

Agri-food companies reaching lower-income populations with nutritious foods:

What's been tried, and what actually works?

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Motivation

Lower-income populations in low- and middle-income countries (LMICs) often face challenges accessing affordable safe and nutritious foods, contributing to poor diet quality and malnutrition. Private-sector firms are a **main food source** for most people, and some have considerable skill and experience with food marketing and distribution. They **could thus play a role** in improving access to food for lower-income people.

However, **little is known** about how, and how well, firms reach lower-income consumers with nutritious (and non-nutritious) food. This study sought to identify approaches companies use to reach lower-income consumers in LMICs with food products and assess the evidence for their effectiveness.

Methods

1. Systematic review of peer-reviewed research and 'grey literature':

- PRISMA aligned
- Reviewed 8,445 titles, 400 abstracts, 149 full-text documents
- 74 items deemed eligible for inclusion
- Multidisciplinary literature included:
 - agriculture, nutrition, economics, marketing/business

Scope:

- global LMICs; all food types; all firm sizes
- companies must be for profit or cost-covering
- consumers must purchase the products (versus donations, social protection, etc.)

2. Review of actual companies :

- 394 firms shortlisted
- 99 eligible for inclusion
- Covered all LMIC regions, large and small firms, highly nutritious and less-nutritious foods

3. Standard data extracted

4. Synthesized to identify 13 unique types of approaches for reaching lower-income consumers across four categories (see Fig. 1)

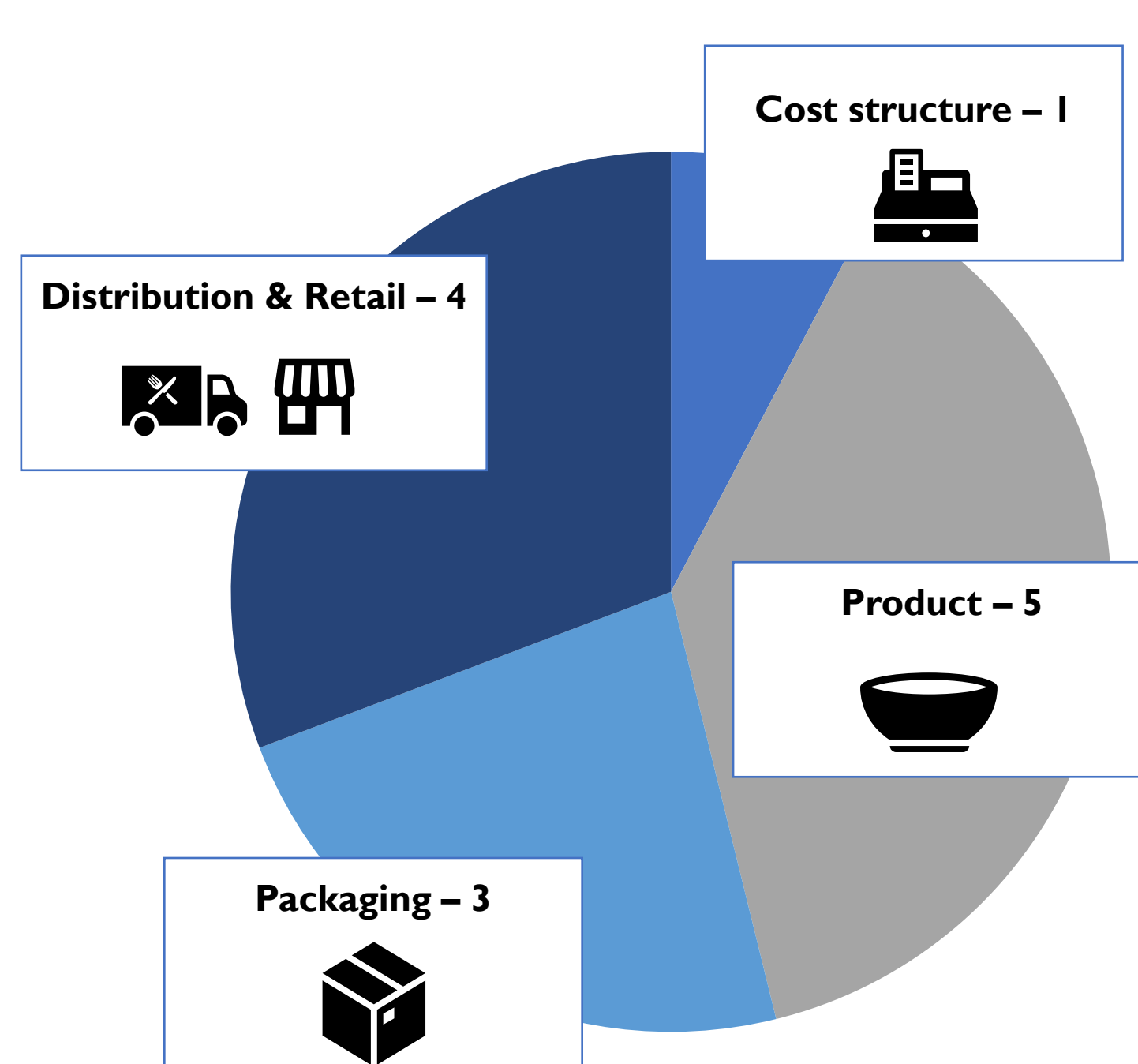
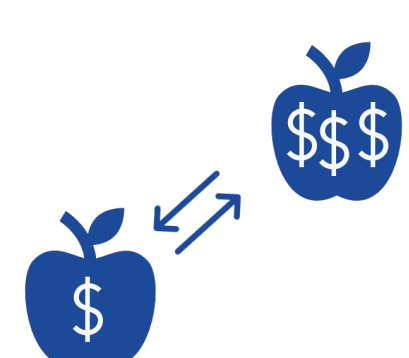


Figure 1. Categories of approach identified through the review

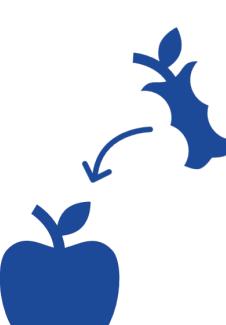
What approaches do companies use?

Thirteen unique approach types were identified:



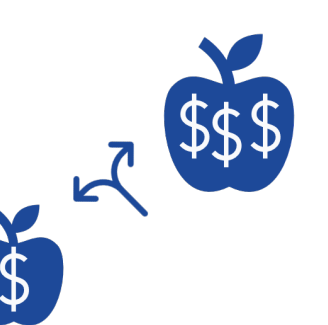
Cross-subsidisation: Approaches in which one product is sold with a larger margin, with excess profit used to subsidise another product sold at a smaller margin (e.g., by covering fixed costs).

Increase value via convenience: Convenience of the product (reducing time or cooking cost), thereby increasing value to the customer and their willingness to pay.



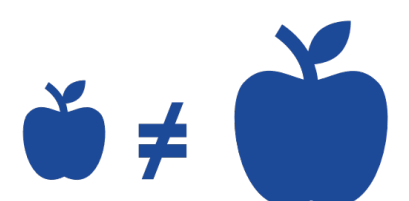
Waste products: Use products that would normally be waste as ingredients or inputs.

Less-desired parts: Use parts of a product that are usually considered less desirable and can be sold more cheaply.



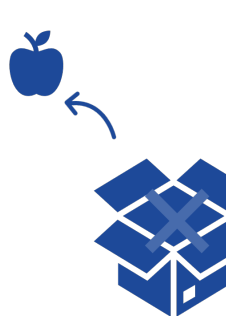
Quality segmentation: Grade product by quality, directing the lower-quality but still useable product to the lower-income market at a lower price.

Cheaper ingredients: Replacing ingredients with cheaper alternatives or cut unneeded ingredients altogether.



Small sizes: Use small package sizes, or break something normally sold as a whole item into its parts.

Sell in flexible quantities: allowing customers to purchase only as much as they need (i.e., 'purchase and pay as you can'), as opposed to in set package sizes or quantities.



No or reusable packaging: Eliminate or cut packaging costs by removing packaging or using reusable packaging (often paired with flexible quantity sales).

Distribution hubs: Set up a hub to centralise distribution and thus cut distribution costs.



Bespoke last-mile distribution network: Create a new last-mile distribution network to reach lower-income consumers, specific to a company or product.

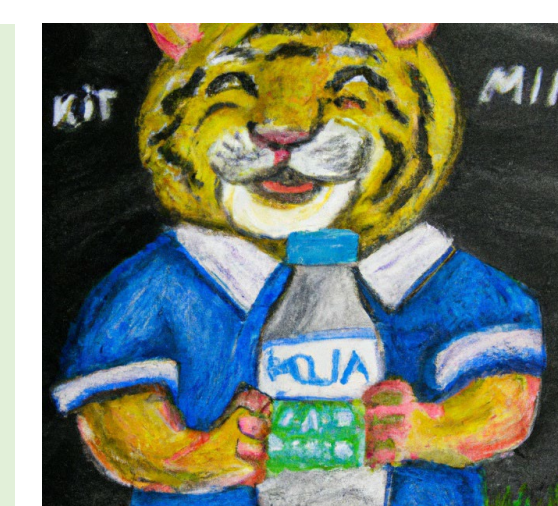
Support existing network: Use existing retail networks that reach lower-income consumers, but give them new support with marketing or distribution to make them more effective at selling the target product.



Direct sales in underprivileged areas: Sell directly to consumers, locating in a low-income area.

Danone Milkaut: fortified milk-based beverage, Indonesia

Profits from premium product enable selling basic version at about half the price (with a 15% smaller margin).

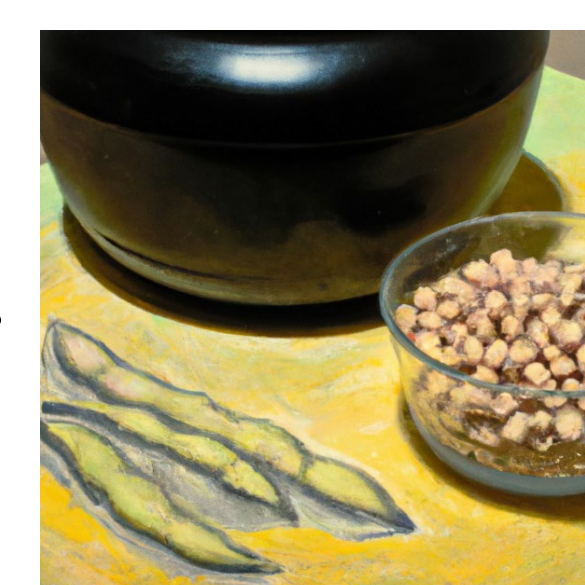


Raybanpac: yoghurt, Ecuador

In Ecuador, 800,000 L/day of whey (protein left over from cheese) were dumped into rivers; Reybanpac began using this whey to create a low-sugar, UHT processed fortified yoghurt.

SPAR: produce, South Africa

Sells low-grade produce at low prices via markets in lower-income areas, including to farmer-suppliers; higher-grade produce sent to higher-income urban markets.

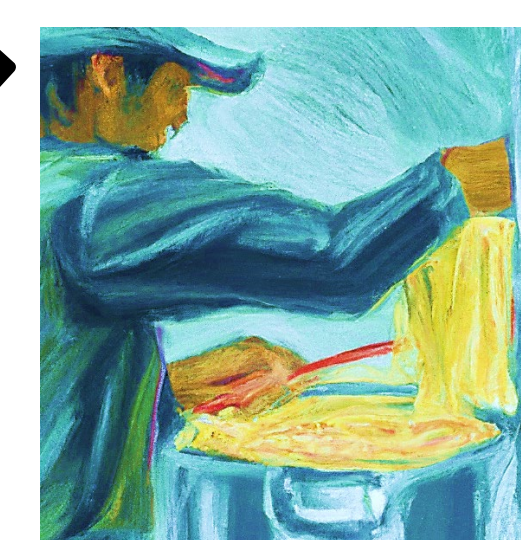
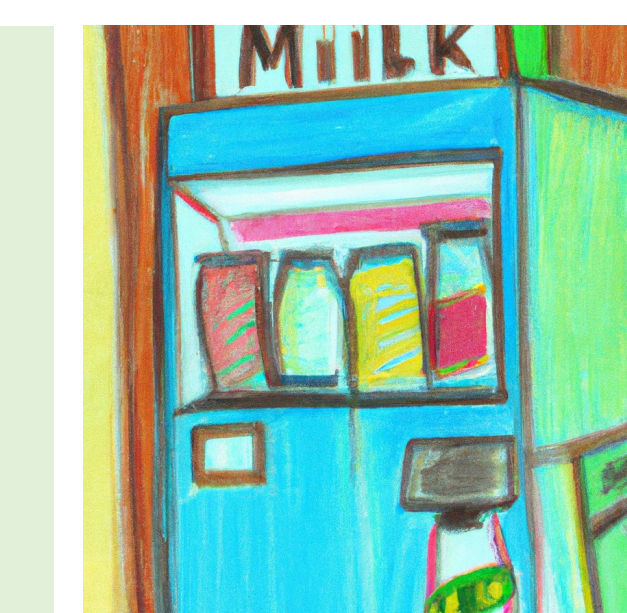


CTAE: soy meat/seed replacement, Benin

Product replaces mashed seeds used in a traditional dish with roast soybean from soybean oil production to create a more nutritious product; also a meat substitute, 30% cheaper than chicken.

Tarakwo Dairies: milk, Kenya

Uses 'milk ATMs' filled with pasteurised, refrigerated milk that allow customers to choose the amount of milk they want and pay accordingly; a cup (80 mL) costs as little as 5 US cents.



Nestle: Maggi instant noodles, Papua New Guinea

Uses a central hub to sell noodles + vegetable mix to approved street vendors, who mix the noodles and vegetables with boiling water and eggs to make a soup, sold cheaply.



FanMilk: frozen dairy desserts, West Africa

Sells through about 25,000 mobile street vendors who reach lower-income urban and peri-urban areas, including customers who do not have freezers and thus could not store such frozen foods at home.



Nestle: diverse products, Brazil

Created a barge that can sell its products in remote parts of the Amazon that cannot be reached by road.

What is the evidence that these approaches work?

There is very little rigorous evidence that these business models actually work to reach lower-income consumers with nutritious foods.

- From the sources reviewed, only 14 firms had evidence of reaching lower-income consumers with the target product(s); 11 had evidence of profitability; and 9 had evidence of affecting diets.
- Most of the evidence was low quality; considering adequate-quality evidence, only one firm had evidence of reaching a large share of a poor population.
- Very limited evidence of profitability (often not reported).
- No evidence of an impact (positive or negative) on diet quality; most reported only frequency of consumption.

Conclusions

Firms use **diverse approaches** to attempt to make their products accessible to lower-income consumers, displaying considerable creativity, as shown here.

However, there is **limited evidence of effectiveness**. More research is needed to better understand reach to lower-income consumers, profitability, and dietary impact.

Importantly, nearly all approaches were **used to promote less nutritious foods as much as more nutritious ones**. While there is potential for improving diet quality through these private-sector approaches, those focused on non-nutritious foods, deployed by corporations with considerable commercial power, could instead worsen the diets of vulnerable populations.