



Aquaculture Technical, Vocational and Entrepreneurship Training for Improving Private Sector and Smallholder Skills Project

Online Training Platform Design Workshop Report



Date: 31st October, 2018

Venue: Natural Resources Development College (NRDC), Lusaka, Zambia

Executive Summary

BluePlanet, a not-for-profit company based in Norway, partnering with WorldFish on developing the online training platform for Natural Resource Development College (NRDC) Fisheries Science Department under the “Aquaculture Technical, Vocational and Entrepreneurship Training for Improving Private Sector and Smallholder Skills” (AQ TEVET) project visited Zambia the week of October 29. Trine Danielsen and Morten Bergslien of BluePlanet made the trip to share more knowledge about their company and to obtain information to inform the development of the online training platform.

The main objectives of the workshop were to: (i) have a shared understanding of the online training platform by relevant stakeholders, and (ii) to get the NRDC faculty’s input on some of the curriculum content to be included in the platform. Participants who attended the workshop were from WorldFish, BluePlanet, and NRDC Senior Management, including the Vice Principal, Head of Department Basic Science and Fisheries, Fisheries Science Training Officers, IT Specialist, and many others (see Annex A for the participant list).

Dr. Steven Cole, the Project Leader, gave an overview of the online training platform that is being developed by BluePlanet with support from project partners. This was followed by a presentation by BluePlanet on the online training platform focusing on Salmon farmed in Norway. Mr. Morten Bergslien, Platform Designer of BluePlanet, explained that the online training platform was introduced in Norway through BluePlanet Academy, and Zambia will be the first country to implement the online training platform following BluePlanet’s partnership with WorldFish through the AQ TEVET project. He added that BluePlanet will use its experience developing a platform for the Salmon industry to design the online training platform for aquaculture (with focus on Tilapia) in Zambia. Mr. Bergslien requested NRDC through the meeting to provide their aspirations of the online training platform, including the potential challenges of implementing such a training platform and suggest solutions for each challenge. Limited access to internet, patent rights, and invasion of privacy when taking videos for the training at fish farms and other places were some of the key challenges that were highlighted during the meeting. Lastly, the plenary gave an overview of the aquaculture training courses (and content) that should feed into the online training platform. These will be designed as short term aquaculture courses and were extracted from the current NRDC Fisheries Science curriculum and through reflection of what workshop participants envision the upgraded curriculum to contain. The Vice Principal of NRDC, Mr. Zimba, officially closed the workshop.

Introduction

BluePlanet representatives visited WorldFish and partners in Zambia between 30th October and 1st November, 2018. This was a reconnaissance visit to meet partners (WorldFish and NRDC) to build knowledge together and define best practices to begin drafting the online training platform. The online training platform will supplement the learning in the classroom for NRDC Fisheries Science students, and provide an additional means of improving their technical and practical aquaculture skills, as well as those of entrepreneurs taking short-term courses at NRDC. Online learning is a major conduit for communicating knowledge and skills by the industry. The project will work with the private sector and small- and medium-size enterprises (SMEs) and other stakeholders to showcase latest technologies and approaches used to farm fish, develop seed, formulate feeds, process and aggregate fish, among other latest value chain innovations used in (also outside) of Zambia. This report outlines the items discussed during the online training platform design workshop held on 31st October, 2018 at NRDC.

Online Training Platform

Opening remarks were made by the Project Leader, Dr. Steven Cole. These remarks were followed by general introductions by the participants.



Figure 1. Dr. Steven Cole giving the opening remarks

BluePlanet Lead Designer, Morten Bergslien, made a presentation after the introductions outlining the background of BluePlanet, the components of building the online training platform

and presented examples of films and animations BluePlanet developed for the Salmon industry in Norway. Mr. Bergslien stated that BluePlanet is a not-for-profit company based in Norway that focuses on the aquaculture industry. The company believes that aquaculture is one solution to increase sustainable food production globally. There is need for knowledge on how to do aquaculture if the sector is to succeed. Developing an online training platform that will be accessed by different people to gain and extend knowledge on the aquaculture industry through movies and animations is an easy and appropriate way to spread knowledge on aquaculture. BluePlanet's presentation attracted a number of questions and comments. Key concerns were highlighted that a good process to develop an online training platform for NRDC in Zambia is needed in order to achieve the set objective. One of the concerns that came out strongly was the issue of internet at the institution. With the said activity being "online," the issue of internet availability could not be overlooked.



Figure 2. Morten Bergslien presenting on the online training platform

Potential Challenges (and Solutions) when Implementing the Online Training Platform

The workshop participants were divided into two groups. Each group was tasked to brainstorm on the potential challenges that they foresee with the development and implementation of an online training platform, as well as stating the possible solutions or mitigation strategies to address the challenges. Below is a summary of what was highlighted.

Potential Challenges	Proposed Solutions
<ul style="list-style-type: none"> • Access to internet (full time learners, during holidays, especially distant learners) 	<ul style="list-style-type: none"> • Videos to be saved on the local server in order for them to be accessed offline • Make videos downloadable • Improve internet access on campus • Possible collaborations with network providers for students to access the platform on campus/off campus • Develop an application software of the platform for phones
<ul style="list-style-type: none"> • Access to smartphones, computers, tablets, etc. 	<ul style="list-style-type: none"> • Project to help upgrade computer lab & purchase tablets • Students to share computers • Partnerships with private phone companies • Encourage students to have smartphones, computers or tablets
<ul style="list-style-type: none"> • Security & scams (security of the computer lab & gadgets) 	<ul style="list-style-type: none"> • Lab & gadgets to be well secured
<ul style="list-style-type: none"> • Maintenance of computers or gadgets 	<ul style="list-style-type: none"> • Potential income from short courses to be used to maintain computers • Incorporate in normal maintenance schedule
<ul style="list-style-type: none"> • Patent rights & invasion of privacy when taking videos 	<ul style="list-style-type: none"> • Negotiate with private firms on what material to be filmed and state the purpose
<ul style="list-style-type: none"> • Overreliance on the platform by the faculty 	<ul style="list-style-type: none"> • Check to ensure faculty is not over depending on the platform
<ul style="list-style-type: none"> • Adoption & acceptability of the platform 	<ul style="list-style-type: none"> • Training of trainers • Sensitization & training • Integrate into grading system • Testing, trialing, setting up a process for buy in
<ul style="list-style-type: none"> • Abuse of Internet - diverting attention of students • How to integrate into grading system? 	<ul style="list-style-type: none"> • Student evaluations • Ensure grading of platform complements classroom training
<ul style="list-style-type: none"> • Content too high a level for students to understand 	<ul style="list-style-type: none"> • Need to ensure that the platform is being designed for students at a diploma level



Figure 3. Group 1 brainstorming on the potential challenges and solutions



Figure 4. Group 2 brainstorming on the potential challenges and solutions

Online Training Platform Course Content

During the afternoon session of the workshop, the participants were requested to stay in their respective groups to brainstorm on the potential course content to focus on when developing the platform. Below is what was outlined:

Broad topic	Specific content
General Introduction to Aquaculture	<ul style="list-style-type: none"> • What is aquaculture • Significance of aquaculture

	<ul style="list-style-type: none"> • Basic principles of aquaculture
Environment	<ul style="list-style-type: none"> • Physical factor (Turbidity, Temperature) • Chemical factor (Dissolved Oxygen, pH) • Biological factor (Plankton)
Fertilization	<ul style="list-style-type: none"> • Types of fertilizers • Application methods
Nutrition	<ul style="list-style-type: none"> • Feed formulation (ingredients, process) • Equipment • Feeding
Culture Systems	<ul style="list-style-type: none"> • Monoculture • Polyculture • Monosex (physical, hormonal & hybridization)
Health, Disease & Stress	<ul style="list-style-type: none"> • Stress factors • Prevention and Treatment • Parasites
Fish Biology	<ul style="list-style-type: none"> • Cultivable species and non-cultivable species (and their biology) • Breeding pattern • Genetics
Sustainability	<ul style="list-style-type: none"> • Management
Production	<ul style="list-style-type: none"> • Site selection • Production systems <ul style="list-style-type: none"> ○ Extensive system ○ Intensive system ○ Semi-intensive system • Aquaculture design, set up & construction • Integrated aquaculture systems • Seed production and hatchery management • Record keeping and economics • Predation and theft • Extension <ul style="list-style-type: none"> ○ Public ○ Private • Entrepreneurship
Regulation	<ul style="list-style-type: none"> • Biosecurity • Policy & regulations <ul style="list-style-type: none"> ○ EIA, ZEMA ○ Fisheries Act 2011 ○ Niloticus zoning ○ Aquaculture strategy & plan
Post-Harvest	<ul style="list-style-type: none"> • Post-harvest technologies and value addition



Figure 5. Group 2 presenting on potential course content

Closing of the Workshop

Blue Planet will take the information collected during the workshop to generate a long list of topical areas to focus on for capturing videos and pictures that will feed into the development of the online training platform. A go-pro camera was handed over to WorldFish to help assist with capturing videos with the private sector, SMEs, and other stakeholders operating in the aquaculture value chain in Zambia. The videos and pictures will be captured over the months to come and will be uploaded onto the cloud for downloading by BluePlanet and further processing to develop the animations and videos for the online training platform.

Annex A. Participant List

No	Name	Organization	Position	E-mail
1	Tabitha Mulilo	WorldFish	Communication Specialist	T.Mulilo@cgiar.org
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