The Multidimensionality of Food Security
Hypergeometry for measuring food security in RHoMIS sites
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How to measure multidimensional food security?

Food security is a multidimensional concept. It’s not simply whether a family has enough food, but if they have adequate nutrition and sanitary conditions, economic and physical access to diverse, healthy foods, and consistency of that access over time. We also know that there are many drivers of food security, including climate, agriculture and household decision making, many of which are captured in RHoMIS. We tested whether we could use RHoMIS data to come up with a multidimensional metric of food security that would enable better development and humanitarian responses to food insecurity. We used a technique called HYPERVOLUMES:

A food security hypervolume... ...tells us more than HFIAS...

...but something else is going on!

Hypervolumes could be a useful tool for diagnosing food insecurity and designing effective interventions in diverse development contexts.

Next Steps:
- What causes distance decay in food security similarity?
- What are the drivers of food security’s dimensions?
- Can we use the method to compare population segments? (gender, age, wealth, etc.)

Locations

We used all available RHoMIS sites in Sub-Saharan Africa. Survey runs were kept intact, but large national level surveys were clustered geographically where possible, to create 35 communities of about 200 households and 2000 km² or smaller.

Indicators

<table>
<thead>
<tr>
<th>Food Security Dimension</th>
<th>Definition</th>
<th>RHoMIS Indicator</th>
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</thead>
<tbody>
<tr>
<td>Availability</td>
<td>Physical availability of food, sufficient quantity &amp; quality of food.</td>
<td>Food Availability</td>
</tr>
<tr>
<td>Access</td>
<td>Physical &amp; economic access to available food</td>
<td>Total Income, PPI</td>
</tr>
<tr>
<td>Utilization</td>
<td>Contribution of food to health &amp; nutritional status of households</td>
<td>Household Dietary Diversity (Good Season, Bad Season), WASH</td>
</tr>
<tr>
<td>Stability</td>
<td>Temporal stability of food availability, access &amp; utilization</td>
<td>Number of Months Food Insecure</td>
</tr>
<tr>
<td>Overall</td>
<td>Overall food security</td>
<td>HFIAS</td>
</tr>
</tbody>
</table>

Baringo has high dietary diversity, despite low stability and low income levels compared to Ankober.

Ankober, Kenya ONLY

Ankober, Ethiopia ONLY

Yellow = Baringo & Ankober

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