerline has been pleased with the progress and success of the project not only because it achieved its original objectives but also because it achieved unexpected successes. The number of unique farmers is 3,101 from the 3,000. Farmerline has gained recognition through

international media coverage and have also been able to prove some of it business model for more improvement. Additionally, through the Impact Assessment, Farmerline will be able to demonstrate the project's value and progress towards its central goals.

Farmerline has responded with the use of the good agricultural practices and providing timely updates with market information and tips about efficient use of inputs such as fish food. Based on our initial interaction with some farmers, they are very impressed and appreciate the services Farmerline is providing and believed it has helped enhance their fish farming business by providing knowledge and access to finance and market: the value chain approach.

Farmerline has been able to bridge the knowledge gap among, at least, half of the estimated smallholder fish farmers in Ghana. The absorption of content has been high for two main reasons: accessibility of the voice technology and the integration of trust into the agricultural value chain. The voice technology provides a direct line between the agricultural worker and someone they trust.

With the provision of reliable market prices, the farmers were able to attain some bargaining power which help them to receive a fair buying price and are dealing some of the market inefficiencies. This has reduced the transaction costs for farmers and shortens the length of distribution cycles – factors that initially contribute to decreased profitability of their operation.

The innovation of voice technology has also increased efficiency for both Farmerline and agricultural workers. First, SMS is more expensive compared to voice technology. Second, voice technology provides a direct line of communication to farmers and can help them more easily understand the knowledge being conveyed since it is delivered in the farmer's first language.

Finally, this project contributes to the Millennium Development Goals 1 and 8. It contributes to MDG I: Eradicate Extreme Poverty and Hunger because it helps to improve food security by equipping small scale farmers with the resources needed to increase crop yields, better manage their operation and ecosystems. This project also contributes to MDG 8 Global Partnerships for Development given the extensive partnerships developed with international organizations.

Farmerline is currently conducting Impact Assessment to be able to able to quantitatively ascertain the direct impact the project has achieved with the fish farmers. Farmerline will be able to better determine the sustainability of this project after assessing and knowing the value the farmers will be putting on accessing the services and how much they will be willing to pay.

2.8. RECOMMENDATIONS

The aim of this project was to scale smallholder fish farmers' access to timely and relevant package of agricultural information to improve productivity, income and autonomy. Though there are some lacks in the report, the project seems to have been well managed. The project

team seems to have been managed conscientiously. The results have been obtained even the reports shows some lacks. We encourage the project team to work hard in order to continue the dissemination and the sustainability.