4. **Value Chain Mapping**

**Overview**

Value chain mapping is the fourth step in the value chain project design process. A value chain map graphically illustrates all of the components, and relationships between them, of the selected value chain; it is a visual tool that helps us understand how a particular industry works. Value chain maps demonstrate how a product in an industry moves from raw material through production, processing, and other steps, until it eventually winds up with the consumer. The map highlights the range of activities that occur within the value chain. The map will also outline transformation steps or functions, actors, relationships, and support services. The level of detail in a value chain map can vary, ranging from noting the basic essentials to highly comprehensive components.
Applying the Core Principles

While the execution of each step of the design process will impact or drive your project’s ability to adhere to all of the eight core principles, the table below highlights which ones are especially vital to this step.

<table>
<thead>
<tr>
<th>Core Principles</th>
<th>Step Impact: Value Chain Mapping</th>
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<tbody>
<tr>
<td>#2 Tailored and Demand-Driven</td>
<td>The value chain map will help depict the gaps that prevent your impact group from reaching the specific market opportunities.</td>
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<tr>
<td>#4 Development of Market Systems</td>
<td>The mapping of the selected value chain will help you to define how your program can develop market-wide systems and not just those related to your impact group.</td>
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<tr>
<td>#8 End-Market-Driven</td>
<td>Value chain maps should clearly show the linkages between your impact group and the end markets within the chain.</td>
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Market Research and Information Required

The components that are generally needed in order to map the value chain include the following: transformation steps, value chain end markets (consumers), value chain actors, and customers and support services. Your initial market research should have identified the different components for your respective sector, but you may find you need to conduct additional market research to complete your map.

Case File Links & Resources/Tools

These are the tools and documents provided to you in the online e-course. We are providing them here as well so you do not have to go back and forth between the two.

Case File: Value Chain Mapping

Click on a link to view/download a file:

- Value_Chain_Mapping_Tool.ppt
  The link above opens a PowerPoint tool, which is a reference guide you can utilize that shows sample components of a sub-sector map. It is a great guide to help you learn the components and the symbols you should use, as well as another example of what a completed map should look like.
Step-by-Step Instructions

The main purpose for mapping the value chain is to summarize graphically the value chain structure. There are several ways to go about charting the value chain: horizontally, vertically, or circular. Whichever style the project designer chooses, the components remain the same.

The procedure for mapping the value chain is as follows:

1. **Collate Market Research.**  
   Collect all the market research that’s been compiled to date. The project designer should have data from several sources, including:
   - Key informant/in-depth interviews
     a. As discussed in Step 7, the most current information is likely to be found through direct conversations and interviews with key informants within the country/region. Key informants can be found in a variety of places—for example, governmental departments, private-sector academic institutions, other NGOs, and so on.
   - Focus group discussions
     a. Conducting focus group discussions is another great way to get important information.
   - Market observations
     a. Review existing industry and market research.
     b. Visit the market to observe transactions.

2. **Write out each step in the Transformation Process.**  
   Transformation steps are the stages a given product goes through along the supply chain. For example, if the product is bananas, the first transformation step is “input supplies” and would include things like seeds or fertilizer or any other components needed to grow the bananas. The last transformation step for bananas would be “consumption.” Here we have listed several examples of steps a product goes through:
   - Input Supplies
   - Producing
   - Processing
   - Wholesaling
   - Retailing
   - Exporting
   - Consumption

   The project designer should identify each step in the respective value chain and begin listing those steps vertically along the left side of the map. You should choose a shape for these functions to differentiate them from other parts of the value chain later on, once the map becomes more complicated. In our example, we’ve chosen to identify transformation process steps by surrounding each term with a rectangle.

   *NOTE: In the map below, the transformation steps are listed vertically, beginning at the bottom, in order to align with elements that will be added later.*
EXAMPLE: THE STEPS OF THE TRANSFORMATION PROCESS

End markets are primary markets or consumers to which the product of the value chain is sold. Some examples of end markets that would go along with our example product, bananas, include

- Rural consumers
- Peri-urban (medium-size market) consumers
- Urban consumers

Arrange the list of market segments in order from lowest to highest value, beginning with low-value markets on the left and moving to the right as the markets reach a higher level. Example:

1) Rural consumers, Peri-Urban consumers, Urban consumers, International consumers
2) Low- vs. Medium- vs. High-income consumers (not used in the example below)

Note that because consumers are not considered value chain “actors,” they should be listed within circles, not rectangles.

EXAMPLE: END-MARKET (CONSUMER) SEGMENTS

See the example map below. In addition to the steps of the transformation process listed along the left side of the map, we have now added the consumers in the value chain. They are placed across the top of the map in circles.
4. **Identify the different Actors in the Value Chain.**

Value chain actors are those who participate in a value chain. The people, or entities, who are actors in our banana example include:

- Rural and large input suppliers
- Small holder farmers
- Large plantations
- Small and large wholesalers
- Roadside markets
- Small traders and rural markets
- Peri-Urban markets and urban markets

**TIP:** It is a good idea to brainstorm the actors based upon the end markets and/or the transformation steps. That way it’s more systematic, and we are less likely to forget any actors. Another tip is to use a whiteboard so you can erase and move things around, or utilize index cards that can be stuck to a wall so that the project designers can move people around while they are brainstorming, especially in the beginning.

Actors differ from consumers in that they do not use the product but instead process or move the product through the chain.

Starting at the bottom of the value chain map, begin placing each actor on the map, according to the relevant value chain activity (the rectangles on the left side of the map) and the relevant market (the circles across the top of the map).

Continue to place each actor according to its value chain activity, and the markets themselves, for the remaining levels of the value chain.

Expand the actor’s box to reflect involvement in multiple levels of the value chain.
EXAMPLE: If some farmers both produce and process product, expand the box accordingly.

See the example map below. In addition to the steps of the transformation process and the consumers, we have now added the actors in the value chain. They are placed on the map in line with the consumers above and the steps of the process they act on along the left side of the map.

**EXAMPLE: ACTORS IN THE VALUE CHAIN**
5. **Depicting Relationships.**

- Connect their relationships with any support services that help link producers to the end market.
- Identify the relationships between the producers and the key actors that help link them to the end market.
- Arrows are the most commonly used symbols for depicting relationships on a value chain map, which should flow vertically from top to bottom and horizontally from left to right, as if writing a letter. Use a different style line to illustrate each unique relationship, so they are clearly defined.
- **EXAMPLE:** use solid arrows for product $\leftarrow \rightarrow$, or dotted arrows for support products and services $\leftarrow \cdots \cdots \rightarrow$.
- Draw arrows pointing up to represent product flow (from input suppliers up to end markets).

**EXAMPLE: RELATIONSHIPS**

- See the example map below. In addition to the steps of the transformation process, the consumers, and the actors, we have now added arrows to depict the relationships between the participants in the chain.

![Value Chain Map Example](image-url)
6. **Representing Support Services.**

Critical support services can come from actors internal to and independent of the value chain. Internal actors and the support services they provide should be linked with an arrow (use a different style for each different service). Actors who are independent of the value chain can be listed vertically on the far right side of the map. Examples of support services include the following:

- **Microfinance Institution (MFI)**—An alternate form of bank, this type of financial institution is typically found in developing countries and provides microcredit lending to those living in poverty. *Microcredit lending* is the extension of small loans, designed to spur entrepreneurship. Microloans, as the name implies, are generally very small and are given to the very poor, who tend to lack the minimum requirements (collateral, steady employment, credit history, etc.), for access to traditional credit. Many MFIs also offer savings products to SEs.

- **Government Extension and Other Services**—Services provided for free or subsidized by the public sector. These may include extension services, capacity building services for cooperatives, finance, and/or inputs.

- **NGOs**—Those associations created by people or groups that operate independently from any government control. The distinction of NGO is usually limited to organizations that seek to impact a social issue. Sometimes called “civil society organizations” (i.e., CARE).

- **Commercial Service Providers**—There are a range of different services typically delivered by the private sector, including product design services, technology services, and market access services.

- **Value Chain Actors**—Value chain actors may provide services, such as technical assistance, market information, or finance, to their suppliers and/or buyers.

Services from actors outside the value chain can also be included on the map. It is important that these services are placed at the far side of the map (and not in the value chain). Shading the box differentiates these actors from those within the value chain. These should include the range of service providers.

- **EXAMPLE**: Technology providers, technical service providers, business service providers, financial service providers.
EXAMPLE: SUPPORT SERVICES

See the example map below. In addition to the steps of the transformation process, the consumers, the actors, and the relationships and linkages between them, we have now added the support services along the right side of the map.

7. **Add any additional overlays in Value Chain Mapping.**
   Make sure the basic map is correct before placing overlays. The project designer can make the basic value chain map more detailed by adding additional information and statistical data gathered during data collection. Data overlays are typically quantitative information (profit margins, prices) but can also include more detailed information about specific firms in the supporting markets. Overlays can be used to represent many things. For example, the number of firms and/or small enterprises, prices, profit margins, sales volumes, power (in) balances, financial services flows.

8. **Add Gender Dimension to your Value Chain Map.**
   There are different issues to consider in terms of gender during value chain mapping:
   - Where are women located on the maps?
     - What is their level of involvement at each function/activity?
     - Which of these activities, if any, are female dominated?
   - Does the map have power balances as an overlay?
     - Has the project designer included gender relations?
     - Has the project designer included the level of involvement of women vs. men?
To fully navigate gender issues in value chain mapping, the project designer might consider creating a second map highlighting the different roles of men and women in the value chain, which includes the relative value at each function.

Gender issues can vary by region, country, town, or family, and there are inherent complex sociocultural and economic factors involved in value chains. Taking care to address gender dimensions in mapping, analysis, and subsequent interventions helps to improve the effectiveness, equity, and outreach of development interventions using value chain analysis.

9. **Conduct additional Market Research and Finalize Value Chain Map.**

You may have found during the course of completing your map that you were missing some critical information about transformation steps, types of value chain actors, or the presence of women. The project design team should take the time to complete additional market research, fill in any missing information, validate their findings with value chain actors, and finalize the map.

**Best Practices**

Completing the value chain map should have given the project designer a good visual representation of the current state of the value chain. As the project designer moves toward identifying strengths and constraints, the team should use the map to see where they lie and what relationships they impact.

As the project designer begins to develop solutions, the designer can refer to the map and note where he or she might need to strengthen the impact group’s position or shore up operations. In this way, the project designer can see how completing the map and the rest of the steps in the value chain design process will help as he or she structures the project’s market plan. The map should do the following:

- Describe the value chain structure and relationships
- Identify the key stakeholders
- Depict product flow from inputs to final market
- Help identify gaps or bottlenecks in production flow
- Guide primary data collection

The value chain map the project designer creates has many useful purposes, but it’s not infallible. One limitation of the value chain map is that it has no capacity to describe end-market structure and dynamics, and the map can become outdated as the market evolves. For this reason, mapping the value chain should be a dynamic, ongoing process.

Make sure the project designer takes the value chain map out into the community and verifies it with key stakeholders to ensure its accuracy. Then the project designer is ready to move on to the next step in the value chain design process.
Challenges

Listed below are some common issues that the project designer might run into while mapping the value chain.

1. Value chain maps can’t predict the future.
   - The value chain map is a static model, a snapshot of the current situation. But it concisely represents that current state in a manner that will help the project designer as he or she begins to explore the strengths and constraints of the chosen value chain, as well as when the designer begins to envision solutions to benefit the impact group.
   - It is important to note that the map will change and evolve over time. It serves as a guide through the design process, but as the project designer uncovers new information and new channels, the map will need to adopt the changes accordingly.

2. The map should fit on one page and be easy to read.
   - Maps that go beyond the scope of what we have described here are not as useful, and sometimes they become so complex that they cause problems instead of simply helping the project designer shed some light on the current state of the value chain.
   - It is important to strike a delicate balance between providing sufficient detail to be meaningful and taking care not to include so much detail that it detracts from the big picture or loses its meaning.

Tools/Resources

A PowerPoint tool/template has been created to help the project designer organize the value chain mapping activities. If the project designer downloaded this guide from the “Value Chain Project Design” online training course, click the link below to access:

Value-Chain-Mapping.ppt