

SYSTEM MAPPING GUIDE



photo by Tim Russell

The Behaviors, Relationships, and Conditions Mapping Approach

Feed the Future Uganda Market System Monitoring Activity

WHAT IS THE BRC MAPPING APPROACH?

The Behaviors, Relationships, and Conditions (BRC) mapping approach is a way of diagramming complex systems in an intuitive and flexible way. Market **conditions**, actor **behaviors**, and inter-actor **relationships** are depicted within shapes that are connected by arrows. Arrows directionally indicate that one behavior, relationship, or condition enables another to occur. In complex systems, related activities can be grouped into subsystems to facilitate analysis.

WHY IS THE BRC MAPPING APPROACH USEFUL?

This approach helps to clarify thinking around how changes in behaviors, relationships, and conditions can lead to systemic change. BRC mapping allows the creator to:

- Capture complexity using a simple approach,
- Engage stakeholders in understanding how their activities influence the broader system,
- Identify pathways, enablers, and barriers to change,
- Identify indicators and measure systemic change.

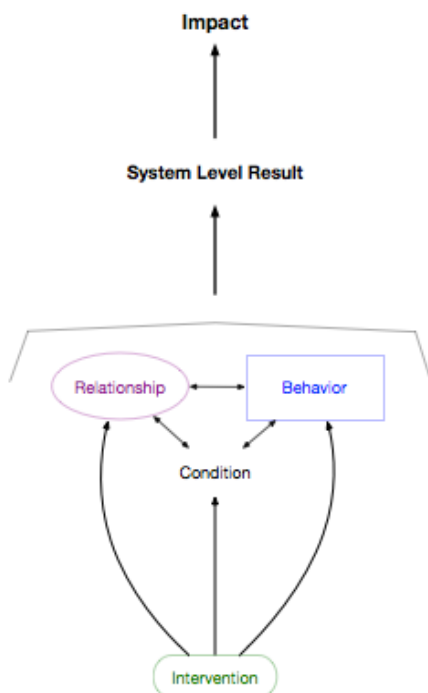


Figure 1: BRC Mapping Framework

WHAT ARE THE KEY ELEMENTS?

Behavior

Behavior: A behavior is an action carried out by an individual or entity. Behaviors are independent of each other; an actor can choose whether or not to engage in a behavior independent of the actions of other actors. A behavior is represented as a blue box.

Relationship

Relationship: A relationship between actors can propagate systemic change, with strong relationships often enabling behaviors or conditions. Relationship strength can be characterized by dimensions such as trust, transactions, contracts, and networking. Relationships are represented by magenta ovals.

Condition

Condition: Conditions are qualities or attributes of the system that can enable system change depending on the states or levels. For example, “access to goods or services” may be a condition. They are represented as black text with no outline.

Intervention

Intervention: An intervention is a project or initiative, that attempts to influence system behaviors, relationships, or conditions, that lead to development outcomes. They are represented by green, rounded oblongs.

Arrow: An arrow connecting one item to another indicates that the former enables the latter. Arrows do not indicate causality; an arrow merely means that a certain behavior, condition, or relationship facilitates the existence of another. For ease of reading the map, arrows are the color of the item from which they originate.

Subsystem: A subsystem is a distinct sphere of activity within the larger system. Organizing a BRC Map by grouping related behaviors and conditions into subsystems improves readability. Subsystems are denoted by gray circles behind clusters of behaviors, relationships, and conditions. They are not meant to be rigid boundaries, but rather a visual aid.

Evolving from the results chain framework, the BRC mapping approach considers the chain of events leading to a desired impact. Interventions enable certain behaviors, relationships or conditions to exist in the system. The effects of the intervention propagate, resulting in system-level outcomes. As shown in the BRC conceptual framework (Figure 1), system-level results lead to impact.

HOW TO USE THE BRC MAPPING APPROACH:

1. Pick a behavior or system condition that you would like to change.
2. Ask what enables that behavior change. Write down the first few conditions or other behaviors that would lead to the desired result. Remember enable does not necessarily mean cause.
3. Connect new behaviors or conditions to the original one with arrows. This shows that the new items enable the original.
4. Ask if any of those connections require a relationship to be present between different types of actors. If so, add the relationship with an arrow pointing towards the connection.
5. Repeat steps 2-4 for your new behaviors, relationships, and conditions.
6. Add interventions where initiatives are directly taking place.
7. Group similar BRCs into subsystems.
8. Continue this process until the BRC Map is comprehensive and detailed enough for the intended use.
9. Refine the map as new information becomes available.

EXAMPLE: FARMERS PURCHASING QUALITY INPUTS

In this example, we explore the behaviors, relationships, and conditions that enable farmers in the agricultural market system to purchase quality inputs. The steps taken can be traced from right to left in Figure 2.

We started with the **behavior** *Farmer purchases and uses quality inputs* as our desired outcome. We then identified two **conditions** that enable this behavior: *Farmer has access to quality inputs*, and *Farmer is trained in use of quality inputs/improved production techniques/improved PHH techniques*. Note that these conditions **enable** the behavior change to occur, but don't necessarily cause it to occur. Other influential factors can be added to the map once identified.

We then asked, "What enables these new conditions?" For the first, the condition, *Quality retail input markets are Acceptable, Available, Accessible, Affordable*, **enables** farmers to have access to quality inputs. It is in turn **enabled** by the behavior, *Wholesaler/Dealer stocks quality Agricultural Inputs*.

Second, *Wholesaler/Dealer shares product knowledge with Farmers*, was identified as a behavior that **enables** farmers to receive training. For that connection to exist, there has to be a **relationship** between Wholesalers/Dealers and Farmers.

Finally, we knew of an initiative by a particular USAID activity that encouraged Wholesalers and Dealers to stock quality inputs. This was represented by the green **intervention** icon. Finally, the conditions and behavior changes surrounding the Farmers were grouped into the Farmer Practices **subsystem**, denoted in a gray circle. The Wholesaler/Dealer attributes were put into another subsystem, labeled Input Distribution.

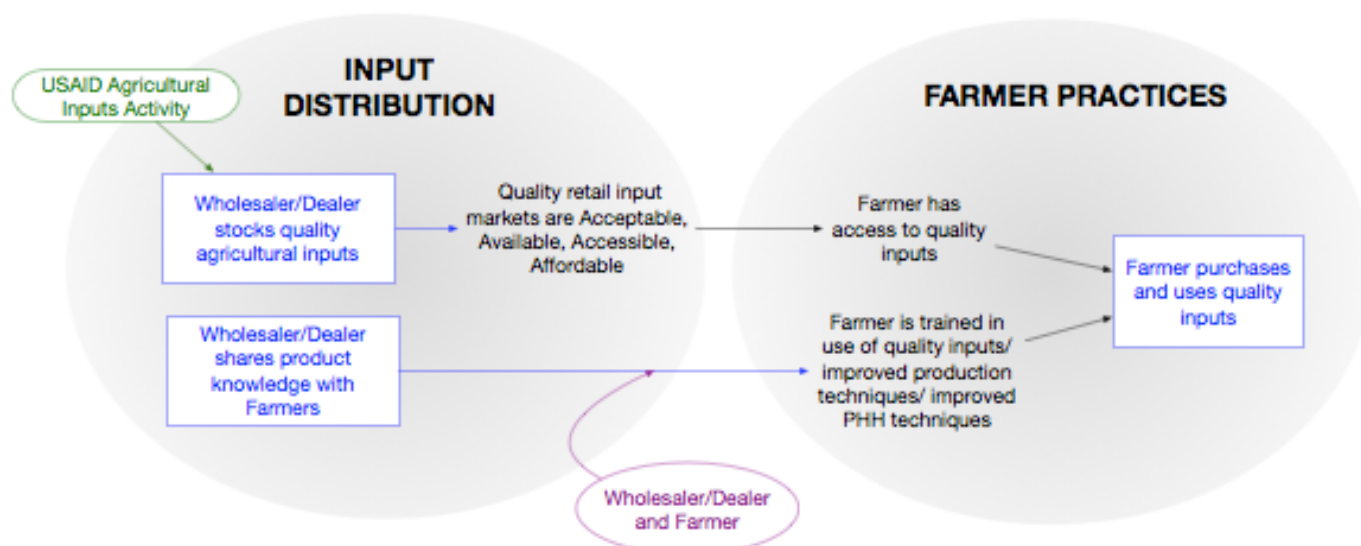


Figure 2: Example BRC Map showing behaviors and conditions that enable farmers to access quality agricultural inputs