The Value Initiative

Advancing urban value chain development to help millions of people work their way out of poverty.

case study

Building Bridges: Value Initiative Program in Jamaica

AUTHORS

Beverley Morgan, Nicardo Neil

MAY 2012

seep Powering connections

BILL & MELINDA GATES foundation

The SEEP Network

1611 North Kent Street, Suite 610

Arlington, VA, 22209

(tel) 202.534.1400 (fax) 202.534.1433

Email: seep@seepnetwork.org

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Building Bridges: Value Initiative Program *in Jamaica*

AUTHORS
Beverley Morgan, Nicardo Neil

Acknowledgements

The partnership, collaboration and enthusiasm of many people were critical stepping stones to Building Bridges: Value Initiative Program in Jamaica. As the lead organization of the project implementation consortium in Jamaica, The Competitiveness Company thanks The Jamaica Exporters' Association and Area Youth Foundation for their respective roles and never being daunted by the audacity of our goals. We thank and acknowledge the contribution of Jamaica's Ministry of Agriculture and Fisheries and Nadwearl Agri-Distributors, who partnered with the program to develop low cost input supplies for farmers, especially energy efficient pumps. Our respectful and heartfelt thanks go out to all those in the many communities in which the project unfolded for their engagement and commitment to a future of success, often under extraordinarily challenging circumstances.

About SEEP

The SEEP Network is a nonprofit network of over 130 international organizations that believe in the power of enterprise to reduce global poverty. SEEP members connect in a global learning community to increase their impact in over 170 countries, where they collectively serve over 89 million micro-entrepreneurs and their families. Through SEEP's learning initiatives, microenterprise development practitioners co-create and exchange strategies, standards, and tools for building healthy economies with a sustainable income in every household.

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About The Value Initiative

From 2008 to 2011, with support from the Bill and Melinda Gates Foundation, The SEEP Network's Value Initiative advanced the knowledge and practice of urban value chain development to stimulate sustainable, large-scale, and poverty reducing economic growth, with a special focus on vulnerable populations. The $6.5 million Value Initiative has two core Practitioner Learning Programs (PLPs): 1) Urban Value Chain Development and 2) Business Planning for Sustainability and Scale-Up.

Urban Value Chain Development

Although value chain development represents an innovative and systematic approach to address poverty, best practices for urban settings have yet to be well defined and broadly disseminated. In response to this need, the Value Initiative provided technical assistance with three-year grants to four demonstration programs in Kenya, India, Indonesia, and Jamaica. The SEEP Network facilitated capacity building, peer learning, and supported knowledge management process and research to advance and build the industry capacity in urban value chain development. The four Value Initiative Programs (VIPs) were implemented with the following partners.

Program Name	Lead Organization	Partner Organizations	Sub Sector	Location
VIP India	ACCESS Development Services	• Jan Kalyan Sahitya Manch Sansthan (JKSMS) • Rajasthan Abhyudaya Sansthan (RAS) • Jaipur Jewelers Association	Jewelry	Jaipur, India
VIP Kenya	Academic Model Providing Access to Healthcare (AMPATH)	• Export Promotion Council (EPC) • Fintrac	Passion Fruit	Eldoret, Kenya
VIP Jamaica	Jamaica Exporters' Association	• The Competitiveness Company • Area Youth Foundation	Ornamental Fish	Kingston, Jamaica
VIP Indonesia	Mercy Corps Indonesia	• Swissontact • PUPUK	Tofu & Tempeh	Jakarta, Indonesia

Business Planning for Sustainability and Scale-Up

The Value Initiative partnered with five organizations to foster learning on innovative business models for sustainable, larger-scale enterprise development reaching a wider target group of marginalized communities:

- Entrepreneurship and Community Development Institute (Pakistan);
- Fair Trade Forum (India);
- LabourNet (India);
- SDC Asia (Philippines);
- KeBal/Mercy Corps (Indonesia).

For more information about the Value Initiative, including tools, additional learning products, photos and videos, please visit www.seepnetwork.org or contact Yibin Chu, Program Manager of Enterprise Development Community of Practice at chu@seepnetwork.org.

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Background

The poor urban communities in Jamaica's capital and major towns are a measureable manifestation of nearly five decades of development failure. The prevalence of violence and crime have had a corrosive effect on education, investment, access to decent work, supportive family life, and social cohesion.

More than 60 percent of Jamaicans living in poverty are below the age of 25. Jamaica's population includes a large cohort of "unattached"[1] people between the ages of 15 and 24. The unemployment rate of youth between 14 and 19 is 46% and is almost 30% for those between 20 and 24 years of age.[2]

The Value Initiative Program in Jamaica (VIP Jamaica) targeted the urban centers of Kingston, St. Andrew, and St. Catherine, with an aggregate population of 1,134,600, of which an estimated 250,000 live in inner-city communities. There are an estimated 550,000 unattached youth in Jamaica overall (youth between 14 and 24 not in the labour force or school) and 40% of this group is situated in the three urban centres targeted in this project.[3] Low levels of education and limited opportunities for employment have fuelled emigration, which has further shattered family structure. This situation has perpetuated the cycle of poverty, inability to access opportunities, inter-generational poverty, and low social mobility. In addition, these communities are dominated by an entrenched network of criminal gangs and pervasive violent crime.

The impact of crime on Jamaica's development is immense. With little hope of finding work, young people are recruited at a very early age—at best—into the informal economy of illegal vending and illegal taxi operations, and—at worst—into the criminal economy of drug trafficking, gun-running, and robbery. For many of these youths, a gun is far easier to obtain than a job.

Given this situation, VIP Jamaica, known as "Building a Bridge to a World of Opportunities," focused directly on income-generating prospects, with the promise of positive and measureable change in a relatively short time. It searched for possibilities of profitable enterprise within inner-city communities in Jamaica. It aimed to engage the poor in a wealth-creating global value chain based on life-affirming initiatives, rather than on participation in organised crime.

The VIP Jamaica Team was made up of three partners: The Competitiveness Company (Technical Partner, responsible for program design and implementation), Area Youth Foundation (Social Partner, participated in phase 1 and responsible for community mobilization), and The Jamaica Exporters' Association (Financial Manager).

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1 Unattached refers to young people who do not currently participate in formal education, technical or vocational training,, the National Youth Service Program and/or regular employment.

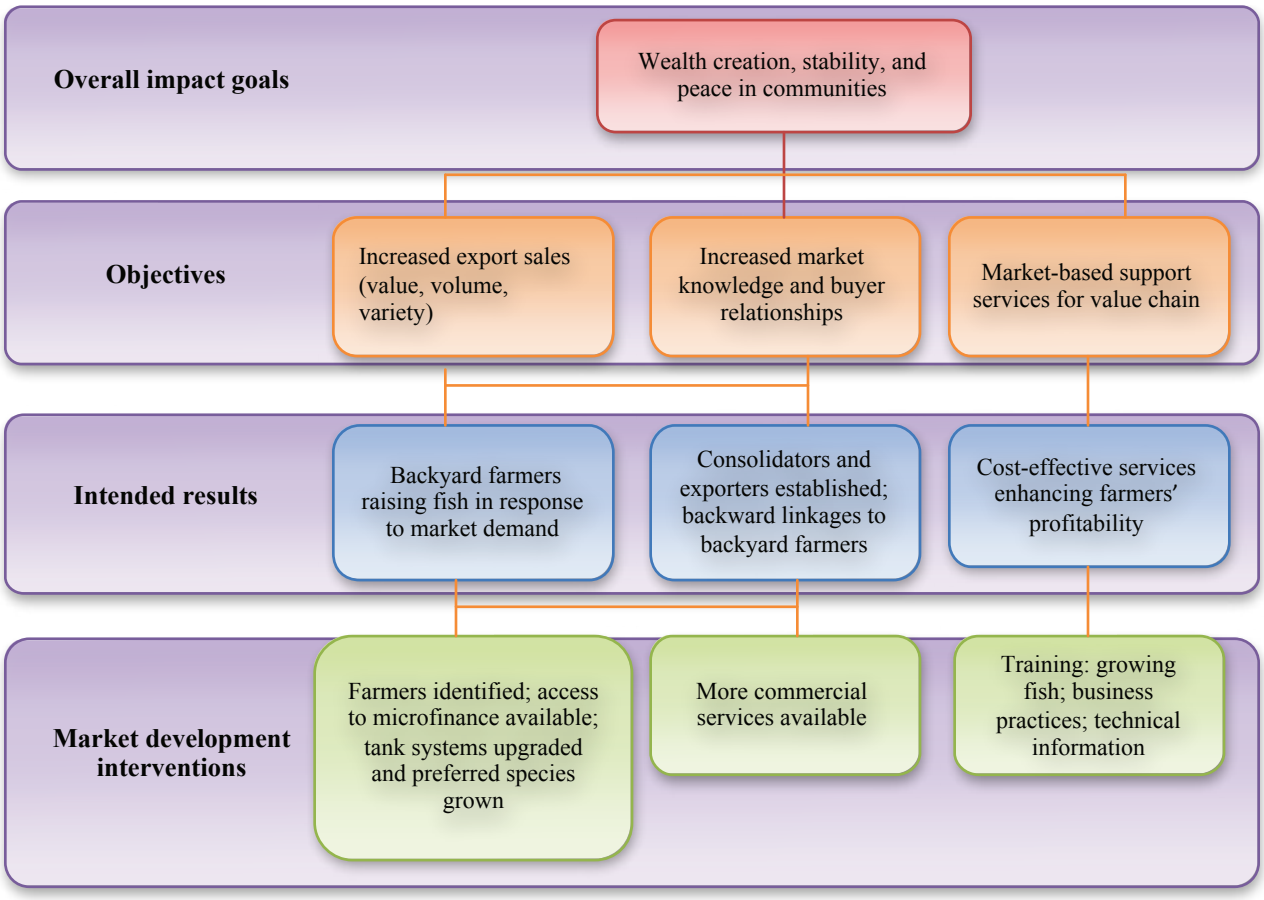
2 Ministry of Education, Youth and Culture, Jamaica, 2002, National Centre for Youth Development, "Youth In Jamaica: Meeting Their Development Needs"

3 The HEART Trust-National Training Agency, Jamaica, 2009, "Unattached Youth in Jamaica", Planning and Project Development Division.

Section 1
The Development of an Urban Ornamental Fish Value Chain

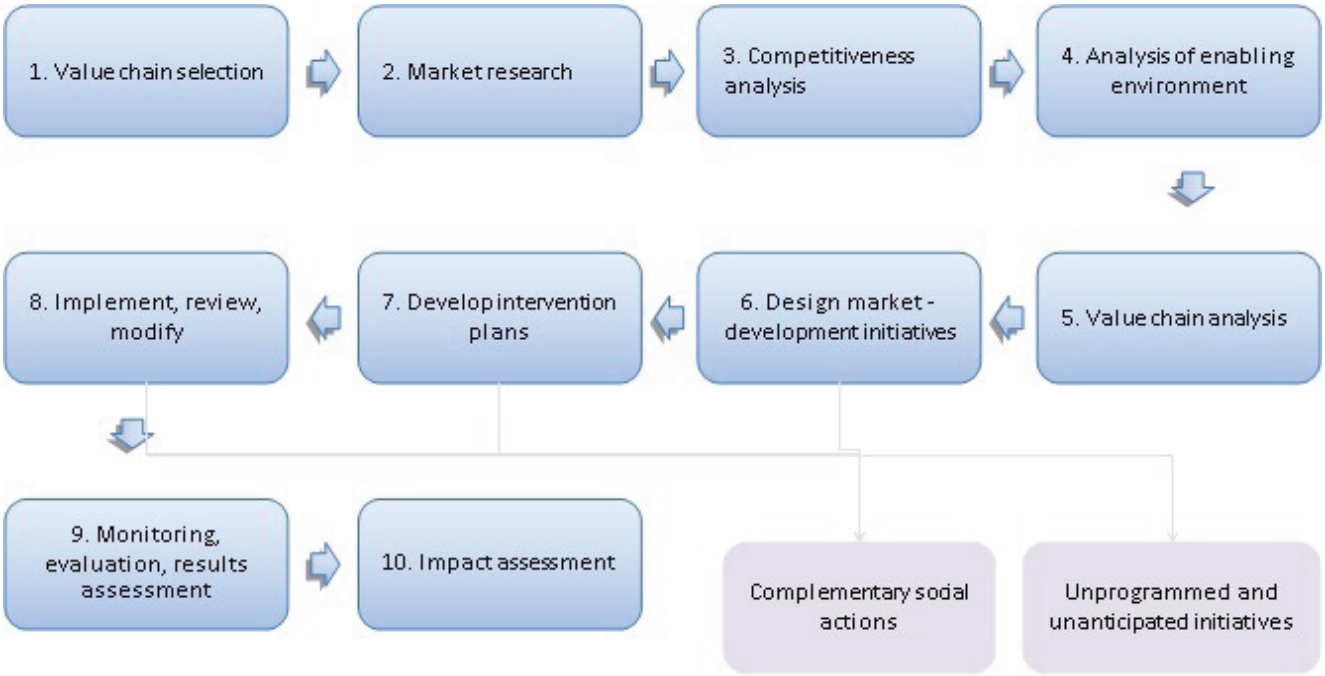
The goal of VIP Jamaica was to nurture the development of a globally competitive Jamaican ornamental fish industry (see figure 1), "produced" by young men from Kingston's inner-city communities. Significantly increasing sales of ornamental fish from Jamaica to international markets could bring sustainable wealth and stability into communities characterised by persistent poverty and a preponderance of criminal gangs. VIP Jamaica's emphasis on wealth creation is important because marginal changes in earning capacity are insufficient to challenge the lure of guns and drugs.

Figure 1 Overall Program Development Framework



The VIP Jamaica team based the development framework of "Building a Bridge" on a series of structured steps, shown in figure 2.

Figure 2 Project Development Process



1.1 Rationale for Selecting the Ornamental Fish Value Chain

Beginning in the mid-1990s, Jamaican policy interests began looking for an industry that could be embedded in Jamaica that did not rely on significant external investment, and ideally could build on indigenous interests and competences, much as the reggae music industry had done in the 1960s and 1970s.

The conditions of the market and the business environment are important considerations in the development of a value chain, but the human element in this instance was the most persuasive. The VIP Jamaica team was struck by the enthusiasm, determination, and struggle against enormous odds of the young men from inner city communities who, through their own initiative and entrepreneurship, stood on street corners with plastic bags of goldfish. They opened the team's eyes to the potential of developing an ornamental fish industry in Jamaica.

Young men from the ghettos go to the city dump to collect old refrigerators, discarded washing machines, and containers of any kind. They line them with plastic and transform them into home-made fish tanks where they raise the fish that they sell on street corners.

One of the most popular hobbies globally is aquarium keeping, with estimated millions of hobbyists[4] worldwide who keep ornamental fish in aquaria, ponds, and lakes. Jamaica has the basic necessities to farm and produce ornamental fish to meet international standards of quality, packing, and delivery. The climate of Jamaica and the availability of high-quality water can support ornamental fish farming throughout the year. Daily air flights to Florida with travel times under two hours mean that ornamental fish transported from Jamaica arrive healthier with lower trauma levels and less oxygen deprivation than from most other international suppliers. Leveraging excellent growing conditions, a developing commitment to quality, and taking advantage of market proximity, Jamaica was assessed to have the potential to become a reliable supplier to ornamental fish markets overseas.

4 The primary enthusiasts in the major markets are children 11–15 years old (K. Rana, 2002, "Marketing Plan for Jamaican Ornamental Fish Industry," report prepared for Stirling Aquaculture, University of Stirling, UK).

The cichlidae family of ornamental fish is among the most widely traded internationally in terms of volume. A breeder of electric blue chichlids, for example, who is often also the farmer in the Jamaican context, receives about 7 percent of the total market value of the fish. The farmers receive about US$ 1.38 for every pair of electric blue cichlids sold. In 2006 the farm value of ornamental fish in the United States was US$ 1 billion, while the retail value that year was US$ 3 billion.

The government of Jamaica signalled its commitment to supporting the ornamental fish industry and improving the prospects for sustainable exports by authorizing significant investments in training in its aquaculture bill. The Ministry of Agriculture and Fisheries established an ornamental fish subdivision within the Aquaculture Division. In the private sector, the Jamaica Agricultural Development Foundation funded the establishment of farms, helped supply sources of technical assistance, and founded the Jamaica Ornamental Fish Farmers Association (JOFFA). The donor community also assessed the potential of the ornamental fish industry to address some of the needs of certain underserved communities and committed funds to supporting specific projects.

1.2 Market Research

In preparation to develop the program and to validate the robustness of a possible ornamental fish value chain, the VIP Jamaica team engaged a market researcher to undertake a study for "Building a Bridge." These were the main objectives of the market research:

- Estimate the size and value of the ornamental fish industry globally and in Jamaica.
- Determine the global structure of the ornamental fish industry.
- Identify potential foreign markets and demand for Jamaican ornamental fish.
- Identify the local demand (current and potential) for Jamaican ornamental fish.
- Map and research the local value chain, focusing especially on actors (informal and formal ornamental fish producers, wholesalers, exporters, retailers) and on support networks (input suppliers for fish food and supplies, transport, storage, logistics, technical assistance, financial services).
- Identify areas of the value chain which need to be developed to meet increased demand and supply.
- Identify possible value chain spinoffs.

1.2.1 Main Findings

According to the Food and Agriculture Organization (FAO), global exports of ornamental fish in 2006 were valued at US$ 223,364,000, and global imports were worth US$ 271,197,000 (table 1).[5] An estimated 65 percent of the ornamental fish trade originates in developing countries.[6] Global demand for ornamental fish products is on the rise, with exports from developing countries becoming more and more important. From 1990 to 2000, average exports of ornamental fish increased by approximately 6 percent per year. In the same period, average exports from developing countries climbed 7.5 percent per year, compared to 0.3 percent per year from developed countries (mainly the United States).[7] Reported annual growth rates for the industry in 2006 were 10–15 percent.[8]

5 Excludes saltwater fish. FAO, 2006, "Fishstat Plus Database: Commodities, Production, and Trade" (Geneva: FAO.).

6 FAO, 2002, State of World Fisheries and Aquaculture (Geneva: FAO).

7 Rana 2002.

8 G.E.E. Koon, 2006, "Ornamental Fish Exports Booming," The Star Online, October 10, 2006, http://biz.thestar.com.my/news/story.asp?file=/2006/10/10/business/15676521&sec=business (Accessed May 2012).

Table 1 Global Value of Ornamental Fish (2006)

Global trade indicators	Value
Value of global ornamental fish (wholesale)	US$ 1 billion (approx.)
Value of global ornamental fish (retail)	US$ 3 billion (approx.)
Global exports of ornamental fish* (FAO 2006)	US$ 223,364,000
Global imports of ornamental fish* (FAO 2006)	US$ 271,197,000
* Excludes saltwater fish.	

In terms of imports, the European Union represents the largest market for ornamental fish (over 30 percent); however, the United States is the single largest importer of ornamental fish in the world. In 2006, the main importers of ornamental fish (including share of the market) were the United States (15.7 percent), United Kingdom (8.8 percent), Japan (8.4 percent), Singapore (7.2 percent), and Germany (6.9 percent).

Market research indicated that the development of an ornamental fish industry in Jamaica, focused on international trade was supported by the data. Before proceeding further, the VIP Jamaica team wanted to establish whether the global trade was open to purchasing fish from Jamaica and how to identify potential customers. As a consequence, another phase of market research was undertaken.

1.2.2 Second Phase of Market Research

This second phase of market research included interviews conducted with relevant value chain actors to gather specific information:

1. Determine interest in importing ornamental fish from Jamaica through interviews with importers in the US and EU markets.
2. Survey the experience of local pet store owners in conducting business with the local ornamental fish industry.
3. Identify patterns of consumption and ornamental fish needs through interviews with local hobbyists).

Overall quality is the top priority for importers. In addition, quality of fish, price, reliability, quantities available, and range of fish types are important to buyers when choosing a supplier. Buyers are willing to pay more for fish that are unique or distinctive. Suppliers that meet the customers' preference for color, patterns, or size of fish can differentiate their product from other suppliers and command higher prices for their fish. Many importers stressed the need for a supplier to deliver consistent quantities of specific size and quality of fish. Especially useful was the detailed list of buyers in the United States and Europe, identified by the survey, who expressed interest in buying ornamental fish from Jamaica.

Jamaica's proposed competitive positioning, supported by shorter transit times to selected export markets, competitive prices, and low freight rates, is based on a two-phased strategy:

1. Farm fish that are in short supply to meet the demands of the Florida market, combined with harder-to-grow, medium-priced fish; pay attention to the quality of the fish; ship primarily to US and Caribbean markets; and work with major distributors.
2. As Jamaica's ornamental fish industry develops and competencies improve, expand it to supply the European market with quality, high-end, specialty fish in moderate volumes, through established major distributors.

1.3 Competitiveness Analysis

Jamaica has a natural environment that makes it possible to raise ornamental fish all year.[9] Good quality water is available in good quantity at reasonable rates.[10] Actual and prospective ornamental fish farmers brought to the table their physical locations and storage areas for inputs. To establish viable production units in their backyards, inner city farmers needed access to inputs (such as vats, pumps, and circulatory systems), breeding stock and fish supplies, and technical assistance.

In order to integrate informal fish farmers and attract new farmers from the program's target population (young, unemployed men), into a global ornamental fish value chain, providing access to current technical information is vital. This is particularly difficult for resource-poor, under-educated, and marginalized populations in informal economies. VIP Jamaica broadened and strengthened a network of relationships in the technical and consulting communities to make this information and training infrastructure accessible to the target populations.

A significant three-year grant from the SEEP Network, while insufficient to establish an industry, provided the opportunity to develop the ornamental fish value chain and to use it to lever other resources, including capital. The VIP Jamaica team recognized that a critical missing link was access to funding to establish of units of production. The general tendency has been to provide training only, but without complementary microfinancing, transformative change is not likely.

One of the critical missing links was coordination of the different elements of a value chain, especially needed in the nascent stages. "Building a Bridge" provided a dedicated project manager supported by The Competitiveness Company's cluster approach. This infrastructure provided a strong administrative framework to coordinate and undergird the development of the ornamental fish industry, with the intention of transitioning to a fee-for-service model as farmers become established.

1.4 Related and Supporting Industries

The prospective ornamental fish industry needed financial services, but much of what was available came at high annual rates of interest (often as high as 52 percent), with demanding collateral requirements and inflexible or unfavorable terms. This effectively made financing unavailable to micro and small ornamental fish enterprises, and undermined their capacity to borrow for production and be competitive. Access to credit was the single highest hurdle faced by VIP Jamaica and it remained unsolved at the end of this initiative. The program moved largely to a system of grants to help its inner-city clients set up and stock ornamental fish farms.

The project forged productive alliances with packaging and input suppliers (feed, medicines, and equipment), consultants, and pet-shops that signalled their interest in becoming more deeply integrated in the ornamental fish cluster. These linkages resulted in reducing the cost of pumps by 46 percent, feed by 41 percent, and vats by 22 percent.

1.5 Context for Firm Strategy and Rivalry

Ornamental fish farmers, local pet shops, and input suppliers in Jamaica operated in a highly fragmented context. Production was largely uncoordinated, with most farmers raising the same species and size of fish, so rivalry among competitors was fierce and unproductive, and based mostly on price. As a result, buyers had strong bargaining power

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9 The VIP Jamaica team based its analysis on Michael Porter's diamond model in The Competitive Advantage of Nations (New York: Free Press, 1990).

10 As part of its technical work, the VIP Jamaica team investigated and implemented environmentally friendly approaches to waste water disposal.

and played one farmer against another. In addition, because there were few suppliers, the farmers had little leverage to bargain for more competitive prices.

The barriers to entering ornamental fish farming are low for the typical backyard operator. Substitute vats in the form of discarded bath tubs, refrigerators, washing machines, and other containers are easily found in the city dump. Thus, the threat of new entrants was strong. The opportunity was there in Kingston to coordinate production practices, where farmers were encouraged to specialize in high demand fish, negotiate bulk purchases with suppliers to attract better terms, clarify specifications of local buyers and supply their needs, and expand the market by increasing the export of ornamental fish. VIP Jamaica improved the industry's competitive position by enabling collective action and informed strategies to establish a more competitive industry.

In order to integrate microproducers into the global value chain,[11] the team encouraged the development of consolidators along strictly market-based lines. These consolidators strengthened the value chain by coordinating the export marketing and related inputs for new and established fish farmers.

1.6 Value Chain Analysis

At the inception of the VIP Jamaica, the value chain was relatively simple, with insufficiently strong linkages and inadequate knowledge at each stage. The value chain consisted of approximately 150 farmers, 90 percent of whom have poor if any resources, live in the inner cities, and generally have low educational levels, but exhibit great commitment and passion.

Pet stores represent vital (although not the only) distribution and supply channels for ornamental fish in Jamaica. Kingston and St. Catherine have approximately 20 pet shops, whose ornamental fish are mostly supplied by local farmers, though they also import some special varieties and sizes. The pet shops complained about the lack of variety and small sizes of fish supplied by the locals, the unreliable delivery schedules, and poor customer service. The fish farmers complained about the pet shops' mark-ups, low prices paid for fish, the extended credit terms they had to endure, and the lack of feedback from pet shop customers. The local hobbyists (consumers) were dissatisfied by the limited range and size of the fish available and the poor displays in the pet shops.

The local ornamental fish industry was characterized by minimally structured local or export marketing, underdeveloped market channels, and poor (even dysfunctional) relationships within the chain. The few farmers who did export fish did so through personal connections with friends and family abroad (mainly in the United States); however, they still lacked established, structured exporting relationships that could provide consistent revenue. The farmers paid little attention to identifying particular species in demand; establishing consistent, structured exporting agreements; and supporting these markets through collaborative, targeted, and coordinated production.

The rudimentary input supply market was highly fragmented. Pet shops were the major suppliers of feed, medicines, and equipment, with their attendant high prices, and lack of desire (or ability) to provide wholesale arrangements.

The Jamaican government provided most extension and training services, and regulatory oversight. These were largely limited as a result of budgetary constraints. In addition, as a result of the endemic violence in the inner cities, trainers were reluctant to work in the communities where they were most required. Services, such as consolidation (buying fish from several small farmers to package and ship for export), were underdeveloped due to the low number of professional farmers and lack of sophistication in exporting.

11 The VIP Jamaica team looked closely at the ornamental fish industry models in Singapore and Sri Lanka , which were both based on aggregating the supply of many small farmers.

The backyard producers' knowledge about fish production came from learning by doing, observing their fish, and comparing notes with their peers. This extended to their ability to breed novel varieties. Unfortunately, it did not allow them access to the science and technology behind fish rearing. For example, they were generally unaware of the importance of pH and the range of micronutrients required for optimal fish health, quality, and productivity. In addition, because of their rudimentary hardware (detritus from the city dump) for tanks and air circulators, achieving and maintaining sanitation and disease-free standards were inordinately difficult. And yet they persevered.

1.6.1 Value Chain Market Development Initiatives

Many weak links needed to be strengthened in order to develop a robust Jamaican ornamental fish value chain and meet the goals of the project. Improved market linkages and learning are closely associated with the competitive positioning and choices that the Jamaican ornamental fish industry needs to make in order to serve customers better, as well as differentiate it from competitors and increase overall competitiveness. These choices include what fish to raise, what markets segments to serve, and what channels to use to reach those customers. The VIP Jamaica Team was able to pay attention to the data and disseminate it regularly to the members of the value chain. The team continuously updated and developed intervention plans directed at market diversification and penetration.

In order to resolve the major factor limiting the potential development of the ornamental fish industry, namely access to credit, The VIP Jamaica Team entered into an arrangement with a microfinance institution (MFI) to offer special terms and approaches to collateral for members of the ornamental fish value chain. The MFI charged 10 percent interest on the reducing balance, with a six-month moratorium on repaying the principal. Turn-around time for loan approval was said to be 30 days. Under the arrangement, the MFI would accept the equipment purchased to establish the farming operation as collateral for the loans. This looked promising, but in reality the MFI was too hesitant to make it work well for the farmers. As a result, in the first phase of the project, VIP Jamaica had to step in and help backyard farmers upgrade and expand their facilities through a combination of technical assistance and grants.

In order to achieve adequate levels of productivity, fish health, and reliability of supply, the farms needed to be upgraded. The program developed a model farm that could be built in a typical backyard residence of about 400–500 square feet. The production area needed shelter from wind, shade cover (cloth) to keep out predators (e.g., birds, dragonflies) and control the intensity of sunlight, and improve the ability to withstand most inclement weather conditions.

The model unit had 8 PVC vats, each connected to a main water supply by PVC fittings. The water circulated through the vats and was recycled via a closed system. There were 2–3 gravel beds to filter the waste water, plus 1 submersible pump to push the filtered water through the vats. This efficient system could cultivate and produce large numbers of fish with very little maintenance. The recirculating water system kept the cost of water to a minimum, improved the quality and uniformity of the fish, reduced labor costs, and made better use of space.

A collaborative approach to acquiring inputs gave the farmers predictable access to equipment (pumps, test kits, filters) and inputs (feed, medicines). In this first phase, the team built on lessons from the pilot and evaluated several approaches to joint procurement.

In a 2007[12] survey of ornamental fish importers, conducted by the US Agency of International Development, most respondents considered 20–30 boxes as a small order; some reported receiving up to 350 boxes per order, each week. Given rising shipping costs, importers preferred larger order sizes to obtain economies of scale in shipping. Consolidation was the obvious and most efficient solution to this issue and VIP Jamaica offered a detailed business plan to as-

12 USAID COMMIT Ornamental Fish Report, 2007.

piring ornamental fish consolidators and exporters that consolidated fish from collaborating farmers. The consolidator would build market linkages, communicate with customers, facilitate regulatory procedures, and aggregate the supply of small farmers and ship to overseas markets.

1.7 Intervention Plans

VIP Jamaica identified a number of essential interventions that had the capacity to be most transformative in phase 1:

- Strengthening linkages for and within the local market
- Improving access to tailored financing by strengthening relations with microfinance institutions
- Improving access to inputs through joint procurement services
- Clustering farmers and technical service provision
- Linking to export markets
- Developing consolidators

The team implemented the interventions in the above sequence, which had an internal logic. It culminated in productive and functioning networks and supported the project's objectives of introducing young men in inner-city communities to stable incomes from farming and exporting ornamental fish. By earning legitimate livelihoods that are not simply marginal, it hoped the young men would not be tempted to join gangs.

In the course of implementing the project, the original sequence of the interventions did not stand the test of the dynamic changes taking place in both the local and international environments. The decline in the Jamaican economy resulting from the global recession led to a nearly 50 percent reduction in demand for ornamental fish in the domestic market. At the same time, however, the international market showed little to no slowdown in demand. Consequently, the program had to change the focus to export market linkages and bring forward the consolidator/exporter development which had been planned for phase 2.

Most importantly, the changing realities on the ground meant the linear approach to implementing the interventions had to become more flexible. For example, the new, recession-driven focus on export markets made improving the productive capacity of the farmers an urgent priority: upgrading their farming systems; changing species of fish grown to meet the requests of international buyers, and accelerating the availability of export packaging.

In addition, one of the most notorious of the Kingston gangs challenged the forces of the state, leading to the declaration of a state of public emergency, which prevented the team from working in some areas. On the other hand, these events raised the awareness of policymakers to the urgency of bringing income-generating opportunities to blighted urban areas.

Section 2
Interventions, Progress, and Outreach

Table 2 Interventions, Indicators, and Results

Intervention area	Interventions	Indicators	Results
Access to services	Training the trainers	Number of trainers; number of persons trained by trainers	10 new private extension officers provided bundled training and extension services
	Access to financing	Number of persons accessing finance (No. of loans approved)	Loan instruments developed (limited success)
Marketing and market research	Identification of local exporters; capacity building for local exporters	Number of exporters receiving capacity building	3 new local exporters with trained in ornamental fish marketing and packing
	Develop technical materials for exporting fish	Number of technical and training manuals developed	Technical manuals developed for packing and shipping fish
	Research market and identify market opportunities	New buyer and supplier relationships; number of orders placed and fish purchased	Relationship with 3 US buyers (New York, Miami, and Atlanta) established with orders for 20,000 fish; local exporters engaged in market process
Improvement of fish supply chain	Installation of fish farms	Number of energy-efficient fish farms installed or retrofitted	75 new fish farms built; 25 upgraded
	Training and capacity building for breeders	Numbers of breeders receiving capacity building; number of new fish species introduced	15 existing farmers received training in breeding; 20 new species of fish introduced
Technical capacity building	Training of new farmers	Number of people newly trained; number of farmers receiving capacity building	300 persons trained (new and existing farmers, exporters, suppliers)
	Development of technical manuals for farmers	Number of technical and training manuals developed	Technical manuals developed for packing and shipping of fish; manuals also used to enhance capacity of farmers and exporters.
Production efficiency and competitiveness	Technology transfer (introduction of recirculating aquaculture systems)	Percent of increase in farm productivity	Farmers increased capacity to 16,000 fish in 400 square feet (compared to under 4,000 with previous methods)
	Engagement of suppliers; reduction of start-up and production costs	Percent of reduction of start-up and operational costs	20% reduction seen in start-up costs (including 46% reduction in pump costs), and 50% reduction in feed costs from joint procurement
Coordination and collaboration	Introduction of clustering	Number of new farm clusters; improved attitudes to collaboration (Surveys; Informal Observations)	Production coordinated; farmers in close proximity collaborated
	Farmer mentorship	Number of mentor relationships established with farm groups	Newly trained farmers linked to existing farmers in their communities

2.1 Communication, Coordination, and Collaboration

VIP Jamaica worked with service providers to identify incentives and mechanisms for delivering particular services to fish farmers more effectively (i.e., training, inputs, or extension services). This involved negotiation, engagement, and capacity building with 15 pet stores, hardware stores, garden centers and pet supply centers, plus 5 MFIs. As a result, approximately 300 people (new and existing farmers, trainers, and exporters) were trained, while 90 people accessed inputs and extension services to set up or retrofit farms to make them more environmentally friendly, productive and energy efficient.

Given the uncoordinated nature of the pet fish industry, there was very little communication and accommodation between suppliers and farmers. This made it difficult at first to engage and encourage farmers to communicate with suppliers about the types of feed they required, ways to minimize costs, and additional services after purchase (such as advice, parts, servicing). During this intervention, VIP Jamaica trained and demonstrated to farmers how communicating with suppliers could result in better outcomes for them, such as informing them about better quality feed, requesting more energy efficient pumps or achieving savings by buying in bulk.

The intervention reduced start-up costs for new farmers by 40 percent (especially for equipment and materials) through collective purchasing. The program encouraged communication and relationship building, and helped farmers be more aware of the impact of different inputs on costs of production and output. This led to farmers independently requesting energy-efficient pumps and suppliers sourcing them.[13] The program also coached new trainers who are able to keep up with the high demand for ornamental fish training.

Complementary efforts to improve coordination and collaboration among farmers also had qualitative and quantitative implications. The levels of trust and collaboration in the communities targeted by the project have traditionally been low. The prospect of newly trained farmers growing good quality fish right away is risky, so connecting new farm clusters with experienced farmer mentors was another way to continue the capacity building started by the program. Finally, collaboration and clustering improve the likelihood that the farmers would coordinate their production to produce the volumes and varieties necessary to satisfy export markets. The program established 4 community clusters, each with about 20 trained farmers, linked to more experienced farmer-mentors.

2.2 Markets, Market Learning, and Market Research

VIP Jamaica made a point of engaging in industry learning activities to identify best practices in similar exporting countries and to apply them in the Jamaican context. The team learned valuable lessons from the Singapore ornamental fish value chain, which emphasized quality assurance, exporting efficiency, public-private partnership, and training. These lessons, and the networks established, were invaluable to project implementation.

The Value Initiative's capacity-building agreement also enabled the project team to go into the international market to meet face to face with suppliers, buyers and fellow ornamental fish value chain implementers. This proved invaluable for establishing market linkages with the buyers to whom the sector is able to supply fish. Critical lessons were learned about the best ways to improve the sector and make it more effective.

Identification and capacity building of local exporters to manage the marketing, packaging and shipping of fish were critical to strengthening the ornamental fish value chain. The program focused on building the capacity of three local

13 One of the benefits of the program was its investigation into other cost-effective and space-efficient fish farming methods. Once the best method was identified, it was a matter of finding locally available materials to make it work at a low operational cost. Local garden and pet suppliers were persuaded to source the most energy-efficient pumps (which the program identified through research). These pumps are now being carried by the suppliers willingly because other customers (beyond ornamental fish farmers) are demanding them for their low-energy consumption.

exporters (two fish exporters and one produce exporter) through training, technical manuals and networking. These exporters now have the knowledge and tools to market, package, and ship ornamental fish.

Finding broader markets to accommodate Kingston's and St. Catherine's growing ornamental fish industry involved researching the major import markets in the United States, and identifying, negotiating with, and acquiring orders from buyers there. VIP Jamaica helped develop relationships with importers in New York, Miami, and Atlanta and acquired initial orders for fish. These relationships and orders provided opportunities for Jamaican farmers to expand their sales.

2.3 Improving the Fish Supply and Fish Farms

Installing new farms was essentially nonexistent for the first year of the program due to delays in training (while capacity was built up), an excessive focus on causal chain design, and financing uncertainties. VIP Jamaica had to address the underlying issues preventing the new farms from becoming operational. Once a training course was developed, trainers were trained, and funding was identified, farm installation began in earnest as trainees completed their courses.

A shortcoming of the program was the delay in responding to the need to increase breeding capacity to support the volumes required for export, which was affected by the slow start of new farms. VIP Jamaica also focused on retraining existing breeders and expanding their capacity. It also started a dedicated breeder-training program to increase supply.

Along with traditional fish farms, VIP Jamaica encouraged and supported new energy-efficient and environmentally friendly fish farms, as well as the retrofitting of existing fish farms. The intervention included increasing the capacity building of new breeders and the introduction of new species. The output of this intervention was the setup or retrofitting of 100 fish farms (75 new), capacity building of 15 breeders, and the introduction of 20 new species for brood stock to provide new species of fish in demand by the market to new farmers.

Central to promoting more energy-efficient fish farms was the introduction of recirculating aquaculture technology to new farmers and to existing farmers through retrofitting. This intervention reduced overall operational costs for farmers, who realized a 67 percent lower cost per fish due to savings in energy, water and feed. In addition, it reduced waste to zero, increased productivity per square meter of space utilized, and improved sanitary conditions. (In addition, circulating water eliminated breeding habitat for mosquitoes, compared to traditional stagnant water methods.)

2.4 Technical Training and Manuals

Training of trainers to train new fish farmers required both contracting the relevant expertise and recruiting suitable trainers. The VIP Jamaica team realized that it did not have access to the requisite level of expertise or readily available trained manpower to provide training locally. In the end, the program outsourced this intervention and contracted a highly competent consulting and training group from Australia. It developed training manuals and trained 10 trainers, who were graduates of the local agricultural school. Most trainers were under the age of 25, close to the ages of the young men the project wanted to attract to ornamental fish farming.

This intervention proved crucial as later on in the program the demand for training increased substantially. In addition to the program demand, trainers began receiving requests for their services without project mediation and expanded their training to people outside "Building a Bridge." Furthermore, those wishing to be trained showed a willingness to pay for this service.

At the beginning of the program, technical information did not exist in a form that could be readily apprehended and acted on by farmers, which had a negative impact on production and quality. After receiving introductory training, farmers were essentially guessing or using trial and error methods to manage their farms, especially issues of water quality, disease control, breeding, nutrition, and bio-security.

VIP Jamaica expanded its contract with the Australian consulting group and asked it to develop technical instructional manuals on all these essential technical issues. The result was the development and dissemination of internationally certified ornamental fish training manuals (five volumes covering all areas of fish farming) and technical manuals for farming, hatchery management and fish packaging and exporting. (The Competitiveness Company has an intellectual property agreement with the Australian organisation to replicate the material for local use.)

2.5 Financial and Business Risks

Despite multiple attempts and varying approaches with several microfinance institutions, VIP Jamaica was not able to overcome the perceived risks that banks associate with the young inner-city men participating in the program. The experience of the few who were able to access loans was that it took far too long and at times, for them, was frustrating and invasive. This was the least successful of all the interventions.

Another challenge was identifying private entities or business owners who would accept the risk of exporting ornamental fish. The program decided to engage businesses that already exported fresh produce, since there were a number of similarities: both industries handled "fragile" products, worked with groups of small farmers who aggregated production, liaised with local authorities to acquire health certifications, and acted as the link between external markets and local suppliers. Additionally, these businesses already had the necessary logistical expertise. VIP Jamaica was able to identify and build the capacities of one such exporter and two existing farmers, providing them with the resources and knowledge to engage in exporting.

2.6 Other Service Provider Collaborations and Capacity Building

Public sector agencies relevant to ornamental fish and veterinary agencies play a significant role in the ornamental fish sector, providing trainers, technical extension services, and certification (which is a requirement for exporting live fish). VIP Jamaica had to rely on them in the early months of implementation to provide training to farmers because they were the only source. The program both gave and received technical assistance from these agencies at different points in the project.

Fish stock breeders were mostly experienced farmers who had the technical knowhow and capacity to breed fish (more so than new farmers). VIP Jamaica helped build their capacity through additional training, hatchery design, and set up needs, in order to make them more productive and efficient producers of fish for the new farmers coming out of the program.

Farm installation technicians were developed from farmers and young men with experience or skills in plumbing, construction, and fish farming. VIP Jamaica recruited them and trained them further to both set up recirculation technology for the fish farms and train farmers to set up and manage the new technology. Developing a cadre of installation technicians was critical to accelerating the establishment of new farms.

Financial institutions engaged by VIP Jamaica in the hope that they would provide low-cost tailored loan products to new farmers, were mainly small-business lending agents and micro-lenders. The project aided in networking, developing business plans, screening of applicants, and monitoring loans. These financial entities were unable, generally, to overcome their inherent caution and risk aversion to be able to see the potential in the new farmers from the inner city. Those few institutions that did make some loans had such long turn-around times (as much as five months), which added another level of delay and deterrence to the implementation of the project.

Section 3
Quantitative Performance of the Target Enterprises

The methods used to evaluate the performance of VIP Jamaica were guided by the broad question about the socio-economic conditions of the Value Initiative Program (VIP) beneficiaries as a result of the project. In order to ascertain this, the changes in the social and economic conditions had to be measured both at the baseline and end point, and any differences highlighted. There was a challenge in determining what proportion of the changes could be attributed to the VIP. To deal with attribution, a quasi-experimental design was employed, in which baseline and end-point data were gathered on participant and control groups (see table 3). The data-gathering tool was a questionnaire that was administered either in person or via telephone. The social indicator chosen by the VIP was the ability to access credit. Survey methods also included data gathering outside of surveys to assess, for example, the efficiencies and savings enjoyed by beneficiaries from new technology.

The team felt a survey was the best method for assessing attribution as it could clearly determine the impact of the project on the enterprises by comparing them to similar enterprises in the same sector that did not participate in the program. There were several advantages to using access to credit as a social indicator. First, getting a loan in Jamaica is an indication that the individual has some standing in the community (social standing) because most financial institutions require reference letters from non-family members in the community. Second, it signifies that the individual is acceptable to, or known to, the formal banking sector, which most poor people in the inner cities are not. Third, getting a loan means access to credit and the ability to acquire long-term assets or start a business venture. Acquisition of assets and the starting of a business are themselves indicators of a certain social standing.

The challenges of using a survey went farther than getting truthful, unbiased responses, as well as participation in the survey, from the control group. The survey was also given to people who were not a part of the project, but who knew that other farmers would be participating, which made them reluctant to participate. Yet another challenge was the suspicion that survey respondents had about certain questions included from the Poverty Assessment Tool.

Table 3 Summary Table of Respondents

	Number of respondents (final)	
	Participants	Control
New farmers (UCVI)	48	
Existing farmers (UCVI)	12	
Community residents		19
Existing farmers (non-UCVI)		15
Subtotal respondents	50	34
Total respondents	84	

3.1 Summary of Findings from Common Indicators

Most participants in the survey were male. This was, in one sense, deliberate because the program targeted at-risk unattached youth (predominantly young men) in Kingston's inner city communities to provide a meaningful alternative to crime. Despite this, 62 of the 200 final beneficiaries in the program were female. The distribution of gender is similar in the control group.

The survey results indicate a clear difference in the median annual incomes of the participant group and control group. This can be attributed both to the people that the VIP's team selected to participate in the program, as well as project interventions. While such disparities are not ideal for research purposes because they suggest that the par-

ticipant group already had an advantage at the baseline and, therefore, a greater chance of success, this is somewhat expected. The project management team, in determining who participated in the program, naturally chose those with the best chance of succeeding. These people would ideally demonstrate responsibility and discipline, and have some resources to contribute to the project.

Despite this inherent discrepancy, the data still show that the project's interventions had a significant impact on participants, compared to those in the control group. The clearest indicator is the change in income between baseline and end-point figures. Farmers in the participant group realized a 45 percent increase in income, compared to only 24 percent in the control group. The largest contributing factor is the participant group's dramatic reduction in production costs as a result of project interventions: energy-efficient pumps, lower feed costs, and the economies of scale from using recirculating technology (which increased the number of fish they could grow with the same resources). Production-cost savings alone amounted to 67 percent.

The data also show that women earned a higher income than men. This is in part attributable to the fact that all the female farmers in the participant group were new farmers (there are no existing farmers who are women). These women started farming with better technology, lower costs of production, and better access to new markets, compared to those male counterparts who had to transition from older technologies.

3.2 Qualitative (Formal and Informal) Performance of Enterprises

The only formal method of qualitative data collection used by the project management team was interviews. The program created a 10 question, open-ended survey to elicit the views of farmers on their interaction with the project, other farmers, service providers, and institutions; their feelings about their business and their industry; and their attitudes toward future prospects. Informal conversations, however, with target enterprise owners (farmers, breeders, pet store owners, and input suppliers) were most often used to gather qualitative data. Qualitative data were collected on a wide range of topics, from trust issues to attitudes (toward suppliers, other farmers, and pet stores), to community dynamics, to suggestions about project implementation.

3.3 Summary of Qualitative Results

Despite their articulation of support, local financial institutions still have no plans to offer tailored low-cost loan products to new farmers on a scale significant enough to make a difference. Conversations by the VIP Jamaica team and subsequent follow up with financial institutions who expressed an initial interest in giving loans revealed that the financial institutions saw the risk for them as simply too high. The team detected some willingness in the future to be more flexible, if the project produces successful farmers earning good, steady income.

Women were generally more responsible and less likely to disregard training and instruction, compared to men. The aim of VIP Jamaica has been to primarily target unattached male youth, given their high rate of unemployment and higher impact on crime levels. The team did not, however, preclude women in any way and saw an increased interest by women in ornamental fish farming (not present before).

Beneficiaries in general were more receptive to messages given by fellow farmers than by project management staff. In response, VIP Jamaica implemented the mentorship program. This was especially productive for introducing different technologies for farming and for encouraging existing farmers to use more energy-efficient pumps, which were more expensive to acquire, but much cheaper to operate. Farmers were skeptical when given this information by the project team, but when other farmers who received the new pumps in the pilot related their experiences, the adoption rate increased.

3.4 Analysis of Link between Quantitative and Qualitative Results

The most significant link between qualitative and quantitative results is between female farmer income and their observed characteristics of greater responsibility. As reported earlier, women (although they represent a small share of the overall project group) earned higher income from farming than men. This is partially attributable to the fact that all the female farmers were new while many of the male farmers were existing farmers transitioning to new technologies. Another explanation is the relatively higher levels of care, responsibility, and adherence to proper practice shown by women. Anecdotally, the team found female farmers asked for help more often, followed instructions more consistently; as a result, they made fewer mistakes and suffered lower fish mortality.

3.5 Impact on Target Enterprises

Business performance definitely changed from the beginning to the end of the project. Success in ornamental fish farming is dependent on producing quality fish at the lowest cost and being able to sell the fish when they reach desirable size. VIP Jamaica made significant contributions to improving fish quality, expanding the varieties of fish grown by the farmers, opening access to new markets, and lowering production costs. Verification lies in the data and reporting of production costs before the program and at the end. No other factor in fish exporting is as important as price (although quality is a close second).

Prior to VIP Jamaica's interventions, Kingston backyard fish farmers produced fish in an unsanitary and inefficient manner (using stagnant water and small, ad hoc containers). Even the few who employed better technology (recirculating aquaculture) used water pumps that consumed large amounts of electricity. The project not only introduced recirculating aquaculture to all participating farmers but also worked with local suppliers to procure and distribute more energy-efficient pumps, which lowered energy costs by 67 percent (from JMD[14] 15,000 a month for most farmers to around JMD 5,000 a month). In addition to energy savings, the program also made significant contributions in lowering feed costs (the second highest contributor to production costs). By encouraging farmers to purchase collectively and in bulk, and by working with suppliers to source better feed, the program helped farmers to improve feed quality and lower feed costs by 50 percent.

14 Jamaican dollar

Section 4
Process of Change for Target Enterprises

The process of enterprise change observed by the VIP Jamaica team was based mainly on observation and influence from respected peers. The biggest change the project tried to implement was a shift from less efficient and less productive farming technology to more energy-efficient, environmentally friendly, and productive farms. Beneficiaries that had never farmed before were easy to convince. The vast majority of existing farmers, however, was much more resistant, due to their years of experience, as well as the cost of the change. Most farmers, who relied on ponds and free-standing containers, swore by their traditional methods and refused to accept recirculating aquaculture. At the same time, farmers already using recirculation refused to invest in more energy-efficient pumps, mainly due to the initial higher cost.

Several attempts to convince them of the comparative energy consumption of the pumps or the greater productivity per square meter of recirculating aquaculture fell on deaf ears. Only after engaging and working with a few respected, experienced farmers as a pilot, and then showing the results to other farmers, was efficiency able to get widespread acceptance. Only when the farmers in the pilot showed other farmers their electricity bills before and after the project intervention were others thoroughly convinced. This change process held for almost all other interventions that required a paradigm shift, including training. (Many experienced farmers had no formal training and thought there was nothing else they needed to learn.)

4.1 Sustainability of Service Providers' Business Models

The main private service providers in the ornamental fish value chain are the source of farm inputs (pumps, feed, supplies, and testing tools), trainers, and extension officers. VIP Jamaica assessed the likelihood that they will continue to provide these "new services" to farmers:

- **Input suppliers:** Pumps and feed (new varieties of feed procured after program interventions) are somewhat complementary products. The more pumps a supplier sells, the more farmers are growing fish. Logically, the more farmers that grow fish, the more feed an input supplier can sell. In addition, the more pumps sold means the more parts have to be provided for maintenance and repair. For the input suppliers, therefore, the sale of more pumps is crucial to whether or not they continue to provide their services to farmers. Pumps are a durable product and will probably only be sold once or twice to the same farmer over several years. Still, the demonstration effect (of lower electricity costs from switching) will spur demand for energy-efficient pumps by existing farmers who still do not have them. Additionally, new farmers are already starting to ask for and purchase these pumps outside of the project.

  Feed, however, is non-durable and provides more cash flow and a greater number of sales. The VIP Jamaica team thinks the growing demand for pumps, plus new farmers entering the industry, will drive the sale of feed.

- **Trainers.** VIP Jamaica has triggered a strong demand for training by coupling training with the opportunity for enterprise establishment. Even before the program started, demand for training in ornamental fish farming was rising, as evident by the long list of prospective trainees the team procured from the Ministry of Agriculture at the

beginning of the program. The Ministry had insufficient capacity to train all the people on their list, much less the new ones added every day.

The interest in ornamental fish farming generated by VIP Jamaica and the entrance into the market of larger investors has also sparked greater demand for training. All this is evidence that trainers will be able to offer their services for some time to come. Additionally, trainers can add to their skills and easily become extension officers, a service that the increasing number of new farmers will need.

4.2 Copying and Crowding In

New farmers entering the value chain are already copying the initial project enterprises by installing recirculating aquaculture systems, rather than digging ponds to grow fish. New farmers are also copying the use of energy-efficient pumps to save costs, while existing farmers are switching out their existing pumps. Pump suppliers, in informal conversations with the VIP Jamaica team, admitted they have already sold 20 new pumps to people outside the program and are already fielding requests from other farmers. These pumps were not carried by the supplier before VIP Jamaica's intervention, so it is safe to assume that this new pump business is a result of influence from the target enterprises in this project.

There is no evidence yet of other service providers copying the supplier of energy efficient pumps, but there is no reason to think there will not be, given the growing number of farmers entering the sector. Other less-specialized capital equipment (such as vats) are now being offered at a lower price because suppliers are lowering prices to compete for the new demand.

4.3 Changes in the Sector Unrelated to VIP Jamaica

The Jamaican government has not done anything significant in the sector since the beginning of this project. However, VIP Jamaica has attracted significant involvement by the private sector and non-governmental organizations (NGOs). Several new private entrepreneurs entered the ornamental fish sector both as farmers and as exporters after approaching the VIP Jamaica team for advice and information about the sector as a result of the publicity generated from the project. Specifically, one private entrepreneur, a very influential and popular individual in Jamaican society, has already made significant investments (over JMD 10 million at the last estimation) in equipment, supplies, fish, and staff to begin breeding and exporting ornamental fish. Such publicity and confidence shown by a respected businessman should bring more investment and support to ornamental fish farming in Jamaica.

At least five other NGOs, from across Jamaica, seeking income generating opportunities for young people have also approached the VIP Jamaica team for advice and assistance in implementing similar programs. The team has already provided consultancy and advice to one NGO to start training young people in ornamental fish farming.

Table 4 shows examples of changes in the sector since the project started.

Table 4 Final Program Results

Program goals	Intervention areas	Interventions	Outcomes	Comments and next steps
Market-driven solutions to gaps in the ornamental fish value chain	Increase access to services	Training the trainers	10 new private extension officers provided bundled training and extension services	New trainers have already trained 60 additional farmers and have a demand from over 200 more trainees. Suppliers are working with farmers to identify suitable equipment and source feed at 60% lower costs.
		Access to financial products	Loan instruments developed (limited success)	
	Identify more effective marketing and conduct market research	Identification and building capacity of local exporters	3 new local exporters received training in ornamental fish markets and packing	To ensure that farmers have an outlet for fish produced, local exporters need the knowhow, capacity, and incentive to do market research and link farmers with buyers. Three such exporters were identified and trained. Buyer relationships are now being strengthened with successful shipments.
		Development of technical materials for exporting	Technical manuals developed for packing and shipping of fish	
		Engagement in market learning and opportunity identification	Relationships developed with 3 US buyers and orders for 20,000 fish acquired; local exporters engaged in market process	
	Improve fish supply chain	Installation of fish farms	75 new farms installed and an additional 25 farms retrofitted	To meet the volume required for profitability and competitiveness, more farms and more breeders are needed to supply fish to new farmers.
		Training and capacity building of breeders	15 existing farmers received training in breeding; 20 new species of fish introduced	
Engage & build capacity of urban youth and unemployed to earn/ increase income from farming	Increase quality with technical capacity building	Training of new farmers	300 people trained (new and existing farmers, exporters, suppliers)	Training was one of the major service gaps in the value chain prior to the project's intervention. With only one inadequate local service provider (the government), there was a high, untapped demand. New trainers are now delivering the service (and are being paid).
		Development of technical manuals for farmers	Training course materials and technical manuals developed for farmers	
	Promote greater production efficiency and competitiveness	Technology transfer	More productive and energy-efficient fish farming technology introduced	New farming technology has reduced cost per fish by 67% and productivity by 20 fish per square meter of space.
		Engaging suppliers		
	Coordinate and collaborate	Clustering	Production coordinated and farmers in close proximity collaborating	Clustering and mentorship are crucial components to control quality, minimize production costs, and achieve production volumes. Groups that purchasing inputs collectively get large savings and are able to coordinate their production to meet targets.
		Farmer mentorship	Newly trained farmers linked to existing farmers in their communities	

4.4 Unsuccessful Intervention to Provide Access to Finance

Access to financing was the least successful intervention proposed and implemented by VIP Jamaica. Financing was identified from the outset as a critical missing link in the value chain because enterprise development obviously requires financing both as start-up capital to purchase equipment and setup the farms and as operational capital for the first few months. Given the demographics and characteristics of the group—young, unemployed, very little experience with the formal banking sector, few assets, largely new to fish farming—a critical step was to identify local MFIs and small-business financing institutions that were willing to lend to such a group. VIP Jamaica's next logical step was to develop tailored loan products that had low interest and terms favourable to the target group and their small business ventures (such as a moratorium on the start of loan payments). The team envisioned that by working with

multiple institutions and offering risk mitigation services (such as pre-screening, clustering, showing orders received from buyers), the financial institutions would test the opportunity to lend to the group and work with the project, at least on step-by-step basis, to provide financing to farmers.

VIP Jamaica's initial intervention changed when it became apparent that, despite the project's best efforts to mitigate the risks perceived by the financial institutions, they were still reluctant to lend to this group, seen as "unbankable", or, if they were, at rates lower than 50 percent. In the end, only Jamaica National Small Business offered a favourable rate (12 percent) and terms. However, their extensive loan application process and excessive delays in disbursement frustrated most farmers who initiated the process and only a few actually received loans (approximately 20).

After extensive engagement with other financial institutions, it was clear that the VIP Jamaica's target group of most vulnerable, low-income individuals, who the program was trying to pull out of poverty through enterprise, would not get the financing they required to start a business. After months of negotiations and discussions, the team made the decision to provide grants to fund new start-ups. The team conducted additional screening and attached firm commitment procedures to grant recipients.

The change in the financial intervention occurred approximately five months after implementation began. In that time, VIP Jamaica negotiated with five separate financial institutions and micro-lenders, but only managed to attract one willing lender, who took several months to screen and disburse loans to a limited number of farmers. In the interim, the program actively sought alternative financing for farmers.

Concluding Lesson

In the course of implementing VIP Jamaica, the team confirmed that it was crucial to remain open to changes in the domestic and international environments and to be responsive to opportunities as they arose. In designing the programme development framework, the team set out a deliberate sequence of activities and interventions. It was imperative to engage new participants in the value chain, especially drawn from the target community of young males in inner-city communities. As a consequence, VIP Jamaica worked closely with its social partner, Area Youth Foundation, to make a series of presentations in the communities to familiarize them with the profitable entrepreneurial opportunity available in raising ornamental fish.

Following the seeming logical sequence of interventions, the next set of activities focused on developing and strengthening linkages in the domestic Kingston market. As a result of the mobilization initiatives, the program stimulated an immediate demand for new farming operations. The mobilization strategy implemented by VIP Jamaica inadvertently raised expectations that it was not ready to satisfy. In order not to feed into the communities' views that outsiders often come in with promises that they do not keep, VIP Jamaica changed tactics and stopped the mobilisation activities to pay attention to cluster development and farm establishment. VIP Jamaica chose to be flexible, even when it meant varying its carefully planned sequence of interventions and causal chains.