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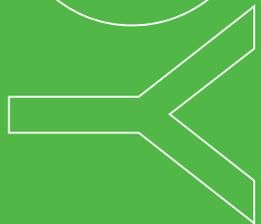
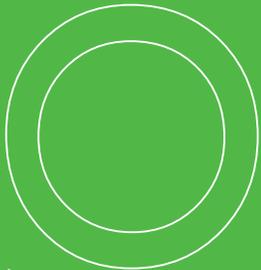
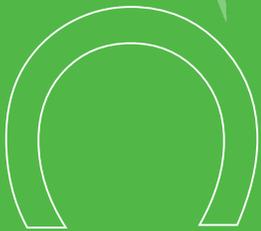
No. 3

**Producer-led
value chain analysis:
The missing link in
value chain development**

**A tool for effective engagement
of small producers**

**Yogesh Ghore
March, 2015**

**INNOVATIVE
PRACTICE**



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It has been an extremely rewarding experience for me to work on the development of these tools. I am fully aware that there is a lot more that can be done to capture the rich knowledge and the complexity of livelihoods at the local community level. The reader is invited to take this paper as a work in progress and to contribute towards the enhancement of the tools. I sincerely hope that this paper will trigger interest in finding ways through which the two practices of *community development* and *market development* can work together, and find ways to make the process and solutions community-led.

This work contributes to a collaborative effort at the Coady Institute to promote sustainable livelihoods and markets. I thank my colleagues—Gord Cunningham, Brianne Peters and Alison Mathie—as well as our donors, the Department of Foreign Affairs, Trade and Development (DFATD) and the Comart Foundation, for their support in the testing of this tool, and the writing of this paper.

Yogesh Ghore, March 2015

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Introduction and rationale

The concept of a value chain is increasingly being applied in the design and implementation of development programs aimed at poverty reduction. As an analytical tool, it provides a useful framework for understanding key activities, relationships, and mechanisms that allow producers, processors, buyers, sellers, and consumers—separated by time and space—to gradually add value to products and services as they pass from one link of the chain to another, making it a “value chain” (UNIDO, 2009). While it has been popular in the private sector ever since it was conceptualized by Michael Porter in the 1980s, more recently various donors and governments have shown interest in its use and have applied it to a range of development interventions, particularly in the area of sector development, livelihoods promotion, small and medium enterprise (SME) development, and rural and economic development.

Academics and development organizations have designed numerous instruments for value chain analysis (VCA) and implementation. Beginning in the early 2000s, international organizations and donor agencies have sponsored the development of these tools, including the United States Agency for International Development (USAID) Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), the World Bank, the International Finance Corporation (IFC), and the International Labour Organization (ILO). These guides and tools have been used in many development programs to address organizational, donor and local and regional priorities for development.

While VCA guides and tools are important in understanding markets and relationships among key stakeholders, a recent comparative review of popularly used guides by Donovan et al. (2013) suggests that most of these guides are designed to be implemented independently of the local context and do not sufficiently focus on mutual learning, whether related to tool design or to the outcomes and impacts of the designed project activities. VCA is often conducted by external experts and the knowledge generated in the process is often confined to reports. Without the capacity building and effective participation of women and men producers—smallholder farmers who hold critical knowledge about the local context—an important link is missing in the entire process of VCA. The insufficient attention to the human, social, and other contextual factors undermines the full potential of the value chain systems approach, not only for economic outcomes, but for the long term sustainability of the intended benefits.

So what are the ways to effectively engage producers in the community in the VCA? The producer-led process described here tries to address this basic question. It introduces simplified tools and an approach that ensures farmer participation in data collection, analysis, and identification of opportunities and constraints, and design of value chain interventions. This participation requires: a) an environment in which they feel comfortable to share their knowledge and insights, which is often not the case when extractive surveys and questionnaires are administered to collect information; and b) the use of simple and participatory tools that will allow them to provide inputs into the process of VCA and also help them to understand complex value chain systems and use this understanding for making livelihood decisions. The key steps and tools described are aimed at empowering the women and men farmers to make informed decisions about their own enterprises and how they relate to the value chain, thereby directly contributing to, and influencing, the overall process of value chain development. The process of VCA involving these steps and tools was developed at Coady Institute and first tested with Oxfam Canada and its local partners in Ethiopia in August 2012.

Producer-led value chain analysis

Producer-led VCA draws on the Coady Institute's and Oxfam Canada's 10-year partnership in the area of asset-based and citizen-led development (ABCD). At the heart of the ABCD approach is the recognition that communities have assets (human, social, natural, physical, and financial) and capacities that can be mobilized for collective action, often to respond to or create local economic opportunities (Mathie and Cunningham, 2003). Producer-led VCA builds on the foundation of ABCD, where the communities have identified local assets and are ready to invest in economic opportunities. A producer-led process for VCA includes three key objectives, outlined below.

Identification of local assets and opportunities in local markets

The producer-led process starts by looking at the livelihood assets at the household and community levels. It helps identify local markets, both for selling the products as well as for accessing inputs and support services. It then identifies opportunities and challenges in these markets from the perspective of the farmers. The process also helps identify different actors and market channels, and obtains information regarding the availability and affordability of different inputs and services. The producer-led process focuses on the micro-level data collection and analysis, looking at the local opportunities and bottlenecks in the "last-mile" of the value chain.

Education and empowerment of producers and other stakeholders

The process provides smallholder producers with the tools to understand their individual and group situation within the market chain. It challenges them to think beyond their farm or enterprise and look at the flow of the product as it moves from one actor to another and travels to different markets. The process helps them understand the concept of "value addition". When the tools were first piloted with farmers in Ethiopia, for example, the VCA led to discussions about improving sorting and packaging practices so producers could negotiate a better price from the intermediary brokers. Joint market explorations and stakeholder discussions foster a dialogue between different value chain actors, which helps them appreciate each other's role in the value chain, as well as understand the risks, rewards, and trade-offs of participating in a value chain.

Increased local ownership and sustainability of the development initiatives

The outcomes of the process include a list of activities that can be taken up at the individual, group, community, or broader levels. Since these activities are identified after careful consideration of the local context and proposed by farmers themselves, the process helps foster greater local ownership and accountability.

Scope of the process

The proposed producer-led process is not intended to replace the existing and more comprehensive guides on VCA. Rather, it complements them by offering a practical way to work with producers. The step-by-step model and adaptable tools allow community participation throughout the VCA process, right from data collection and analysis to the design and implementation of development programs. The process begins at the community level and the markets are explored starting with the immediate local ones. The process is highly sensitive to local circumstances, and is, in its very essence, "producer-led", and therefore the tools must be adapted for each community according to its specific context and the nature of the value chain.

Key steps and tools

Simply stated, producer-led VCA is a participatory research process in which facilitators (such as NGO staff) engage with community members in jointly investigating market opportunities and challenges. The process takes place in a village setting where a representative group of farmers and entrepreneurs is chosen by the community to carry out a VCA. Facilitators help community members demystify the technical terms and introduce the ideas in a language that they understand. Facilitators also see to it that the selected farmers and entrepreneurs take the lead in mapping markets and provide the critical information and knowledge on their role in the value chain, together with the opportunities and challenges they are facing. Facilitators prepare the farmers and entrepreneurs to ask the right questions of other value chain actors and think critically about their current situation in the value chain and any activities they may want to take up to improve that situation. The process involves nine steps:

1. Generating a Leaky Bucket to analyze the local economy;
2. Selecting a product for VCA: The Product Bucket;
3. Mapping agricultural inputs and services for the identified product;
4. Market mapping for inputs and services;
5. Mapping for output markets;
6. Field investigations of different market channels and actors;
7. Generating a simplified value chain map;
8. Identification and analysis of opportunities and constraints in the value chain;
9. Identification of potential solutions and activities to respond to opportunities and constraints.



Figure 1: Community workshop at Abine Germame, Ethiopia, August 2012

Market mapping and other participatory tools used here build on the earlier work done by Practical Action on market mapping (Albu and Griffith, 2005); the Gender Action Learning System (GALS) by Linda Mayoux (2010); and the Participatory Market Chain Analysis for Smallholder Producers by the International Center for Tropical Agriculture (Lundy et al., 2007). The key feature that differentiates the producer-led process from these is the introduction of the “Leaky Bucket” in the VCA. The Leaky Bucket is a popular economic analysis tool that helps to demystify the local economy by allowing producers to visually see the ways that money is coming into, and leaking from, households. The tool has been adapted for the VCA process to help producers analyze the cost of production of specific products as well as the revenue generated from these products from different markets.

This section on the following pages of the nine steps are described in detail. The entire process was tested for the first time in Ethiopia under Oxfam Canada’s Agriculture Market and Growth project in 2012. This project, funded by the Department of Foreign Affairs, Trade and Development Canada (DFATD), was aimed at linking an asset-based citizen-led development approach with value chain development to enhance income of smallholder farmers, particularly women, and agro-pastoralists. The project was implemented in Oromiya and Southern Nations Nationalities and Peoples’ Regions, where it focused on three value chains: vegetables (tomatoes and onions), *bulla* (a traditional Ethiopian food product obtained from the *enset* plant), and aloe. The proposed nine-step model was tested for all three value chains, and the examples from the field testing are used here to explain each step.

Step 1: Generating a Leaky Bucket to analyze the local economy

The first step is to generate understanding about the main flows of money into and out of the community. The Leaky Bucket is a popular economic literacy tool that helps communities at the grassroots better understand their local economy (Cunningham, 2011). The bucket represents the local economy with income pouring in from the outside (inflows such as the sale of goods and services, remittances, government assistance) and external spending spilling out of holes in the bottom (typical outflows include expenditures on farm inputs and other goods and services). The thickness of the arrows represents the relative magnitude of the flows of money.

The Leaky Bucket should be generated by community members themselves. The facilitator’s role is to ensure that everyone is able to participate in the process and that the arrows representing the major inflows and outflows have an appropriate thickness relative to one another. Figure 2 illustrates the results of a Leaky Bucket exercise at Abine Germame community near Ziway town, Ethiopia.

The following activities were identified as earning cash income (inflows): Sale of vegetables (onions, tomatoes, and other vegetables— the biggest arrow); sale of other crops; sale of vegetable seedlings; petty trade; animal husbandry; and wage labour.

The expenditures (outflows) included: Food; agricultural inputs; household furniture; transportation; medical expenses; and educational expenses.

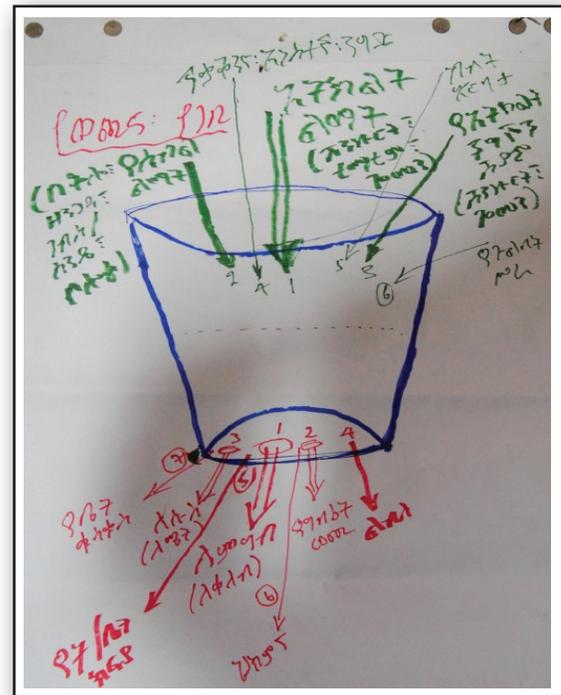


Figure 2: Community Leaky Bucket

Expected outputs from Step 1:

- The identification of major flows of money into and out of the community and their relative significance;
- Approximate value of major inflows and outflows¹.

The Community Leaky Bucket allows producers to physically see how money enters and leaves their households. The next step galvanizes them to do some deeper analysis on potential local economic opportunities.

Step 2: Selecting a product for VCA: The Product Bucket

After constructing the Community Leaky Bucket, community members can see where they are losing money and where they are making it. Based on their existing knowledge of the income-generating activities (products and services that bring income to the community) and markets, participants highlight key activities that have the potential to further increase their income. Quite often in this process community members spot previously unnoticed opportunities; therefore, the next step in the VCA process involves careful selection of a product that has the potential to increase the income of small-holders. The selection should be done by the farmers and should take into account criteria such as availability of land, labour, capital, inputs for production, involvement and impact on women, impact on local food security, access to markets and demand patterns in different markets, potential for local employment, and impact on the local environment, etc.

Once the farmers have identified a product (or a potential list of products), the facilitator asks the farmers to draw a bucket for one of the identified products. This is called the “Product Bucket”. Figure 3 is an illustration of a Product Bucket for onions.



Figure 3: Product Bucket for onions

¹ Leaky Bucket diagrams can also be produced for individual households and enterprises within the community

Expected outputs from Step 2:

- Identification of a potential product(s) with the potential to increase income.

Now that the group has selected a product for deeper analysis, it can then move on to examining the cost of production and potential revenue streams associated with it.

Step 3: Mapping agricultural inputs and services for the identified product

The Product Bucket is the starting point for creating a Leaky Bucket for identifying income and expenditures related to that product. This begins in Step 3 with investigating what agricultural inputs (seeds, fertilizers, etc.) and services (finance, extension, etc.) are required to grow that product. The facilitator asks the farmers to draw all the expenditures (outflows) required for inputs and services. For example, Figure 4 illustrates the various expenditures involved in growing onions on a small plot of 0.25 hectare, including the costs for seeds, fertilizers, chemicals, fuel, and labour.

The information on the expenditures (outflows) needs to come from the farmers. Therefore, the process should be such that they are comfortable drawing the diagram of expenses on their own. The roles and responsibilities of men and women can also be indicated for each type of outflow to ensure that the gender dimensions of local production and participation in the value chain are understood and discussed. For instance, in the communities where the VCA process was piloted, most of the hands-on farm work producing onions was done by women, as indicated by two female figures versus one male, as shown in Figure 4. However, women in these communities did not go to the agro-retailers and hence did not have much information regarding the cost of agricultural inputs such as fertilizers or pesticides. Another factor that needs discussion is the costing of labour. Often local farmers did not consider their own work on the farm as an expense because no cash was exchanged. They only considered labour as an expense when they had to employ people from the outside and pay them. Costing the unpaid time spent on various activities is an important concept to discuss during this step.

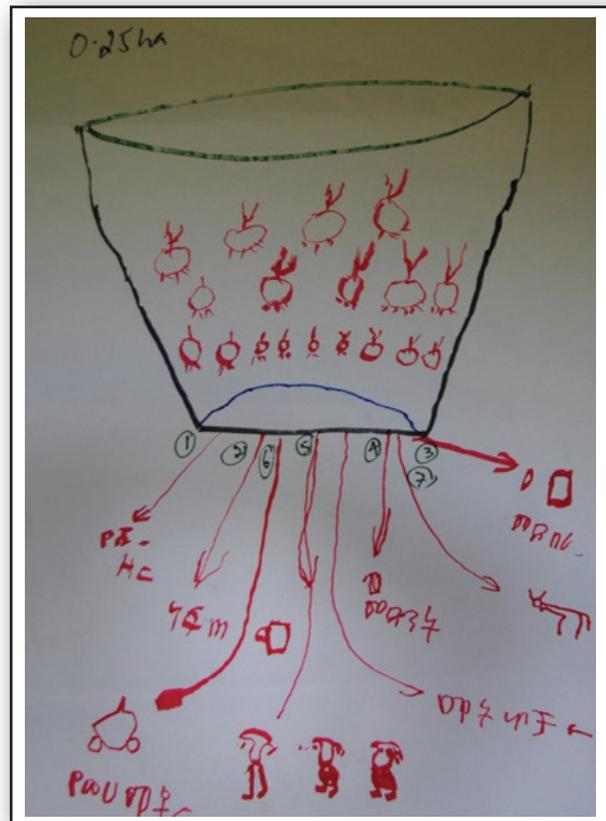


Figure 4: Mapping agricultural inputs and services for onion production (broken down by gender)

Each arrow coming out of the bucket represents an expense for growing the product. These expenses can then be converted into a table (Table 1), which can be filled in by a community member with the help of the facilitator. Note that drawings can be used instead of words in the table, depending on the literacy levels of the producers involved.

Table 1: Calculating the cost of inputs and services for onion production *

	Agricultural inputs	Quantity	Unit price in ETB	Total cost in ETB	Paid	Value of unpaid family labour
1	Seed (kg)	6	280	1680	1680	
2	Fuel (litres)	140	19.2	2700	2700	
3	Fertilizer: Diammonium phosphate (DAP)	1.5	2600	1300	1300	
4	Fertilizer: Urea (kg)	1	1000	1000	1000	
5	Other chemicals			2300	2300	
6	Oxen power (days)	7	182	1275	1275	
7	Daily labour (person days) for:					
	- Land preparation and planting	10	30	300	150	150
	- application of fertilizers and chemicals	10	30	300		300
	- Weeding and crop management	46	30	1380	600	780
	- Crop protection	30	30	900		900
	- Harvesting	26	30	780		780
	- Outside labour for harvesting	42	30	1260	1260	
	- Irrigation			200		200
	- Transportation from farm gate to road side			300	300	
8	Other costs as indicated by arrows going out of the bucket					
	- maintenance cost for irrigation pump			300	300	
	- other					
	Total cost for 0.25 hectare			15,975	12,865	3110

*Note: This is an illustrative example of organizing the information on the cost of production collected during the first piloting of the tools in Ethiopia in August 2012.

Expected outputs from Step 3:

- Farm level information on major inputs required for crop production;
- Gender breakdown of different crop production activities, including on-farm and off-farm work;
- Identification of major expenses involved in growing the crop;
- Identification of major expenses involved in accessing different markets.

Examining the costs of the inputs and services required to produce the selected product is the first step to understanding whether the selected activity will be profitable. In addition to understanding costs, it is also important to map out the existing relationships with actors who provide important inputs and services.

Step 4: Market mapping for inputs and services

While Step 3 focuses on finding what agricultural inputs and services are required to grow the crop, Step 4 involves examining where these inputs originate. The farmers are asked where they buy each of the inputs, picking one arrow at a time from the Product Bucket. A new sheet of paper is required to map the markets for agricultural inputs and services. These are places where the inputs and services are traded. These can be markets where the agro-dealers/retailers sell their agricultural inputs such as seeds, fertilizers, pesticides, agri-equipment, etc. It could also be other sources through which farmers access these inputs and services, such as farmers themselves selling or exchanging seeds and equipment, an occasional nursery grower in a nearby village, etc.

The Product Bucket drawn at Step 2 should be displayed at the top of this sheet (see Figure 5). The farmers draw lines from the outflowing arrows (representing the purchase of different inputs) at the bottom of the bucket towards the source of each of those inputs. For example, farmers may get the onion seed from different agro-retailers located in a nearby market, as indicated by four green arrows originating from the bottom left corner of Figure 5. The four arrows indicate that there are four agri-retailers who sell the onion seed.

The same process is used for different agricultural inputs such as fertilizer, chemicals, fuel for irrigation etc. Following a discussion among the farmers, a diagram similar to the one shown in Figure 5 should emerge.

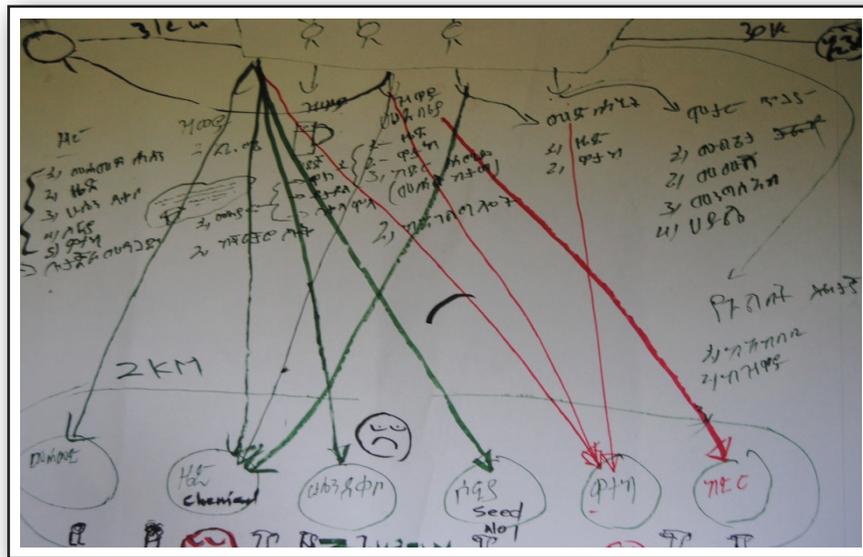


Figure 5: Mapping markets for inputs and services for onions

As Figure 5 shows, the farmers in this community obtain most of their agricultural inputs from the agri-retail shops at the nearby market (all these shops are located in the same town). There are six shops there that sell the inputs. Only two of these shops sell multiple inputs, while each of the other four sells only one input. The two shops that sell multiple inputs are indicated by three arrows pointing to each of them. The information regarding the quality of service received at each market can also be captured, as shown here with a smiley ☺ or sad ☹ face. While mapping different sources of inputs, key questions regarding access, availability, timeliness, affordability, quality, and choice of inputs may be asked. And, as with Step 3, data on the input markets can be gathered in a table format as shown in Table 2.

Table 2: Agricultural input sources and farmer preferences at Abine Germame, Ethiopia

Type of input	Source (within 2 km)	Preference
Onion seed	Alkawo shop Cebu shop Dibaba shop	Alkawo shop is preferred because of the reliability of supply and its reasonable price. It provides integrated services and has a knowledgeable salesperson, and carries a solid reputation.
Fertilizer	Alkawo shop Meskerem shop Biftu shop	Alkawo shop is preferred for the same reasons as indicated above followed by Meskerem shop.
Chemicals	Alkawo shop Meskerem shop	Farmers are more inclined to buy from Alkawo shop for the reasons indicated above.
Motor maintenance	Abdel garage Samuel garage Lemma garage Abebe garage	Farmers mostly prefer Abdel garage.
Labour (daily labourers)	Ziway or from the village itself	Farmers prefer to employ labour from outside their household for hoeing, planting, harvesting and transporting.
Fuel	Fuel station at Ziway and private retailers	Farmers prefer to buy from the fuel station, but when it experiences shortages they will buy from retailers at a higher price.

Note: The names of these shops have been changed.

While some information can be summarized in a table, other relevant information emerges when farmers discuss different input markets in groups. For instance, in Abine Germame, women contributed 75% of the labour involved in the production of onions. They contributed to the most labour-intensive activities such as planting, weeding, hoeing and transporting. However, it was the men in the household who were responsible for buying the inputs. This highlighted a critical information gap in the value chain where the women, who had the knowledge and information about the farm-level issues, were not directly connected with input dealers who could provide the solutions. Further, the men used the price of the input as the sole indicator of its quality: they considered that the higher the price the better the quality, instead of buying the right product required to address a particular issue such as crop disease, inadequate soil nutrients, etc. These discussions also revealed that only a few shopkeepers cautioned the farmers on the expiry dates before selling inputs, and as a result, many farmers who did not pay attention to this important point ended up buying expired inputs which did not give the desired results.

The information gathered from input market mapping and related discussions is very important for designing any activities that seek to address the issues related to inputs. For instance, farmers clearly indicate which shops they like and which ones they do not (and provide crucial details on the quality of service provided by each shop). This information can help in prioritization of the shops for training and investment purposes. Similarly, irrigation accounted for approximately 20% of the overall cost and any improvements in its efficiency would directly affect the productivity and profit for the farmers. As a result of this exercise at Ziway in Ethiopia, farmers calculated the loss due to rented (and bad quality) pipes, and decided to invest in new pipes. This resulted in reduction of irrigation costs by almost half.

Expected outputs from Step 4:

- Preliminary market map for inputs and services;
- List of key actors² (individuals, enterprises, institutions, intermediaries etc.) for the identified markets;
- Locations of and distances to different markets and farmers' preference for each;
- Assessment of each market with regard to the gap in market demand, volume traded, price, quality, credit supply etc.;
- Information on access, availability, quality, timeliness, affordability of various inputs and services;
- Information on the need and availability of credit.

Mapping the markets for inputs and services leads to detailed discussions about the characteristics of providers with whom farmers prefer to work, which is important knowledge when designing future activities. However, this is only half of the equation. At this point, it is useful to turn to mapping farmers' linkages with the markets to which they sell.

Step 5: Mapping for output markets

The next step in the process is to map the output markets where farmers sell their products. The step is graphically presented on a new sheet showing the top of the Product Bucket drawn at Step 3. The farmers need to draw different markets where they take the product for sale and their distance from the farm of origin. Arrows coming out of the top of the bucket represent the flow of the product to different markets.

As depicted in Figure 7, for the Ziway area farmers, the bulk of the onions produced were sold through the brokers (*Dalalas*), or "fat men". Over 75% of the onions followed this channel, which continued farther to markets in Addis Ababa, Dire Dawa, Buta Jira, Hosana, and Southern Ethiopia. The second most important channel was represented by roadside retailers, who bought onions from the farmers and sold them directly to consumers on a busy national highway. Nearly 15% of the overall amount of onions produced in the area passed through these roadside retailers. The third most important channel was through farmers bringing their onions to nearby towns and selling them to small traders there.

As the farmers plot different markets, more questions can be raised for them to discuss such as: the distance from output markets; quality and quantity requirements of different types of buyers; prices

² Market actors are individuals and/or institutions that add value to the product as it moves from producers to consumers. These include producers, processors, traders, brokers, wholesalers, retailers, input suppliers, cooperatives, unions etc.

offered; various actors involved; their margins, and so on. A gender breakdown can also be explored to understand the role of men and women in accessing different markets. For instance, the mapping of output markets in Ziway revealed that men make most of the trading-related decisions and have direct relationships with the brokers and traders. Women did not show up at the output markets, except as roadside retailers.

The information collected during this step can be summarized as follows:

Table 3: Community market ranking

Market	Market: Farm Gate sales through brokers	Market 2: Road side retailers directly selling to consumers
Market frequency	Daily but seasonal	Daily
Price of onions per kg in Ethiopian Birr	Min: 5 Max: 10 Ave: 7 - 8	4 - 12 depending on the quality
Threshold requirements in terms of max/min quantity	Min: 10 quintals	Min: 2 quintals
Quality requirements	High	Low (not rigid)
Key barriers to market entry	Higher quality and quantity requirements	None
Other issues as identified by producers in the community	High broker fee Lack of negotiating power with the producers	Farmers cannot sell in bulk Farmers incur costs in grading, transportation and selling
Ranking by overall importance	First preference because the buyers pick up the produce at the farm gate and buy in bulk	Least preferred because it does not give farmers income in bulk Farmers suffer losses due to low demand and perishability of the product

Note: this data was compiled during the first pilot testing in Aug 2012.

Expected outputs for Step 5:

- Preliminary output market map for the identified product;
- List of key actors in the identified markets;
- List of key issues related to each market;
- Market ranking by volume, price, distance, and other criteria for choosing which market to go to;
- Identification of product volumes going to each market;
- Identification of prices offered by each market;
- Identification of quality and quantity requirements of different markets.

As in Step 4, mapping markets leads to important discussions about the characteristics of ideal relationships with market actors, and helps farmers think about actions they could undertake to improve relationships. Mapping markets also allows farmers to look beyond their own immediate sales to have a broader understanding of the role of other value chain actors located farther down the chain whom they may not have considered before.

Step 6: Field investigations of different market channels and actors

Once all the information has been collected at the local level, the next step is to visit the market actors that appear on the maps of input, services and output markets. The purpose of these market visits is twofold. First, the farmers visit different markets: those where they normally sell their products and those where they seldom go (or have never been) but where their products are sold through brokers and other intermediaries. These visits provide the farmers and the facilitators with an opportunity to experience the markets and interact with different market actors in person. Second, they help initiate a dialogue between the farmers and market actors and involve the latter in collecting crucial information regarding their role in the value chain, and understanding various opportunities and constraints at work in the market system. The farmers, together with the facilitators, engage in discussing key questions with the market actors that leads to appreciating each other's role in the value chain—a key aspect in finding win-win solutions.

Depending on the number of markets identified during Steps 4 and 5, farmers might have to be divided into several groups to visit different markets. At least one facilitator should accompany each group. A list of key questions should be prepared by each team in advance for discussion with market actors.



Figure 6: Women farmers and NGO staff interacting with the agri-retailer

Market visits also help verify some of the information collected during the previous steps. Through direct interaction with the market actors, information on product volumes, quality, and prices, as well as other aspects of the value chain can be cross-checked. The team interacting with market actors should carry the preliminary maps of the market (made in the previous steps) and let the market actors validate the information it presents. Market actors may also add new information on the value chain such as onward markets where they sell, actors in those markets, new channels, and so forth. For instance, the brokers who bought onions from the farmers at Ziway sold these onions to six different wholesalers and shared important information on the quantity and quality demanded, terms of trade, and so on.

Some of the information obtained while visiting different markets might be similar to what was indicated by the farmers, but some of it might also contradict the farmers' accounts. For example, the

following presents some of the issues that emerged during the farmers' conversations with agricultural input shop owners in Ziway.

According to input suppliers:

- Farmers buy inputs without explaining their purpose in using them.
- Good quality seeds cost more, but farmers prefer to buy cheaper products.
- Farmers only purchase what they know; they are cautious about new types of chemical inputs and improved seed.
- None of the input suppliers have any formal agricultural training.
- None of the shops sell inputs on credit.

It was interesting to observe the contradictory perspectives of farmers and input suppliers on the issue of quality. Farmers said that they wanted quality inputs and were ready to pay a premium for higher quality, while input suppliers observed that farmers always preferred cheap inputs. Farmers believed that input suppliers did not provide quality inputs, whereas input suppliers maintained that farmers did not have adequate skills to use the inputs correctly. A direct interaction between the farmers and the market actors gets to the heart of some of these issues.

For instance, when farmers pay a higher price for seeds, they expect better results in terms of productivity, germination, etc. However, good quality seed is just one factor for getting higher productivity; the other factors include soil type and quality, preparation of the field, sowing method, weather and climate, application of fertilizers and chemicals, irrigation, crop management, harvesting, and cropping sequence, etc. In other words, the farmers need to apply a scientific "package of practice" (POP), which includes recommendations on the above factors and can be developed for a particular area. Now if farmers only get the seeds and do not follow a standard POP, they are less likely to get higher productivity and will ultimately blame it on the seed quality. This leads to a lack of trust between the input supplier and the farmers as they both hold each other accountable for the loss.

During the field investigations in Ziway, the discussion between the farmers and input suppliers identified the gaps in four key areas:

- Access to information and extension services: Farmers need access to knowledge and information on different aspects of the POP during different stages of the crop cycle and a reliable extension service (public and/or private).
- Training and capacity building of the input suppliers: The discussions revealed that farmers rely on the input suppliers for advice on POP, and in most cases the input supplier (shop owner as well as the operator) did not have adequate knowledge to provide this service to the farmers. Therefore, training input suppliers would help in bridging the knowledge and information gap.
- Timely availability of the inputs in the local shops: During the market investigations it was observed that the inputs were not always available during the planting season and the farmers had to struggle to find the product they needed. Increasing the number of shops and other sources of inputs, such as unions and cooperatives, is required, as well as ensuring adequate supplies to them.
- Access to credit: Farmers need access to credit to buy the inputs. Access to affordable credit was identified as a significant gap by the farmers.

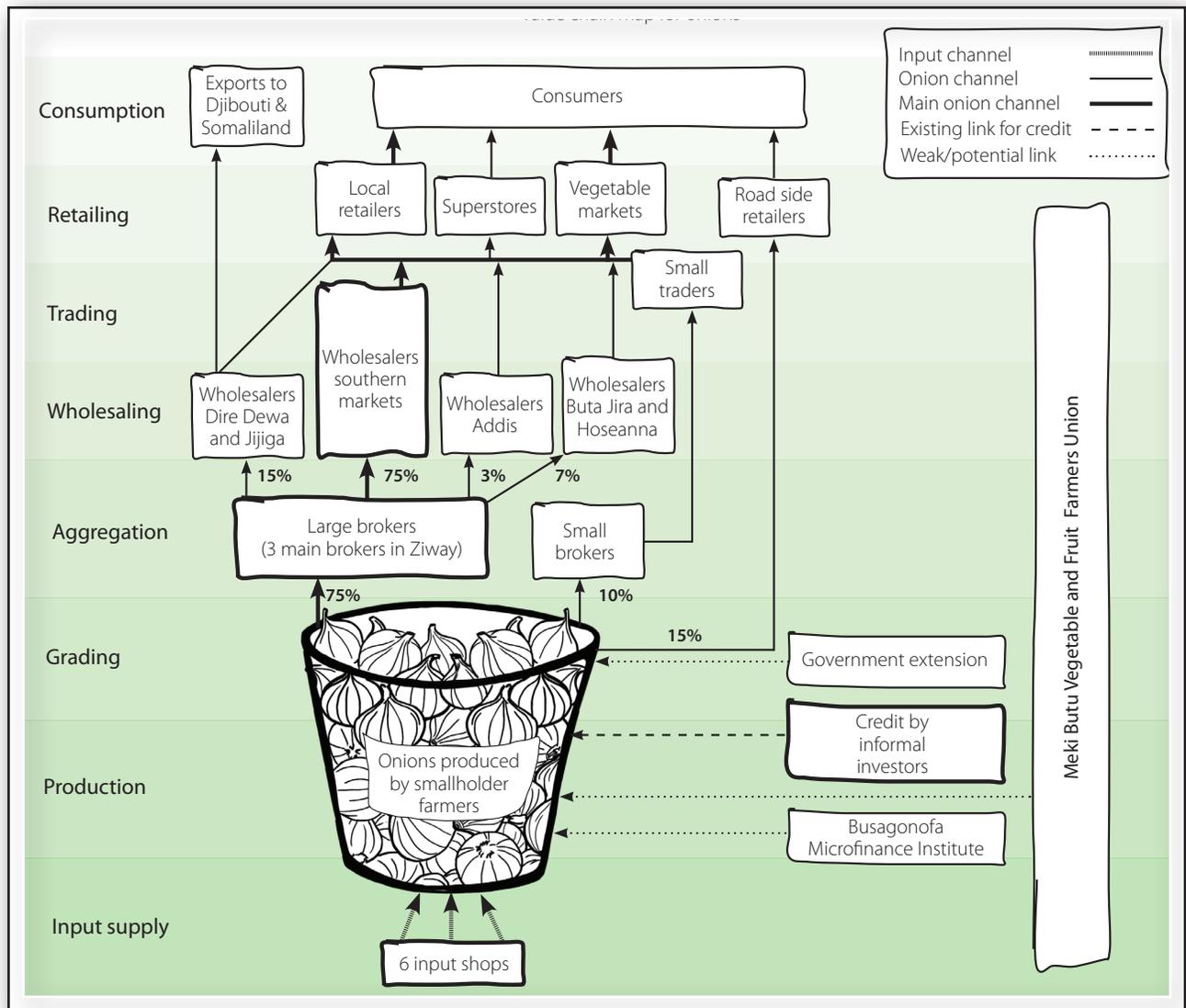


Figure 8: Value chain map for onions

Expected output from Step 7:

- Value chain map indicating key functions, actors, major market channels, and support actors.

By mapping the value chain of the selected product, farmers are better able to visualize the relative position of different markets, both for accessing inputs and services as well as for selling the final output. They also visualize different players in the market system and the function they perform, as in the type of value they add to the product. While mapping the value chain, producers begin to think about the opportunities and constraints at different levels in the value chain, starting with access to inputs and services, production, and finally access to different markets. The next step involves analysis of such opportunities and constraints.

Step 8: Identification and analysis of opportunities and constraints in the value chain

The group's next step in the process is to carry out participatory identification of opportunities and constraints in the value chain. This can be done on the basis of the preceding mapping exercises, field investigations, focus group discussions, and farmers' interactions with the key actors and stakeholders in the value chain. Its purpose is to critically examine the value chain and identify the major opportunities that can be tapped locally to enhance the return for the farmers, and to improve the transparency, information flow, and efficiency of the chain.

This step also includes the identification of major bottlenecks and constraints in the value chain by the producers and other value chain actors with whom they interact. The constraints may relate to the availability of infrastructure; access to credit, services, and markets; and so on. All the opportunities and constraints identified should be listed on a flip chart and categorized according to different parts of the value chain (for input supplies, crop production, aggregation, trading, support services, etc.).

It is important to remember that the opportunities and constraints identified are local and may not include the entire value chain, which may extend far beyond the markets visited by the farmers. However, this kind of local analysis could directly feed into the macro-level analysis of the value chain, led by donors, governments and the private sector experts.

Expected outputs from Step 8:

- Identification of key opportunities and constraints in the value chain for: input/services markets; crop production output markets; support actors and institutions.

After thoroughly analyzing opportunities and constraints, farmers begin to identify areas of improvement. These improvements may range from primary processing, such as grading of the product which can be taken up at the household level, to setting up an agro-processing plant which may require further assessments and mobilization of external resources. The final step, described next, identifies activities that can be taken up by the producers and other stakeholders to improve the efficiency of the value chain.

Step 9: Identification of potential solutions and activities to respond to opportunities and constraints

The purpose of the final step is to identify opportunities that can be taken up locally (either with or without external support) and address some of the identified constraints. The potential activities are drawn from the list of opportunities and constraints generated during Step 8.

These activities are then divided into two broad categories: "Low-hanging fruit", or activities that community members can take up quickly without much outside support and "Projects", or activities that require support from outside agencies.

For the onion value chain in Abine Germame, the "low-hanging fruit" represents ways farmers could improve on their farming practices at the individual level, and how they could collaborate with each other to be more effective in onion production and optimize the use of existing land and water resources. It included collective action by farmers to aggregate demand for inputs and services and

jointly procure them as group, access irrigation equipment and increase the efficiency in water utilization, and access to training on package of practices. It also included joint selection of crops at the group level to optimize the use of available land. Promoting savings at the individual and group level, and joining the cooperative union were the other “low hanging fruits” identified by the farmers.

The “projects” are activities which require support and/or collaboration with external agencies, such as the government, private sector, non-profits, academic and research institutions, etc. Such activities identified in Abine Germame included research and access to package of practices for different crops, training of farmers on this, training of input dealers (both owners and operators) and other market actors on technical aspects as well as on customer relations. Other activities included developing linkages with credit providers, and strengthening of the cooperative board committee and members’ capacity.

Strengthening market linkages and conducting additional market assessments beyond what was covered during the producer-led process were other activities identified by the farmers where they sought support from external agencies.

Expected outputs from Step 9:

- List of potential activities with clear roles for community members and NGOs;
- Community recommendations for value chain improvements.

Providing the space for farmers to decide what they can do for themselves and what help they need from outside agencies allows them to take control of their own activities. It also allows them to effectively contribute to the broader process of value chain analysis led by development agencies.

Results of a value chain pilot project in Ethiopia

The process described above was first tested with Oxfam Canada for three value chains in Ethiopia in August 2012. The author then visited participating communities in August 2013, and an evaluation exercise was conducted with these communities. Value chain actors revealed that the tools appeared to contribute to the following results:

An increase in farmer awareness and understanding of the “value chain”

With the increased knowledge of input and output markets, farmers obtained a better understanding of their own role in the value chain and the importance of product quality, value addition, aggregation, and relationship building. As a result, they raised more questions with the intermediaries, and demanded more transparency and fairness in their dealings with them.

For example, the brokers (the immediate intermediaries with whom farmers deal) reported buying three new weighing machines that correctly measure the weight of the produce because farmers had suspected they were being cheated on the weight. The purchase of the new weighing machines was the result of farmers’ interaction with the wholesalers during the field investigations and their dialogue with the brokers and traders during the VCA process. With the additional power of information on price and quality acquired through the wholesalers, the farmers were better equipped for negotiations and for finding a win-win solution.

Changes in attitude and practices

The producer-led VCA process revealed how profit made on the vegetable sales gets divided between the investor and the farmer. The bold, dashed line on the value chain map (Figure 8) indicated that the bulk of the credit was provided by informal investors on a very high interest rate. An “Aha” moment occurred when the annual interest rate was calculated on a three-month loan (that the farmers get from the investors to purchase agricultural inputs) at a whopping 250%. This made a huge impact on the farmers.

While credit still remained an issue not only for the Abine Germame community, but also for the Ziway area in general, the project staff established links with a local microfinance institution (shown as a dotted weak link in Figure 8) which extended credit. Some farmers reported selling cattle (as the cattle prices went up sharply that year) and investing the profit into vegetable cultivation. Since they did not have to share the profit with an “investor”, their margins increased significantly.

Another indication of a change in attitude in Abine Germame was the use of a scientific ‘package of practice’ (POP) for crop production. Through a partnership with a government research institute, the farmers adopted a POP for onion and tomato cultivation. This package included recommendations on climate and soil, field preparation, seed selection, seed treatment, nursery management, planting method, weeding, hoeing, pruning, topping, irrigation, insect and disease management, application techniques and dosage for fertilizers and chemicals, harvesting and post-harvest processes, cropping sequence, etc. The POP suggested for onions for an area of 0.25 hectare claimed to reduce the cultivation cost by almost 40%. This enabled the farmers involved in the project to reduce their overall expenses for the production of these vegetables. This is significant given that the prices for some of the agricultural inputs in the area increased sharply during the previous year.

The gender mapping helped producers appreciate the role of women in the value chain and their participation in the market system. The mapping also led to discussions about the gendered division of labour. In Abine Germame, these discussions led to more participation by women in the procurement of inputs, which, traditionally, had been the role of men. The POP training also benefitted women in terms of productivity enhancements in the cultivation of onions and other labour-intensive vegetables, since women were mostly responsible for cultivation.

Trust and relationship building

Producer-led VCA maps the key actors in the value chain and helps start a dialogue between them. For example, a partnership was established between the vegetable union and the farmers’ cooperative at Abine Germame. For the first time, the union provided inputs to the cooperative. Similarly, one input shop supplied the seeds and chemicals, as recommended by the POP. Due to an increase in sales, the shop owner at Ziway even employed a person to provide extension support to her clients. The initial dialogue started during the VCA process became the basis for a long-term relationship among the value chain actors and stakeholders.

Local ownership

Producer-led VCA appears to help build local ownership of the activities undertaken. For instance, the farmers’ collective at Abine Germame mobilized 27,000 Birr (\$1,500) to get PVC pipes for the canal that supplies water for irrigation. This resulted in the reduction of irrigation costs by more than 100%, leading to further reductions in vegetable cultivation costs. Similarly, another farmers’ cooperative that also undertook a producer-led VCA in Borona Zone harvested and sold their non-timber forest products collectively to bargain for a higher price from the buyer.

Conclusion

While the existing guides on VCA are useful in understanding the key processes and relationships among various actors in the market system, the producer-led VCA focuses on micro-level data collection and analysis by producers themselves. By using participatory tools, this process provides smallholder farmers with the skills and tools to assess their individual and group situation within the market chain. It challenges farmers to assess a range of issues beyond their own enterprise and examine the ease or difficulty with which a product moves from one actor to another as it travels to different markets.

The results from the first pilot project at Ethiopia show that the process contributes to four critical outcomes of value chain development. The first is increased producer awareness and understanding of the producers' own role in the value chain and the importance of product quality, value addition, aggregation, and relationship building. This capacity building element of producer-led VCA sets it apart from other types, and in this case, led to better uptake of activities to improve the position of farmers in the value chain.

These changes in the attitudes and practices of producers and market actors are the second outcome that is critical to producer-led VCA. Shifts in thinking allowed for improved production methods, use of inputs, and calculation of labour and profit. An important consequence is a greater appreciation of the roles of women, not just at the farm-level but in the entire value chain. For example, the direct interactions between women producers and input dealers helped the latter understand the farm level issues better and offer information and advice on correct application of different agricultural inputs it sold. These improved practices often led to increased income for producers, or decisions to reallocate existing resources to be more efficient.

The joint market explorations and discussions between the producers and market actors led to increased trust and better relationships. These interactions helped in two ways: first, they highlighted opportunities in the local markets. For instance, the districts or *woreda* markets in Ethiopia presented greater opportunities in terms of a more robust demand, less stringent quality requirements, and competitive prices as compared to distant markets in the capital city of Addis Ababa or export markets. This is significant from the perspective of smallholder farmers as these local opportunities offer less risk, and allows them to first build relationships locally and gradually build the capacity to supply to higher value markets in future. Second, interactions between the producers and market actors help everyone appreciate each other's contributions and start the process of trust and relationship building, a critical goal in any value chain development initiative.

The final outcome, that of increased local ownership of the interventions, came about because producers and facilitators explored the issues together and combined forces to design and implement the value chain activities. Allowing producers to play such a decisive role in the design of project activities ensures that action plans are relevant and realistic in the local context. Thus the producer-led VCA empowers the smallholder producers to make informed decisions about their own enterprises related to the value chain, thereby directly informing and influencing the larger outcomes of value chain development.

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