



Learning from Development of a Youth Inclusive Pond Outgrower Model for Aquaculture in Solwezi



Yapasa has worked with Vyazala Crops Limited (VCL) to pilot a youth inclusive pond aquaculture out grower model in Solwezi, North Western province. VCL had planned to include fresh fish in its supply chain to the mine canteens in Solwezi and therefore wanted independent producers to supply it with reliable quantities of fresh fish. Yapasa wanted to encourage inclusive local sourcing models that would generate employment opportunities for rural youth.

The pilot out grower scheme entailed six steps including community awareness and farmer mobilization, scheme set up, business development, provision of production support, marketing of the products, payments and reconciliations.

In the first cycle of production VCL worked with 77 young fish farmers each with one 15 x 20m pond, stocked with *Oreochromis Andersonii* which is the tilapia species permitted by the Department of Fisheries in that watershed.

This document aims to capture the key elements of the pilot model and share some of the learning so that other companies wanting to set up similar pond based out grower schemes do not have to reinvent the wheel.

Considering the Market

Before entering the fish business VCL was supplying vegetables to a company that was running mine canteens in Solwezi. It was natural for VCL to target them to supply fresh fish to the mines. The company was buying unprocessed fish so VCL did not worry about processing. However, the supply contract expired and the new company, required gutted, scaled and chilled fish. VCL did not have this capacity and come harvest time the only option VCL had was to offload on the open market which could not absorb the large quantities of fish harvested in a short time. The ponds are located some distance from Solwezi town and VCL has no refrigerated transport. Without reliable cold chain facilities fish losses were high. VCL had secured a supply contract with a supermarket chain store in Solwezi. However the first delivery was below quality and the offer was terminated. Currently VCL is renting a cold room and supplies institutions like schools and hospitals that pay at the end of the month. VCL prefers to wholesale the fish based on the prevailing market prices (K 25/kg cash and K 30/kg on credit) to ensure quick sale.

Learning Points:

Selling fresh fish is risky, what if your one buyer drops out? The out grower must analyse the market thoroughly, identify multiple market options and ensure they are all committed to buying.

Fresh fish perishes easily. Transportation, storage and processing cold chain is critical for a successful fish business to ensure the freshness and quality required by the consumers.

Presentation matters. Larger bulk buyers want their fish gutted, scaled and chilled. Investment is needed in basic processing infrastructure or being able to hire at affordable rates that still ensure profitability.

Want to reach the local consumer directly? Set up your own retail outlets with refrigeration to reach the open market consumer segment or engage the small retail outlets as distributors

Awareness and Farmer Mobilisation

Creating community awareness is important for ownership. VCL met local chiefs and pitched the business opportunity to them, highlighting the commercial benefits of the scheme to the community in terms of job creation. VCL also described the criteria for areas to set up the scheme including year round access, reliable water sources, presence of target farmer groups, etc. This enabled the local leaders to suggest suitable areas.

VCL determined that engaging the technical experts in the Department of Fisheries was important in verifying suitability of the proposed sites for ponds in terms of the holding capacity of a given catchment, soil properties and other technical issues.

VCL had not realised how critical selection of motivated farmers is for success of the scheme. Criteria for participation did not require enough prior commitment from the farmer. The thinking had been to reduce entry barriers to youth as much as possible but the result was that even uncommitted and unmotivated farmers were allowed into the scheme and later performed poorly lowering the average production.

Learning Points:

Recognition and involvement of local leaders at the mobilization phase is critical but care should be taken to ensure that their individual interests are managed.

In Zambia it is important to involve the local leaders because they understand their subjects and are respected, so increasing farmers' commitment, and are also helpful in conflict resolution, enforcing accountability on the side of the farmers.

Develop strict entry criteria: A farmer should be able to establish a pond, purchase fingerlings and possibly part of the feed before the out grower operator would deploy added resources.

Select settled farmers. Experience with unmarried young men and women is that they are more likely to be mobile. Young married women with children have shown most commitment and had good outcomes as they are more motivated to achieve results and improve wellbeing of their family.

Establishing the Scheme

VCL made many assumptions about potential suppliers. Farmers were trained and had built the ponds but could not start because the original supplier of fingerlings failed to deliver. It took a whole year to secure another source.

VCL tried to link farmers to banks for input loans with VCL as guarantor. However the bank declined because the company was just starting its operations. In the end Yapasa provided inputs to the young farmers on credit 50% loan recovery from the first harvest and the rest over following cycles.

VCL stocked all the ponds at the same time. The fish was ready for harvest all at once and the local market could not absorb such quantities. Subsequent restocking of ponds was staggered.

Farmers signed contracts with VCL and their lead farmer. Input loans were made through the lead farmers. The group held each individual liable for their loans while VCL held the whole group liable.

Learning Points .

Ensure that potential suppliers of quality inputs are adequately mapped out, demonstrate capacity and are willing to supply the inputs

Avoid bank loans before mastering your business model because there is a lot to learn in the process of piloting and initial results may be discouraging – especially to a risk averse bank!

Plan your production to meet the year round needs of the market and to avoid having more fish than the market can absorb at anyone given time.

Clear contracting is helpful so that farmers all understand the terms binding them to the scheme and tying farmers to collective responsibility for input loans.

Farmer Organisation and Training

Farmers were organized in groups of 20 under a lead farmer. They shared tasks in pond construction and management. The groups were self-selected to ensure they were comfortable with the arrangements and this enhanced accountability as a result of peer pressure. However some groups were not committed performed poorly.

VCL arranged trainings on pond construction, seeding, pond management, maintenance and feeding, harvesting, marketing, etc. These were spread over a complete production cycle so that farmers received the training they needed when they needed to use it.

VCL also provided extension services and regular mentorship through field officers who visited the farmers weekly. Yapasa organised a learning visit for VCL staff and lead farmers to a commercial farm to enable them to fully comprehend commercial fish farming.

Some of the lead farmers did not take their role seriously because no strong incentive structures were provided. Also Lead farmers and VCL field officers had little experience in aquaculture and made many avoidable mistakes.

Learning Points:

Farmers should know both technical and business aspects of fish farming. Provide adequate farmer training in both. Trainers should be well experienced using tools for training farmers with limited education.

The business skills training enables the farmers to understand their profitability and the risks they need to mitigate to make profits. It helps them realise that they are the drivers of their business success and it is important that they also understand the costs the off-taker has to absorb.

The lead farmer is at the frontline in providing extension support to the farmers. Provide strong incentives to encourage the lead farmers to undertake their supervisory role

Strengthen capacity of the field officers to provide good services either through hiring the right skilled people or put up a capacity improvement programme for existing staff

Managing Payments and Profitability

Profit sharing was agreed in advance: 70% of sales value to the farmers and 30% to VCL to cover costs profit. VCL withheld 10% of the sales for the each group until all the farmers had made their agreed payments or provided strong justification for under payment. This creates collective responsibility for the loans and increases loans repayments. The 30% of sales value retained caters for the cost of running the scheme including provision of extension services, delivery of inputs, marketing and profit.

With high initial costs of investment VCL agreed with the youths to recover the loans over three cycles to enable them to retain some money to reinvest and meet some of their needs. 40% of the loans have been recovered and the rest will be recovered over the next two cycles.

There was wide variation in yields from the various groups, some had yields above the national commercial average while others had very low yields. Fish were weighed on harvest but suffered a 20% weight loss due to evaporation by the time it got to market, reducing the sales income.

Learning Points:

Group collective responsibility for loan repayment. The withholding of 10% of the sales value until each member has paid up is a useful tool.

Close attention should be paid to productivity per pond to improve the farmers take-home at the end of the cycle and thus reduce loan defaults.

Careful management of post-harvest losses is needed to improve income of the out grower operator. It is also necessary to agree who shares this loss and on what basis. Use of a refrigerated truck for transportation from farm to sales outlet could help reduce the 20% water loss.

Loan repayments over several cycles requires high levels of liquidity in the out grower operator. This needs to be built into carefully calculated cash flow forecasts.

Forging Ahead

VCL has consolidated the learning from the current pilot and is expanding the scheme by drawing in new farmers to gradually grow the numbers to nearly 1,000 in the next five years. The company with support of various sector actors is investing in a processing facility, cold chain infrastructure and appropriate transportation to ensure quality of its products. With the lessons from this pilot, VCL is confident to seek financing from various sources including financial institutions to finance the farmer input requirements. To ensure that only committed farmers participate in the scheme VCL plans to enrol only farmers who are able to meet upfront at least 50% of the required investment to ensure that they have 'skin in the game'.



Yapasa is an ILO/ FAO joint UN programme funded by the Government of Sweden that seeks to improve the enterprise capacities of youth in rural areas following the making markets work for the poor (M4P) approach.

