Alternative Recipes for RUTF

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UNICEF Supply Division,
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Meet Amina

She lives in an African village where there is no more maize or sorghum to eat due to drought.
Now meet Mateo, the health minister in Amina’s country.
Meet the farmers that would benefit from the government purchase of the RUTF that includes local legumes and cereals.
Potential benefits of RUTF with alternative ingredients

Potential price reduction

Increased acceptance of a product using local ingredients

Increased adoption by governments

Increased access to treatment of SAM

Economic benefits to local economy
Joint statement Compositional Guideline

At least half of the protein should come from milk.
Strategies for reducing cost of RUTF

Options to reduce the cost of RUTF by adjusting the formula/spec

1. Milk proteins sources from whey permeate, whey powder can be cheaper than skim milk or whole milk (depending on dairy market)
2. Fat from soy or canola oil could be increased slightly (5%) up to 60% of calories, and this may lower the cost – matrix integrity is a limiting factor
3. Different legumes and grains instead of peanuts (e.g. lentils, chickpeas, rice, corn, sorghum, soy)

Issues:

- limit to added free sugar
- Suppliers encouraged to use sustainable sources of palm oil may lead to an increase in cost in COGs

Product development - considerations

A rigorous approach to the product development of new formulae needs to be applied. Consideration should be given to:

• Change control
• Raw material validations
• Supplier validation
• Testing against the specification
• Stability of formula
Trials on RUTF alternatives to date

Kenya, Zambia, Ghana, Ethiopia, Egypt, South Sudan

Pakistan, India, Bangladesh, Cambodia, Vietnam
Consultations

Questionnaires to regional and Country offices:

- Has your country office (CO) programmed an RUTF that is not based on peanuts?
- Would your CO be interested in an alternative version of RUTF?
- What kind of evidence would be required prior to scale up in your country/region?
- Would your country be interested in trialing a new version of RUTF?

Questionnaires to Suppliers:

- Has your company formulated an RUTF that is not based on peanuts?
- What are the key ingredients?
- What is the estimated cost difference compared to the peanut version of RUTF?
Supplier offerings for alternative ingredients:

### Overview of RFI responses on Alternative Recipes

<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total suppliers contacted</td>
<td>21</td>
</tr>
<tr>
<td>Total suppliers replied</td>
<td>19</td>
</tr>
<tr>
<td>No. of suppliers having an alternative recipe</td>
<td>9</td>
</tr>
<tr>
<td>Suppliers having 1 alternative recipe</td>
<td>3</td>
</tr>
<tr>
<td>Suppliers having more than 1 alternative recipe</td>
<td>6</td>
</tr>
<tr>
<td>Total number of alternative formulae</td>
<td>30</td>
</tr>
<tr>
<td>Estimated cost savings compared to peanut</td>
<td>3-5%</td>
</tr>
<tr>
<td>Novel</td>
<td>Innovative</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
</tr>
<tr>
<td>• Added amino acid to meet protein requirements;</td>
<td>• egg</td>
</tr>
<tr>
<td>• increased micronutrients</td>
<td>• Insect</td>
</tr>
</tbody>
</table>
Survey of Regions: snapshot of key points

Most countries reported that RUTF is too expensive and want a more affordable product.

Around half said a pilot trial / acceptability trial was needed to demonstrate acceptability of the new product would be needed. Some countries said efficacy trials were needed.

Around half of the countries that responded would be interested in using a different version of RUTF.
Countries in Africa & the Middle East potentially interested in trialing a new recipe:

Kenya, Malawi, Lesotho, Ethiopia, Uganda, Tanzania, Burkina Faso, Nigeria, Senegal, Sierra Leone, DRC, Congo, Ghana, Chad, Togo, Guinea Bissau

Iraq
Countries potentially interested in trialing a new recipes in Asia:

Philippines, Indonesia (CMAM very small); India – certain regions; Pakistan
Alternative recipes: Challenges

- Even the current Peanut version has not been adequately studied to demonstrate bioavailability of nutrients
- Acceptability trials essentially just test sensorial responses, so the data collected is limited
- Some trials are expensive and take a long time to complete and publish.
Alternative recipes/ingredients - approach

• Considerations for the gradual introduction of alternative recipes/ingredients:
  ✓ with programmes receptive to carry out acceptability and program the product
  ✓ already familiar with the alternative recipe e.g. chickpea version of RUSF (e.g. Pakistan)
  ✓ with local manufacturers of alternative recipes
  ✓ where trials have already been conducted successfully
  ✓ with no or limited regulatory barriers

• If trials are needed, decide on a case by case basis who can fund: donor, government, partner, supplier ...
Thank you