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## **An introduction to agricultural value chains**

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### **Notes to broadcaster**

This broadcaster info doc is an introduction to agricultural value chains. It is not meant to be adapted for broadcast. Rather, it is written to help broadcasters understand how agricultural value chains work. It defines some key terms, gives some examples of agricultural value chains, discusses why it's important for farmers to think of themselves as part of an agricultural value chain, lists the potential benefits of agricultural value chains, and talks about different strategies farmers can follow to improve or "upgrade" their involvement with agricultural value chains. With a better understanding of how agricultural value chains work, broadcasters can better serve their farmer audiences.

These notes on agricultural value chains are written from the perspective of the small-scale farmer. As a broadcaster, your role is to present information about agricultural value chains and the potential benefits for small-scale farmers of improving their involvement with agricultural value chains. Radio can present agricultural value chain success stories, encourage discussion on how agricultural value chains can benefit farmers, and act as a source of information about agricultural value chains.

### **Introduction**

A value chain is not an object that you can see. Rather, a value chain is simply a useful way of understanding how the world of producing, buying and selling things works.

We are all part of value chains in one way or the other as producers, consumers of goods and services, processors, retailers, finance providers, etc. As consumers we all eat and we all wear clothes, and so we are linked to many value chains – chains of grain crops, roots and tubers, fruits and vegetables, legumes, oils, and textiles. These chains stretch from growers to our kitchens, eating tables, clothing, and beyond.

At one end of the agricultural value chain are the producers – the farmers who grow crops and raise animals. At the other end are the consumers who eat, drink, wear and use the final products. And in the middle are many thousands of men and women, and small and large businesses. Each person and each business performs one small step in the chain, and each adds value along the way – by growing, buying, selling, processing, transporting, storing, checking, and packaging.

Other people and other businesses have important roles supporting the chain. Banks provide loans; governments establish laws and policies, and agricultural research organizations develop ways for farmers to more successfully participate in value chains.

Radio stations also have an important supporting role. Radio can inform farmers about prices, value chain successes and innovations, opportunities for farmers to be involved in value

chains, and help farmers understand how value chains work. And radio can also help farmers engage more effectively in value chains. Radio forms part of the extension and advisory services that support agricultural value chains.

An agricultural value chain is defined as the people and activities that bring a basic agricultural product like maize or vegetables or cotton from obtaining inputs and production in the field to the consumer, through stages such as processing, packaging, and distribution.

The United States Agency for International Development defines a value chain as the “full range of activities that are required to bring a product or service from its conception to its end use, including all the market channels available to all firms.”

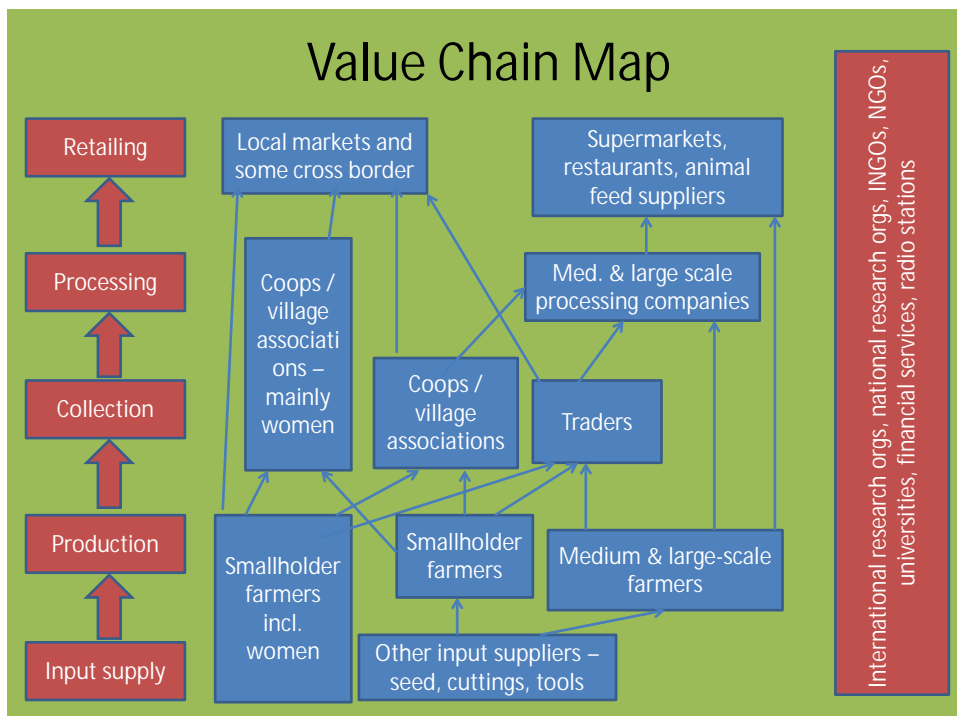
Even subsistence farmers are part of value chains. The vast majority of subsistence farmers grow some crops or raise some animals for sale. Even in the most remote areas, many subsistence farmers are connected to markets, and sell small amounts of their produce in local markets or to traders who visit the farm.

Really, value chains are all about human interactions. They are about linkages between people and businesses who transfer or exchange products, money, knowledge and information.

In an effective value chain, people at different stages of the chain actively support each other. When everyone in the chain supports everyone else, everyone does their job more efficiently, and everyone’s livelihood is improved. Each person in the chain shares the common goal of satisfying consumer needs in order to increase their own profits.

### **Examples of value chains**

Each value chain is unique, and contains a unique combination of “links.” In the Tanzania cassava value chain, for example (see the diagram below), you could say that the farmers who grow the cassava and the co-ops they belong to or sell to, the traders, the processing companies, and the various market players are the primary links in the value chain, in addition to consumers. But there are other important links. These include the shops and people who sell the farmer inputs such as fertilizer and agrochemicals to grow the cassava. There are also raw cassava wholesalers, transporters, and other players. Of course, all links are affected by the national and global policy environment.



On the left hand side of the diagram are the different stages (functions) of the cassava value chain in Tanzania. The first is input supply, then production, then collection, then processing and then retailing. In blue are the actors in the chain that are involved at each stage. In some cases, the same actor maybe involved in more than one stage. On the right hand side of the diagram are the institutions that help support the actors in the value chain. This is where radio stations fit in.

The diagram below shows how value is added at each link in three different value chains. In the yam value chain in Ghana, for example, the work that the travelling trader performs adds value so that the price the trader charges for a kilo (or tonne) of yams is 50% higher than the price she pays the farmer for the yams.

Next, the wholesaler adds value through activities such as packaging so that the price he charges the retailer is 13% higher than the price he pays the travelling trader. And the price the retailer charges the consumer is 18% higher than the price the retailer pays the wholesaler to offset the costs of services such as transportation. In the language of value chains, each person in the chain charges an “economic rent” at his or her stage of the chain.

### Yam value chain, Ghana



### Kaja Apple value chain, Pakistan



### Cocoa value chain, Ivory Coast



Actor

Value added\*

\*Value added = price received by actor – price paid by actor

Source: *World Economic Forum 2009*.

### **Why talk about agricultural value chains?**

Small-scale farmers in Africa and elsewhere in the world often say that receiving low prices for their produce is a major challenge. Typically, a farmer waits for traders to visit his farm. The trader offers a low price and won't buy the entire crop. The farmer is unhappy – her time and effort are not well-rewarded. She may blame the trader for her problems.

Farmers and traders often fight over prices. Farmers may cheat traders by putting low-quality produce at the bottom of crates, and traders may cheat farmers by using inaccurate weights and measures. There is often a lack of trust between the two. This results in the value chain not working as well as it could, which means worse outcomes for everyone.

The trader sells the farmer's produce to a processor, who supplies a wholesaler, who supplies a retailer, who supplies a consumer, with transport and other links in between. Each player in this chain adds value, and in return receives an economic return, usually called "economic rent." The amount each actor in the chain receives varies between different products and value chains. But the price the farmer receives for his raw goods is only a small fraction of the price paid by the consumer.

As individuals, small-scale farmers are often at a disadvantage in these kinds of value chains. Because many farmers grow crops or raise animals on an individual basis, they have little bargaining power. They have little or no influence on the price traders pay them for their produce, or the price they pay input suppliers for seeds, fertilizers, pesticides, etc.

Also, farmers often lack information about the market for their produce. For example, they may not know how much their produce is really worth, and how much more they could earn if, for example, they transported it to a nearby market rather than selling it to a trader. They may not know who the other players in the market are; they may not know what happens to their produce after they sell it; and they may not know what types of products consumers want. In many cases, the farmer is growing the wrong crop for the market. For all these reasons, it is difficult for African farmers to benefit fully from the value chains they are already involved in.

In part, farmers unknowingly contribute to their own problems. For example, a farmer might produce mangoes of all kinds. Some are large and healthy, others small and spotty. The farmer packs all her mangoes together in a crate. The trader doesn't know what quality to expect, so offers a low price.

To increase their income and capture more of the value ("economic rent") in the value chain, farmers need to "upgrade" their involvement in the value chain. There are many ways to do this. One step they must take is to become a "crop specialist." A crop specialist is a farmer who has improved his or her farming practices and is producing goods for the market in an efficient and productive way. For example, by using better farming practices, the farmer can

produce more mangoes – and higher quality mangoes. This satisfies both the buyer and the consumer. We will look at other ways of upgrading later in this info doc.

### **What are the benefits of taking a value chain approach?**

The value chain approach considers the role of existing chain actors, supporting actors, and the policy environment. It allows us to look at current challenges in a value chain, as well as the opportunities for improving the efficiency of the value chain and the benefits for everyone involved. From a farmer's perspective, being part of a well-functioning value chain can **bring greater income**.

Analyzing a value chain – identifying its challenges, weakness, and strengths – can help to **identify new income-generating opportunities**.

Sometimes, participating in a well- functioning value chain brings farmers not higher incomes or prices, but a **more stable and predictable income**.

Well-functioning markets and value chains can **attract young people to farming or persuade them not to leave rural areas** by offering better ways to earn money.

Participating in value chains can help a farmer **learn new skills** and **adopt improved practices**. Instead of piling vegetables in a crate and trucking them to a trader or market, farmers can earn more money by doing basic processing on the farm. Even cleaning and grading produce can make a difference. Washing and packaging lettuce or tomatoes and delivering them to a local store or supermarket can earn a higher price. Peeling and cutting fruit can be an effective way of getting into the growing market for ready-to-eat food products near urban areas.

### **Who benefits from value chains?**

Everyone who participates in a value chain adds value as the product moves from the beginning of the chain towards the consumer. In exchange for adding this value, all participants receive an economic rent. That is the main benefit or incentive for participating in a value chain.

The people most likely to benefit from value chains are entrepreneurial, have a willingness to communicate with people in different parts of the value chain, and have the farm and financial resources and the knowledge to develop new markets or participate more effectively in current markets.

Farmers who have little land, who are more remote from markets, who have fewer assets, who have language barriers, who have no irrigation, and who are not involved in effective farmer organizations may find it more challenging to benefit from a value chain.

### **The importance of farmer groups**

Farmers need to be well organized to compete in an increasingly demanding marketplace. Like becoming a crop specialist, joining a farmer organization is a necessary step for small-scale farmers who want to increase their income and capture more value in the value chain. Unlike individual farmers, farmer organizations have the resources to attract and build relationships with different links in the value chain, both locally and further afield.

Farmer organizations help individual farmers by combining the harvests of a number of producers, buying bulk inputs at lower prices on farmers' behalf, and giving farmers access to farm support services. By their sheer size, co-operatives have enough market power to raise the prices received by individual farmers and ensure that farmers receive a steadier, more secure income. Many farmer groups also include savings and loan schemes for their members. These schemes help farmers work with money, keep records, and learn financial skills that are essential to improve their businesses.

### **What role can radio broadcasters play in value chains?**

In a value chain, essentially three things flow: the product moves from producers to consumers, the money moves from consumers to producers, and the flow of information goes both ways.

Radio can act as an **information and knowledge broker**. This means that radio stations can pass on information about value chains to their listeners. Radio can help farmers understand the benefits of upgrading their involvement in the value chain. Radio can also pass along information about effective and innovative ways to be involved in value chains.

Radio can **advertise marketing opportunities or contract opportunities** that could help small-scale farmers.

Radio can **publicize success stories**, and **help farmers understand the benefits** of linking with other firms and businesses in the value chain.

Radio can also provide a way for different actors in the value chain to interact. One of the major challenges in value chains is the lack of dialogue and understanding between different actors. Radio offers the opportunity for farmers to discuss issues with processors, traders, policy makers, and other actors. This opportunity not only gives voice to farmers but also empowers them as key actors in the value chain.

It's important that broadcasters use appropriate language when talking about value chains. Talk to a few farmers in your audience. Find out the best words in the local language for "value chain" and "link" and other value chain terms. Choose words that convey the meaning accurately and which your audience understands.

As always, it's important not to talk down to farmers, either with your tone of voice or by using language that few in your audience understand. Before you make programs about value chains, make sure that you thoroughly understand what value chains are and how they can help farmers. If you do not understand fully, talk to extension agents, representatives of food industries, or others who can help you understand what value chains are, and how they operate in your listening area.

Broadcasters should find out all they can about local value chains. Find out who the players are in the dominant value chains in your listening communities. Talk to farmers and processors and retailers and others in the value chain. Find out what arrangements are working well, and what is not working well. By interviewing people involved with specific value chains on-air, broadcasters can pass along accurate information about these chains.

There are benefits to broadcasters from interacting with different links in the value chain. Connecting with processors, retailers, distributors, as well as farmers can help you diversify your advertising sources, and uncover new business possibilities for your station.

## **Upgrading**

For a farmer, upgrading means improving her farming and business skills in ways that allow her to capture more of the value in a value chain. Upgrading can help farmers find new practices, new partners and new ideas to get products to market. Or it can improve their activities in existing value chains. Upgrading can increase profits and it can reduce risks, or both.

There are many ways for a farmer to upgrade his involvement in a value chain. Following are four major upgrading strategies.

**Process upgrading:** For farmers, process upgrading means increasing yields or reducing the costs of producing a given volume of a crop, for example decreasing the total costs involved in growing and harvesting 100 kilos of cassava. Process upgrading includes improved farming practices – better planting techniques or planting materials, irrigation, better pest control or storage. It may also include better marketing and packaging. These practices can result in higher yields, more sales, or more food on the family table.

Process upgrading is about transforming farming inputs (labour, fertilizer, planting materials, pesticides, etc.) into farming outputs (crop yields) more efficiently. For the grower, this step has been called becoming a “crop specialist.” To capture more value in the value chain, farmers *must* become crop specialists. Radio can help provide farmers with the information needed to make them crop specialists.

**Horizontal coordination:** A second kind of upgrading is **horizontal coordination**.

Horizontal coordination is coordinating your activities with others who occupy the same stage of the chain, for example farmers collaborating with other farmers in producer groups or co-operatives. When farmers buy inputs together and sell their crops together, their costs go down and they have access to more markets.

Horizontal coordination makes individuals more creditworthy. This improves a farmer’s financial stability, allows her to make investments in equipment and other things, and gives her access to cash to buy *what* she needs *when* she needs it. This increases individual and household income, and increases food security because of greater spending on food.

Horizontal coordination can also help farmers enter markets which require certification, such as organic and fair trade markets, and can give farmers stronger negotiating power within a value chain.

**Vertical coordination:** A third type of upgrading is called **vertical coordination**. Vertical coordination involves moving away from one-time-only buyer-seller interactions and towards longer-term business relationships. For a farmer, vertical coordination means coordinating his activities with people and businesses at different stages of the value chain, for example, processors or supermarkets.

One type of vertical coordination is **contract farming**, in which a processor, retailer or exporter signs a contract with outgrower farmers to produce a certain volume of crops of a specific quality and by a specified deadline.

Vertical coordination usually involves a lead firm – often a large buyer or a supermarket – which coordinates actions all along the value chain. In vertical relationships, the large firm often provides the farmer with discounted inputs, access to credit and technical support, and equipment.

Vertical coordination can provide farmers with greater certainty and security about future sales and income. But vertical coordination involves building trust between sellers and buyers, which can be a slow and difficult process. Trust can only grow when everyone is confident that he or she will benefit.

**Functional upgrading:** Functional upgrading occurs when farmers perform more tasks in the chain, for example, processing, packaging or even sales. This can allow farmers to capture more economic rent, which means to earn more income. Examples include farmers who produce cassava flour or cassava chips, farmers who wash and pre-cook fonio, or who sell cassava snacks.

This may sound like an attractive idea. But in order to be successful at taking on these new tasks, farmers must have the equipment and know-how to do them successfully, as well as good financial resources and very strong organizational skills.

When value chains are short, for example when vertical coordination involves grinding maize and putting it in a sack, this option can be effective. But the longer the chain, the higher the risks, especially for those with little experience.

**Other types of upgrading:** Other forms of upgrading, which are not described in detail here, include:

- *product upgrading*: moving into more complex or sophisticated and higher value products
- *inter-chain upgrading*: applying skills gained in one link of a chain to a different chain
- *meeting standards and certifications* (for example, organic and fair trade). This could be called **product upgrading**, and is driven by market changes associated with changing consumer preferences.

Effective communication and reliable information are key parts of all types of upgrading. So radio has an important role to play in helping farmers to upgrade their involvement with agricultural value chains.

### **Keeping records and getting market information**

One important step in becoming an efficient grower or a “crop specialist” is keeping good records. By keeping track of labour and inputs on the farm, a farmer can better understand the costs involved in producing his crops. When she knows the costs of production, a farmer can make better-informed decisions, such as calculating selling prices more precisely.

Market information is also important. If farmers are well-informed about current prices and market trends, they are able to bargain more effectively with buyers.

### **Chain vision**



To work with other links in the value chain, farmers should develop a “chain vision.” This means that they see how their value chains work, as a network of specialized companies that need each other to make money.

Farmers should acknowledge the position of other links in the chain, and respect that their interests are also legitimate. Different links in the chain should understand the need for cooperation rather than fighting against each other. They should understand that, though sellers and buyers will always have opposed interests – a high price and a low price, respectively – they have a shared interest in satisfying the consumer. When the consumer is satisfied, the businesses of both the seller and the buyer will grow. For a value chain to be successful, everyone in the chain must benefit and must feel that they are being treated fairly.

**Remember: Value chains are not just about export crops**

When African farmers (and other people) hear about value chains, they often think of export crops such as flowers, coffee, cocoa, and fruits and vegetables, bound for European and other global markets.

But it is not always a good idea to link small-scale farmers with large exporters. Small-scale farmers in Africa and elsewhere generally try to minimize the risks of failure by growing a number of crops and raising animals. Focusing exclusively on a single crop is risky. It may be better for farmer groups to consider regional and domestic markets as well as, or as alternatives to, export markets. Because of rapid urbanization and a growing middle class in Africa, regional and domestic markets in Africa are becoming increasingly important for growers.

**Gender and value chains**

In many agricultural value chains, women can face more difficult conditions than men. For example, in fruit and vegetable export chains, women are often hired as temporary or casual workers, while permanent workers are usually men. In Kenya’s fruit and vegetable export businesses for example, women occupy 80% of the positions in packing, labelling and bar-coding produce. Women workers usually receive lower wages than men.

Joining a farmer organization can help women. When backed by the strength of an organization, women may be more successful in negotiating better deals.

It’s important to pay attention to some of the unexpected consequences of upgrading in the value chain. Here are three examples: First, if a family shifts most of its effort and land to high-value crops grown by men, men will have more control over the resources linked to those crops, such as land and water. Women’s crops and family food security may suffer.

Second, if market opportunities improve for women’s crops, men may start to take over women’s activities, for example by restricting their access to land.

Third, if the family participates in contract farming, it may require opening a bank account. Bank accounts are usually opened in the man’s name. This means that the women’s access to money may be increasingly through her husband. In communities where women hold onto cash from selling crops, sometimes by hiding it and using some for household expenses, this can harm family food security.

Overall, it's important to consider not only how men and women participate differently in value chains, but how upgrading their activities can benefit (or not benefit) both men and women.

### **Conclusion**

As we mentioned above, over the next five years, Farm Radio International will distribute many scripts and other items on value chains. For more information about value chains, talk to people in the Ministry of Agriculture, to NGOs involved in value chains, and to farmers involved in value chains. See below for a list of selected online documents for more general information on value chains.

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## **The role of radio in the agricultural value chain approach: The case of the groundnut value chain in Malawi**

By Rex Chapota, Executive Director of Farm Radio Trust  
April 2013

In partnership with Farm Radio International, Farm Radio Trust is supporting radio stations in Malawi to create programming that will help small-scale groundnut farmers be more involved in the groundnut value chain, thus increasing their food security and income.\*

This article shows how radio programming in Malawi is helping to ensure that information is communicated between various actors in the groundnut value chain and specifically targets smallholder farmers. The radio programs use an approach called the Participatory Radio Campaign (PRC).

A PRC is a planned radio campaign, conducted over several months. PRCs encourage farmer-listeners to make an informed choice about adopting a specific farming practice to improve their livelihoods.

Apart from actors such as farmers, buyers, and processors – each of whom add value at various stages of a value chain – value chains include support services that provide business support, agricultural research and various kinds of advisory services. In the Malawi groundnut value chain, these services are needed to help farmers improve their productivity. One of the “goods” offered through these services is information, which is something that radio broadcasts provide.

Before designing a PRC in a value chain context, key design stages must be identified. The first step is to analyze the agricultural value chain that the radio campaign will target. It is important to identify the different actors and what role each actor plays in the value chain, what value they add to the product, and what profit margins they are making.

It is also helpful to identify gaps and opportunities in the business and advisory services sector, including information and communication issues. For example, we discovered in Malawi that, though farmers are the key groundnut producers, processors and exporters have started growing groundnuts because most groundnuts grown by smallholder farmers are contaminated with aflatoxin. Aflatoxin has resulted in Malawian nuts losing their global market share.

When such an issue is recognized, research must be conducted to understand the issue more deeply and, more specifically, to determine what information people need on the issue. With groundnuts in Malawi, the major issue is that many farmers do not use recommended practices for drying and shelling groundnuts, thus creating opportunities for aflatoxin contamination. Therefore, we decided to focus the PRC on post-harvest handling, encouraging farmers to use recommended practices. Reducing aflatoxin contamination adds value to groundnuts, helping farmers to upgrade their involvement with the value chain by negotiating for better prices and increasing their profit margins. After identifying the information needs, the radio campaign was designed to meet those needs.

There are many challenges associated with planning and designing a radio campaign for farmers. One of the key challenges is determining how to target program content to farmers while at the same time ensuring that other actors who influence and are affected by the topic are on board. With the groundnuts value chain, we discovered that there was a need to encourage actors such as buyers and vendors to offer better prices for nuts not contaminated by aflatoxin. This, in turn, required the creation of grading standards.

To design the PRC, we also needed to identify the major actors and support services related to aflatoxin, so that we could plan their roles in the campaign. We learned that most actors in the groundnut value chain were concerned about aflatoxin levels, including farmers, buyers, processors, and consumers. Relevant support services included nutritional experts and agricultural researchers.

The participatory nature of PRCs helps ensure that all actors are engaged in both the planning and execution of radio programs. Though the primary target of messages may be farmers, radio provides an opportunity for different actors in the value chain to communicate with each other. For instance, you could plan a panel discussion in which a farmer, a buyer, a processor and an exporter discuss the challenge of aflatoxin. If not for a radio program, this opportunity for discussion would likely not arise.

In this way, radio programming can act as a channel or intermediary for exchanging information and knowledge. Through radio, information on post-harvest handling from a research perspective, a marketing perspective and a nutritional perspective, will be shared with listeners. This information will help them improve the way they handle nuts so that they can avoid aflatoxin contamination and upgrade their involvement in the value chain.

Thus, radio – and especially participatory radio – can play a critical role in providing needed information, and in bringing together actors from across the value chain in a collaborative attempt to address barriers to better-functioning value chains for all actors.

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