**Example 4:**

The rising cost of living and impact of the conflict have also undermined people’s ability to access safe water. It is estimated that only 13 per cent of South Sudanese people have access to improved sanitation, while 85 per cent of the population practice open defecation and only 41 per cent have access to safe water. Families in urban centres have had to spend an increasing portion of their income to obtain clean water, while water trucking has decreased due to the cost of fuel. Borehole repairs have not been possible in areas hardest hit by conflict, including large swathes of Upper Nile, due to lack of access due to insecurity and lack of technical expertise and supplies.

Access to Improved Sanitation

Cost of fuel

High

Water trucking

Low

Low

Lack

Cost of Clean Water

Access to safe water

Borehole repairs

Lack

Lack

High

Conflict

technical expertise

Lack

Rising

Access to Boreholes

Cost of Living

supplies

Low

Reduces

Prevents

Security

**Robyn’s note:**

The lack of access, supplies and technical expertise doesn’t just “reduce” borehole repairs, it prevents them. I made another color arrow for “prevents” here.

That last sentence is also really poorly written. I assume there’s supposed to be some connection between the conflict or low security and the lack of supplies, and possibly lack of technical expertise (the experts are busy fighting?)

**Questions:**

* Assume “clean water” the same as “safe water”?
* There is a connection between “access to improved sanitation” and “access to safe water” that is implicit (from background knowledge), represented here by a dashed line.

**Other notes:**

* Factual information in sentence 2 captured as attribute “Low” on node representing info that “13% of South Sudanese people have access to improved sanitation”;
* “85% practice open defecation” is the number of people w/o access to improved sanitation – but this connection is based on background knowledge, and therefore is not explicitly represented in the graph.
* “improved sanitation” is a concept that isn’t explicitly related to the concept of “access to clean water” – but that connection is implied, and indicated by a dashed line.
* Similarly, water trucking and fuel cost are not explicitly related to anything else, although this is clearly an instance of the effect of rising cost of living (not represented).
* The sentence “Families in urban centres have had to spend an increasing portion of their income to obtain clean water” is clearly related to the concept of rising cost of living – it is a specification of that relation. But it would require some inference to put that into the graph – it has for now been indicated as a dotted line, with an attribute “high” on cost of living. This clearly requires a lot of inferencing,

Other parameters

* Mention of urban centres and urban areas hit by conflict including large swathes of Upper Nile are location specifications that are ignored here.

Relation to Cheryl’s spreadsheet

* We interpreted some of the causal and correlational relations differently (probably based on how we parsed modifying expressions). It’s worth noting the differences.