



Future of Next Generation Formula

Global Market for Alternative Ingredients for Lipid Nutritional Supplements and Ready to Use Therapeutic Foods.

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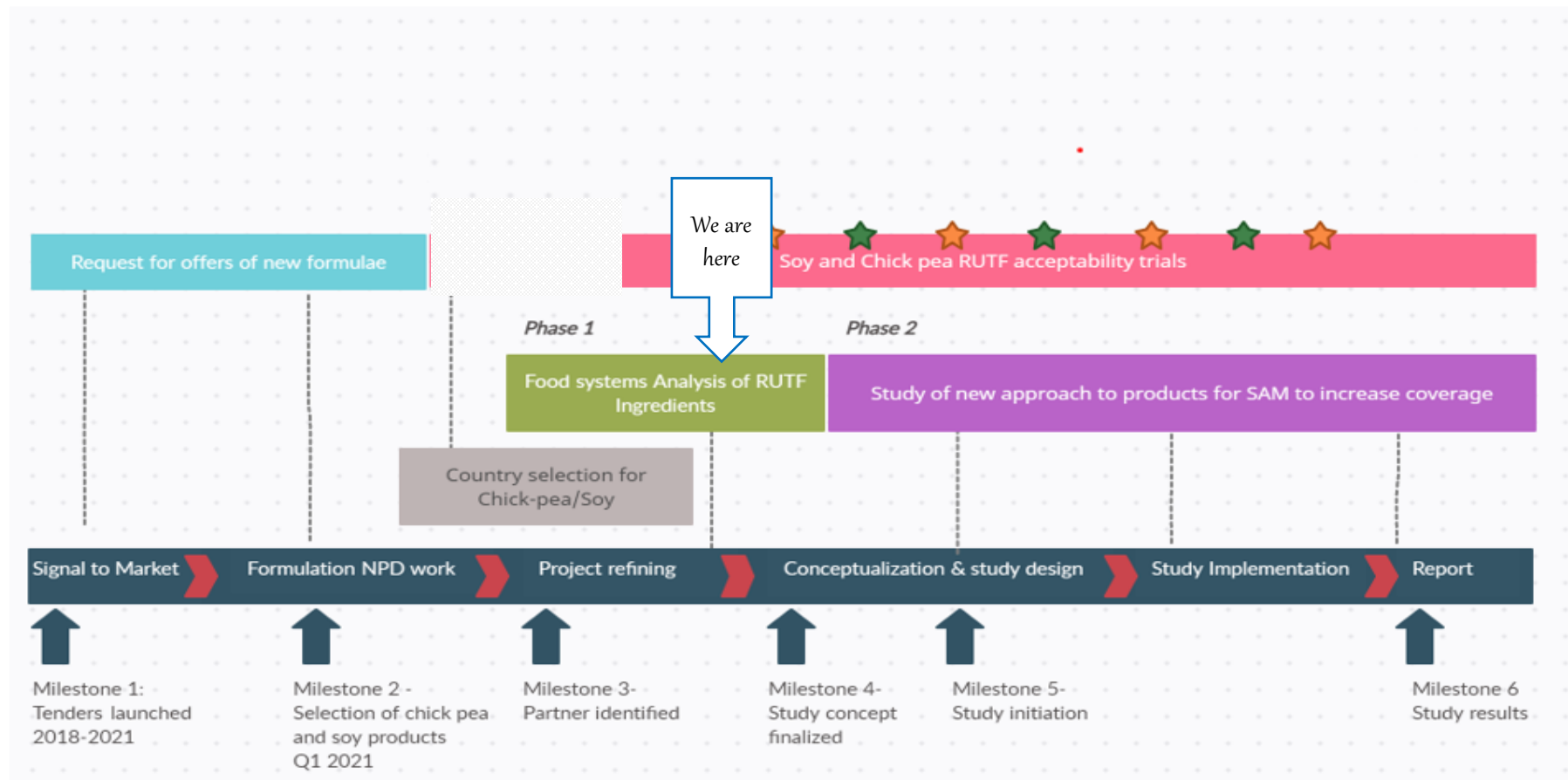
UNICEF Nutrition Supplier Forum, 2023

Vision for alternative recipes

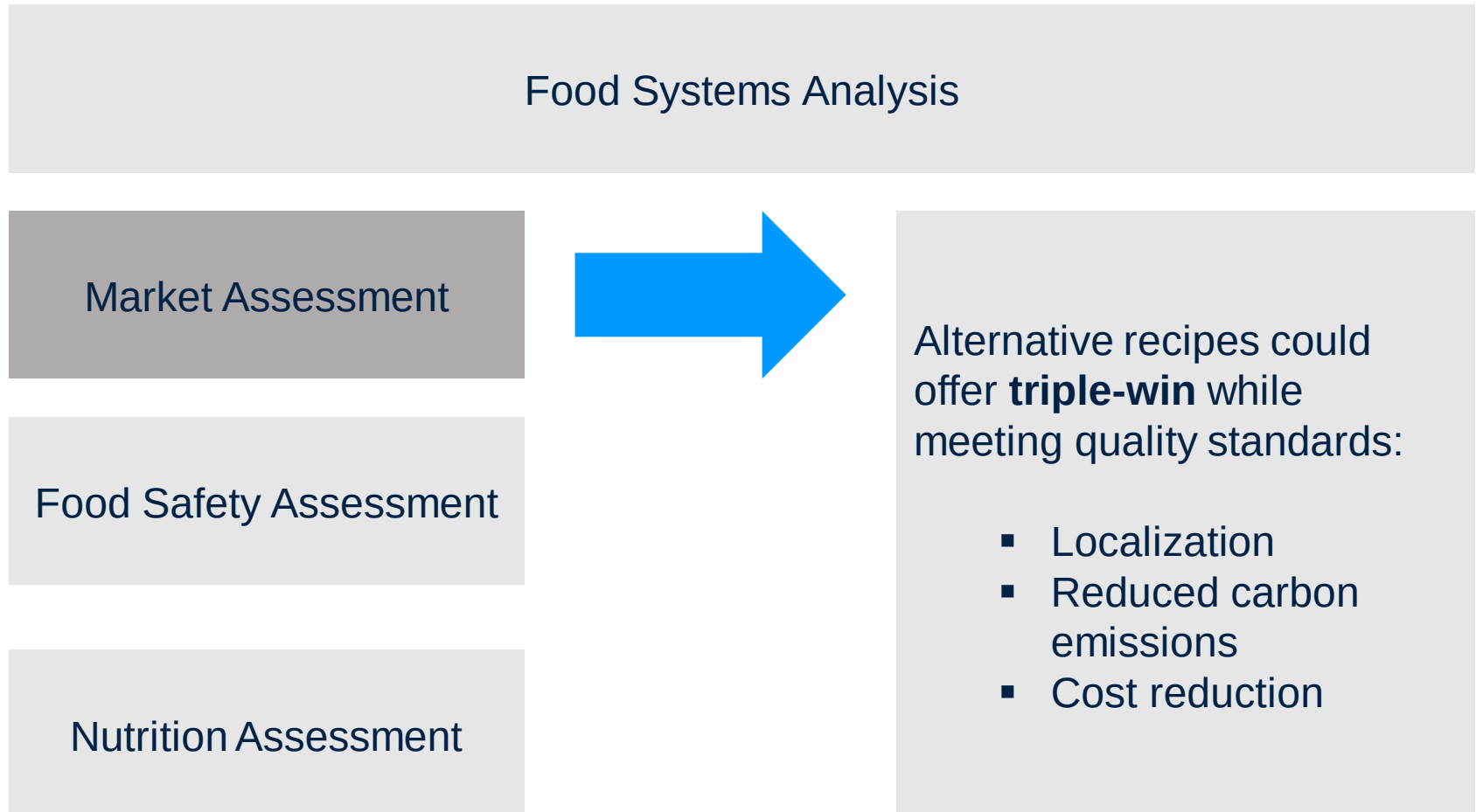
Availability/Accessibility of key alternative ingredients

Cost analysis of alternative recipes

Alternative Ingredients for Malnutrition (AIM) Project



Vision for alternative recipes



Content

Vision for alternative recipes

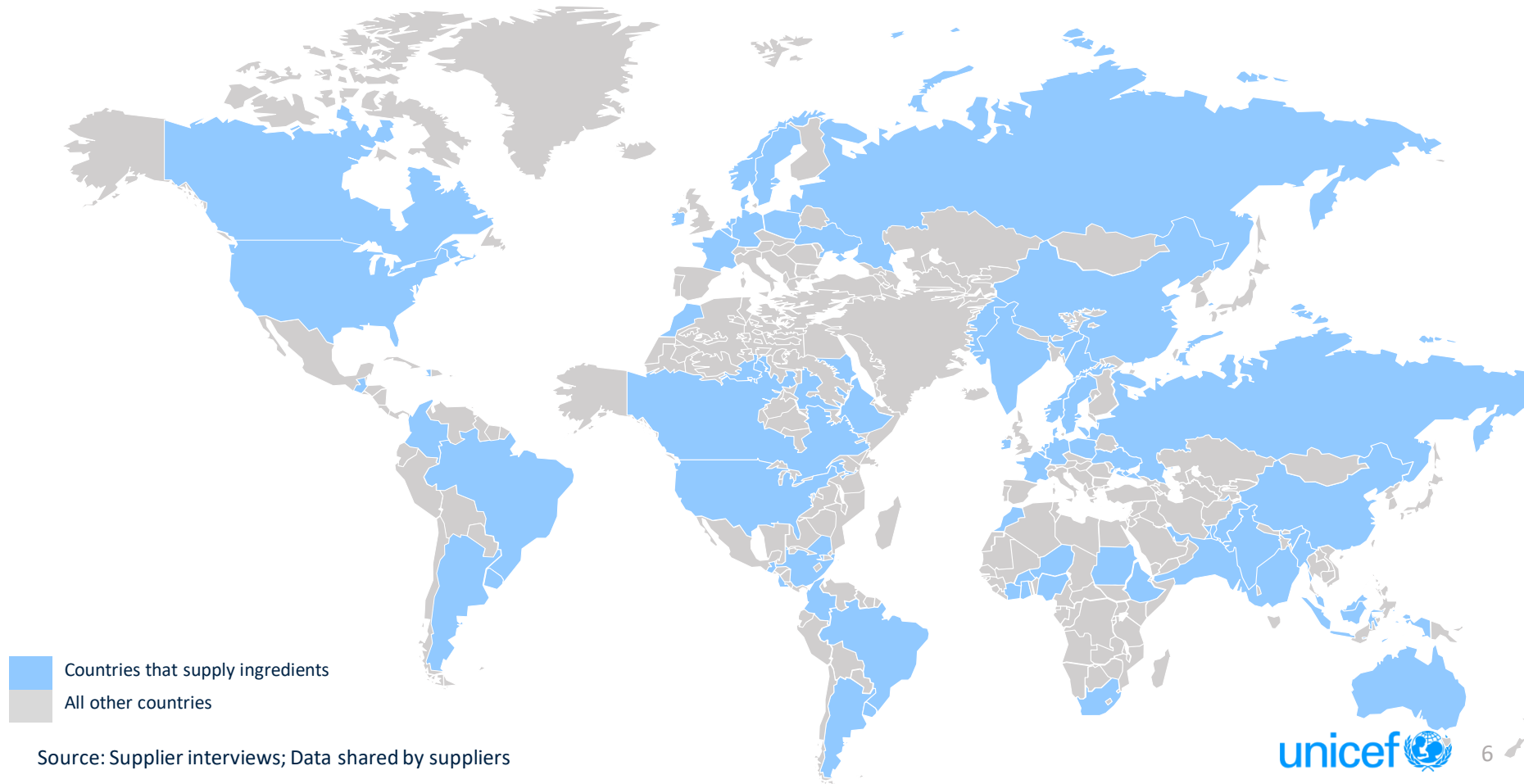
Availability/Accessibility of key alternative ingredients

Cost analysis of alternative recipes

Procurement of raw materials for RUTF by different suppliers uses the global supply chain

On average, a supplier procures ingredients for RUTF from 5-6 countries across the world. While there are differences in the source countries. Usually, there is a mix of local and global procurement.

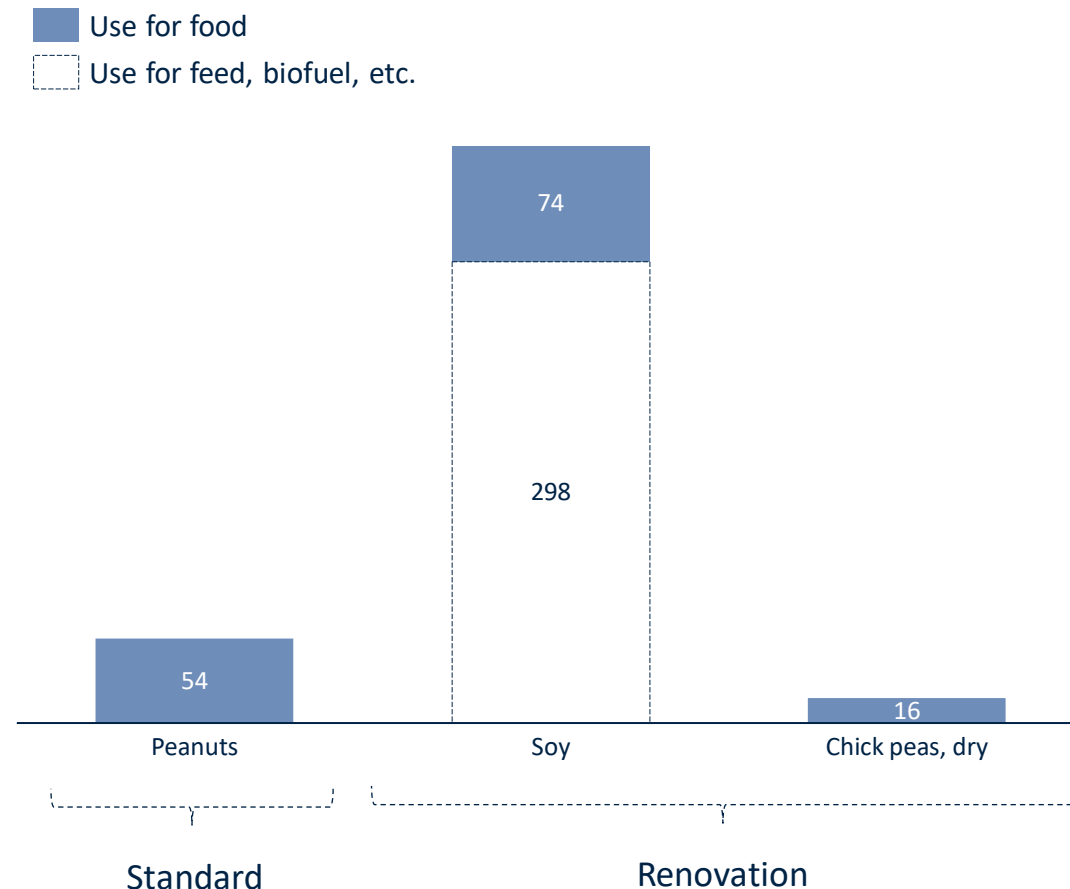
The 22 RUTF suppliers source raw materials from at least 36 countries across the globe



Considering availability in the global context, production of soy is highest, followed by peanuts then chickpeas

Global production of peanuts and its alternatives in Renovation

Million MT/annum

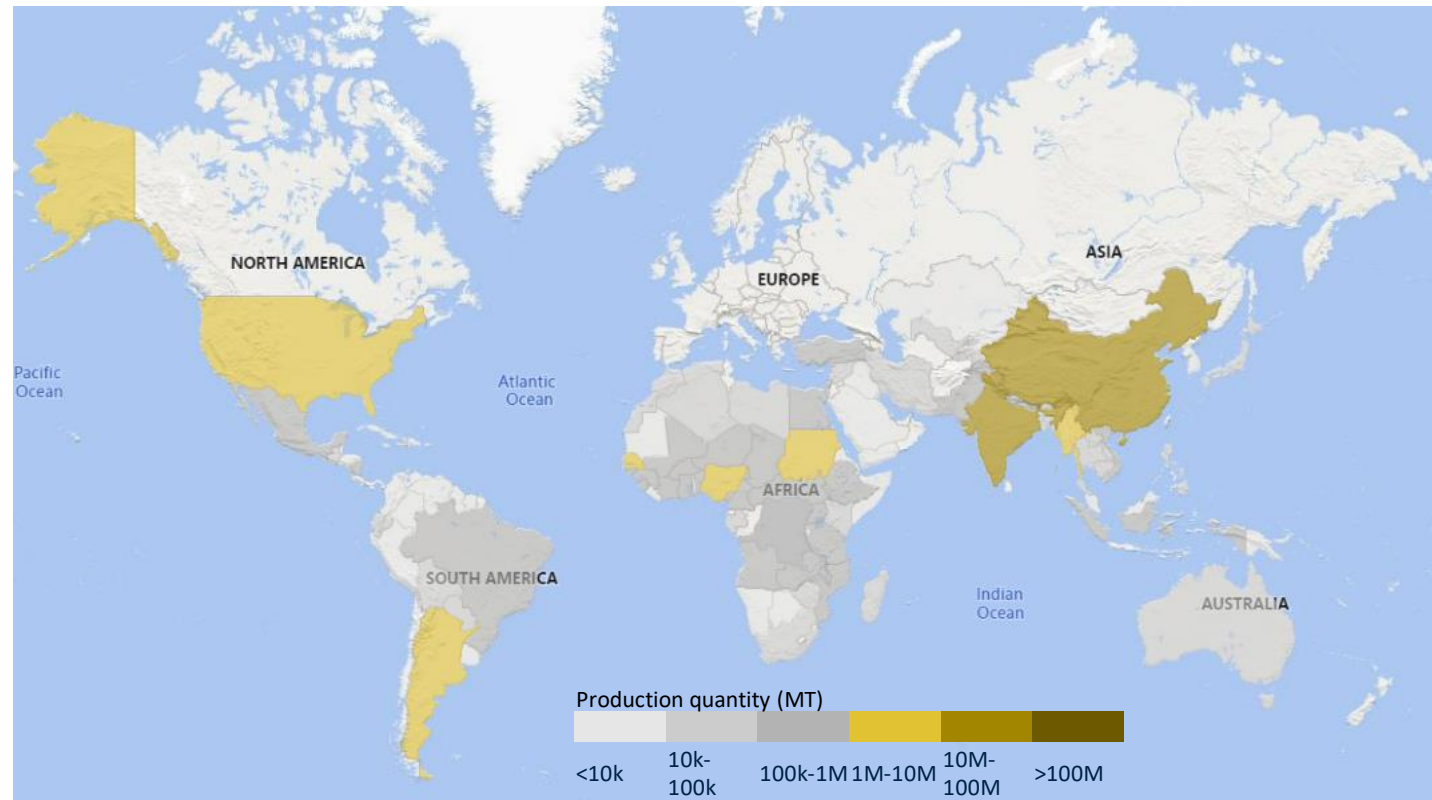


- Production of soy is higher and of chickpeas is lower than peanuts. Soy is also used as animal feed and for biofuel production. Even when considering only human food-use of soy, its global production is higher than peanuts
- While the access to quality soy is not as high as peanuts, availability of soy for human consumption is rising. Similarly, production of chickpeas is rising as well. Availability of both chickpeas and soy is increasing to keep up with the demand in plant-based protein consumption

Note: In the Novel recipe, new ingredients, i.e., maize, sorghum, amino acids are required in much smaller quantities compared to soy and chickpeas. Not added to the slide, but Novel ingredients are analyzed in the final report

Suppliers currently procure peanuts either locally or from the key high-producing countries

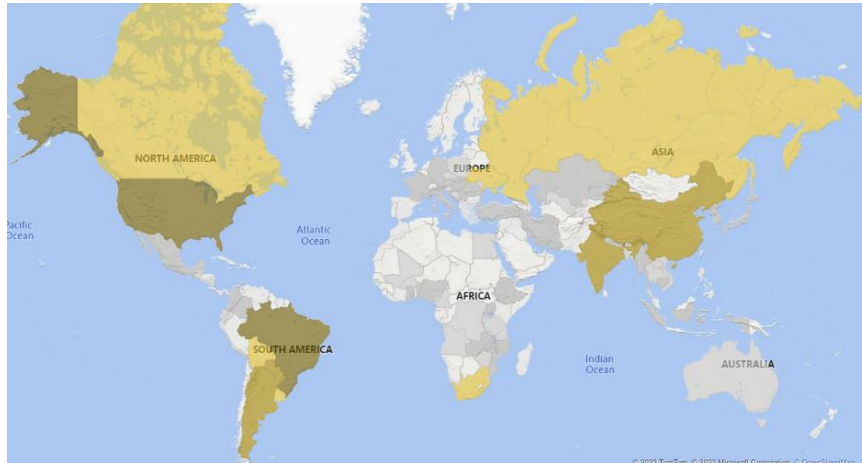
Peanut-producing countries



- Peanuts are largely grown in the global South with China and India leading and some African countries also producing high quantities.
- Currently, suppliers procure peanuts either locally or from high-producing countries.
 - India-based suppliers mainly procure locally, so do several suppliers in parts of Africa
 - Suppliers in other countries mainly import from China, India, USA, Argentina, and Turkey

Considering the two ingredients that replace peanuts in Renovation – soy is grown widely while chickpea production is concentrated

Soy-producing countries



Production quantity (MT)



Soy is produced widely across the globe, with Brazil, USA, Argentina, China, and India being the top 5 countries. Even though a large proportion of soy is meant for non-food use, availability of high-quality soy is increasing. Some suppliers, already use soy in RUTF as well as LNS products.

Chickpeas-producing countries



Production quantity (MT)



Chickpea production is concentrated in India, which is responsible for ~75% of the global production. Australia, Ethiopia, Turkey and Myanmar complete the top five. Production of chickpeas is also rising. Some suppliers already use chickpeas in LNS products.

As replacement for peanuts, soy will work for most RUTF suppliers while chickpea will work best for the suppliers in South Asia (India and Pakistan) and for other high-production countries, e.g., Ethiopia

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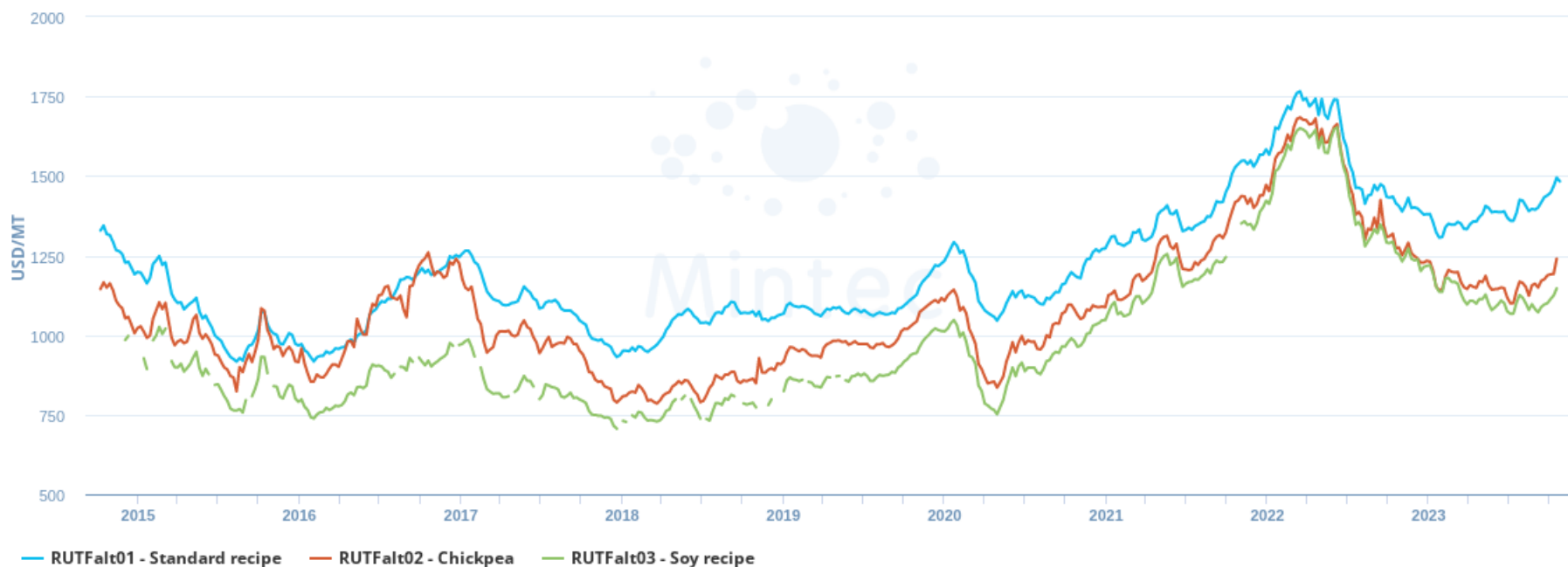
Methodology:

Context for cost analysis	• Ingredient costs vary - Between suppliers due to differences in location, size, sourcing and pricing strategies - For the same supplier over a period of time due to changes in ingredient sourcing, price fluctuations due to global supply and demand changes, currency fluctuations, among other factors - Hence, the cost analysis provides estimates using the data sources • Logistics complexity also varies between suppliers. For instance, locations in land-locked countries and those with inadequate infrastructure manage complex supply chains compared to port cities in developed countries • Any change in recipe or quality requirements affects sourcing strategies.
Data sources used	• Mintec data for prices of ingredients. Interviews with Mintec experts for additional insights • Interviewed RUTF suppliers to understand ingredient-sourcing approach and ingredient costs; obtained inputs on the current and future market for the new ingredients. Ingredient costs shared by suppliers are their estimates due to fluctuations in ingredient costs • UN databases, such as FAOSTAT complemented by broader desk research using various sources

Cost comparison for renovation recipes

Recipe	#	Change in recipe	Theoretical difference
Renovation	1	Peanuts replaced by chickpeas	↓ Average 4% (range of 1-9%)
	2	Peanuts replaced by soy	↓ Average 10% (range of 4-15%)
	3	Peanuts replaced by soy (West Africa)	↑ (Potential increase in cost; not quantified due to data gaps)

↑ Increase in cost ↓ Decrease in cost



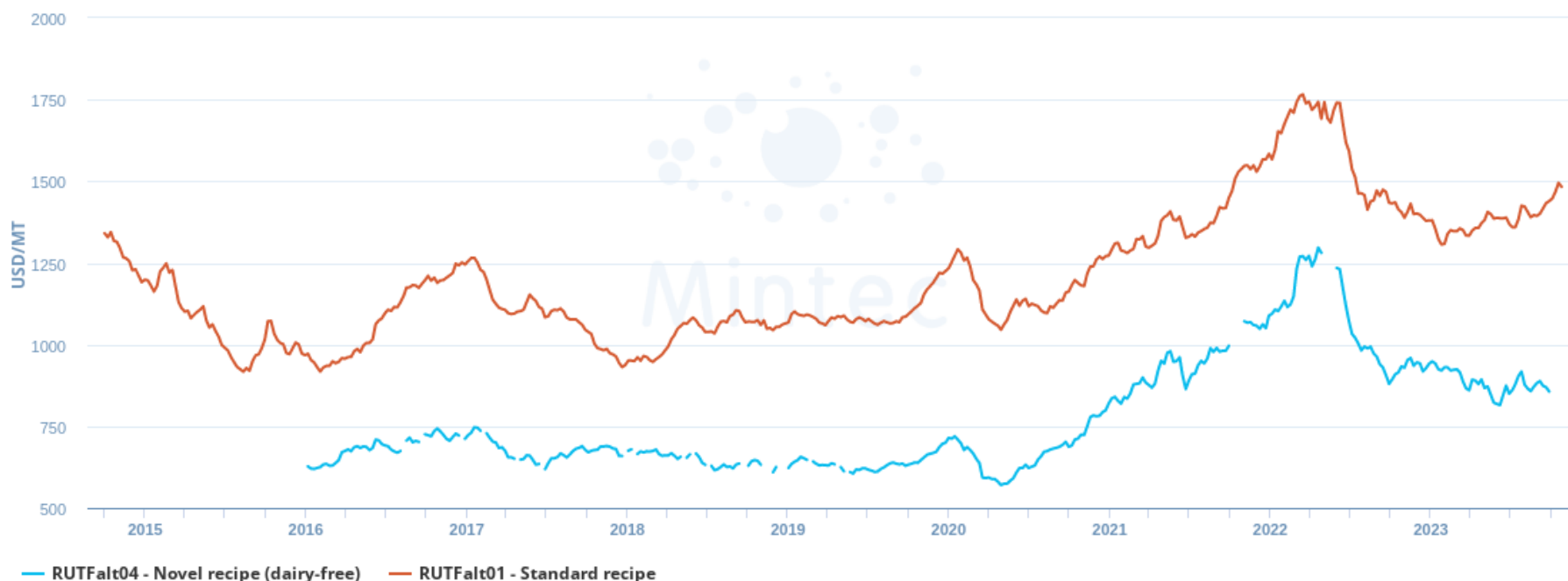
Assumptions:

- Margins included on peanuts, chickpeas and soy based on supplier inputs and consultant intelligence
- Capital expenditure not considered

Cost comparison for novel recipes

Recipe	Change in recipe	Theoretical difference
Novel	Replaces both peanuts and milk powder with soy, maize, sorghum, and amino acids	↓ Average 25% (range of 16-30%)

↑ Increase in cost ↓ Decrease in cost



Assumptions:

- Margins included on peanuts, chickpeas and soy based on supplier inputs and consultant intelligence
- Capital expenditure not considered

Key messages

- The analysis shows **the potential of savings**, however, more inputs from suppliers would be required for real-world results.
- **Capital investment into machinery** such as extrusion and roasting would improve the business case:
 - Broaden sourcing opportunities
 - Integration allows for more quality control
 - Reduced processing margin

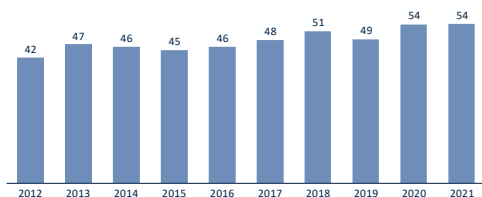
Acknowledgements



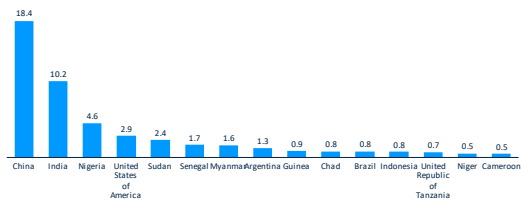
Foreign, Commonwealth
& Development Office

Peanuts

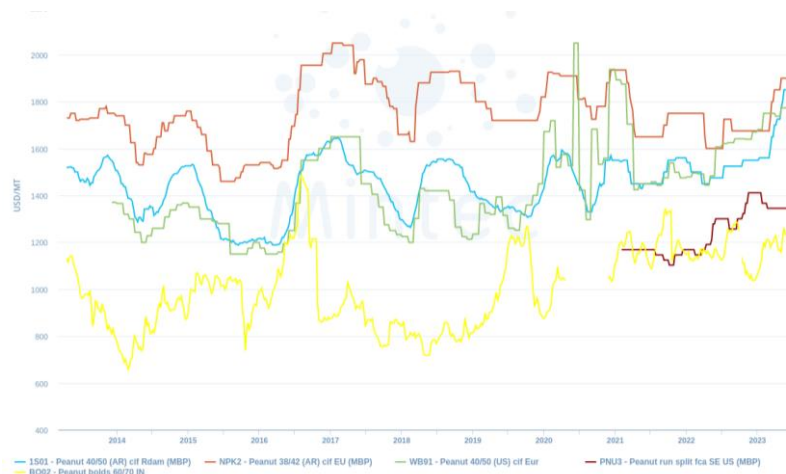
Global Production of Peanuts



Top Producing Countries

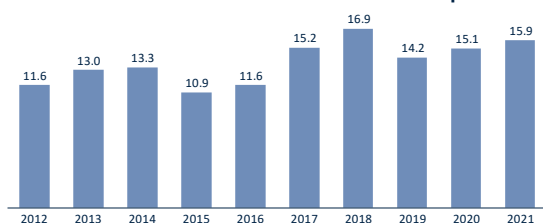


Price Trend of Peanuts

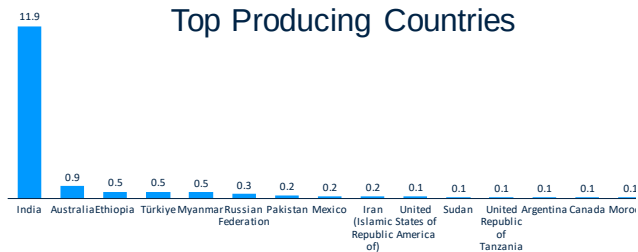


Chickpeas

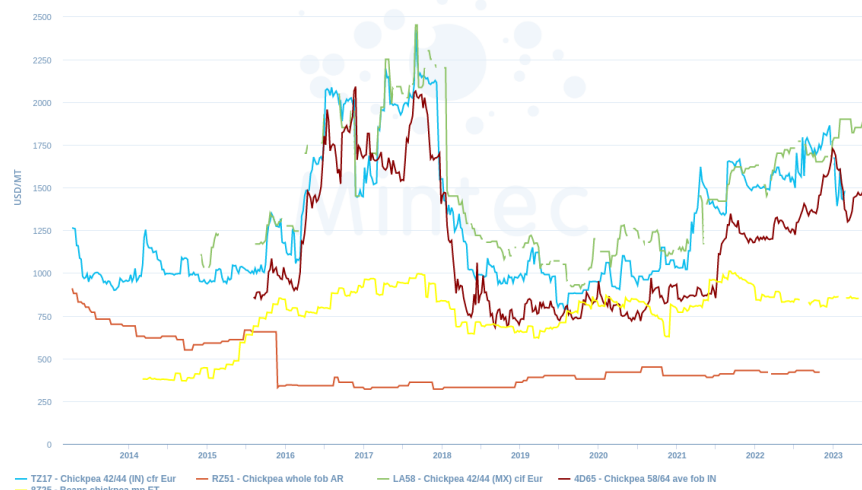
Global Production of Chickpeas



Top Producing Countries

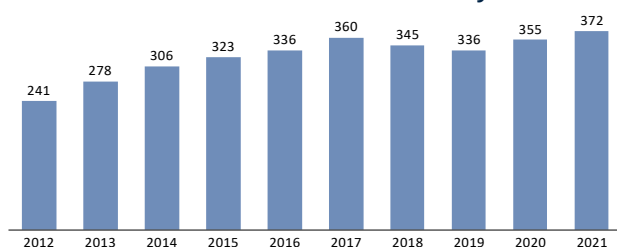


Price Trend of Chickpeas

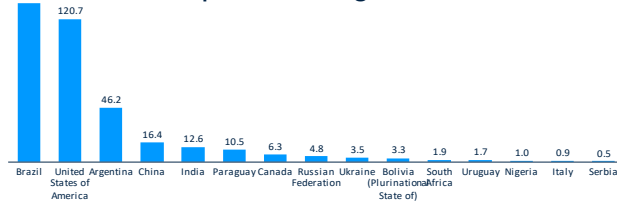


Soy

Global Production of Soy



Top Producing Countries



Price Trend of Soy

