



PROJECT BRIEF

LUCKY IRON FISH

Using a Social Enterprise Model to Combat Iron Deficiency
Anaemia in Northern Uganda



Irish Aid
An Roinn Gnóthaí Eachtracha
Department of Foreign Affairs





BRIEF BACKGROUND

With support from the GOAL Innovation Lab and in partnership with Divine Organic Foods, GOAL Uganda piloted the Lucky Iron Fish ingot using a social enterprise model to address persistently high rates of iron deficiency anaemia. This innovation was implemented as part of GOAL Uganda's Maternal, Newborn and Child Health and Nutrition (MNCHN) programme in Agago District, Northern Uganda. The programme aims to strengthen community and health system resilience by improving access to essential health and nutrition services, while empowering communities with the knowledge, skills, and confidence to adopt positive health and nutrition practices.

ACCORDING TO THE 2022 DEMOGRAPHIC HEALTH SURVEY IN AGAGO:



32% of women of reproductive age suffer from anaemia, which can lead to fatigue, reduced physical capacity, and increased risk of complications during pregnancy, including increased risk of death, preterm delivery, and low birth weight babies.



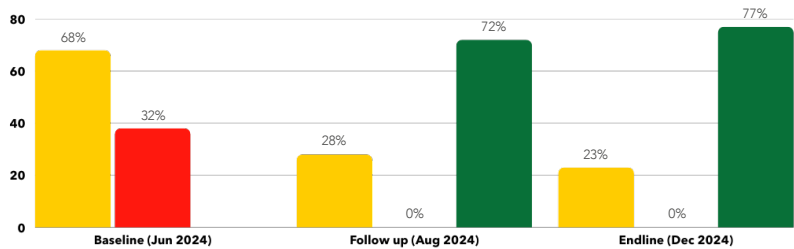
49% of children under five years of age suffer from anaemia, which can lead to impaired cognitive and physical development, weakened immunity, delayed growth, and increased risk of illness and death.



31% of children aged 6–59 months achieve the minimum dietary diversity, indicating that poor diet is likely a key contributing factor to the high prevalence of iron deficiency anaemia.

RESULTS

Between June and December 2024, we followed up 58 women of reproductive age (WRA) with mild/moderate anaemia who purchased the Lucky Iron Fish.



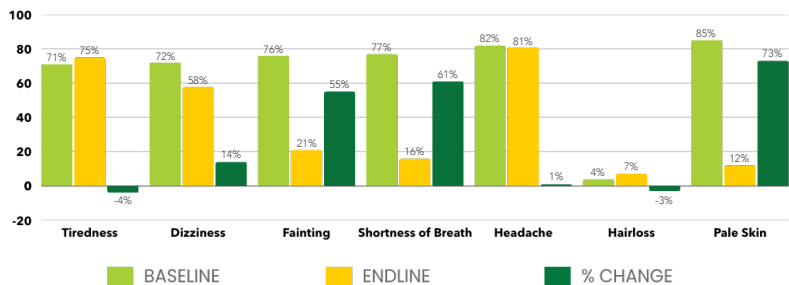
100% of WRA with moderate anaemia at baseline, no longer suffered from moderate anaemia at endline.

72% of WRA cooked with the Lucky Iron Fish at least several times a week.

13% increase in the number of WRA being able to identify three signs of iron deficiency anaemia.

499 Lucky Iron Fish ingots were sold between March & December 2024.

SYMPTOMS OF IRON DEFICIENCY ANAEMIA EXPERIENCED BY WRA IN THE PREVIOUS WEEK BEFORE AND AFTER USING THE LUCKY IRON FISH



APPROACH

The Lucky Iron Fish is a certified cooking tool designed to provide a simple, reusable solution to iron deficiency anaemia. When placed in boiling liquid with a small amount of acid—such as lemon juice or tomatoes—it releases a significant portion (6-8mg) of the recommended daily iron intake into the meal.



Through a partnership with Divine Organic Foods, we piloted a last-mile delivery system for the Lucky Iron Fish across five sub-counties in Agago District: Paimol, Kalongo, Adilang, Lira Kato, and Patongo. Using trusted community agents Lucky Iron Fish was sold through door-to-door sales and at nutrition hubs established by Divine Organic Foods. To stimulate demand and identify an appropriate price consumers would be willing to pay, smart subsidies were tested at different price points. A range of community engagement and marketing strategies supported this effort, including cooking demonstrations, radio talk shows, market day campaigns, and bundling the Lucky Iron Fish with seeds during the planting season and complementary instant composite Vitamin A porridge processed by Divine Organic Foods.



We used non-invasive digital iron testing kits to measure haemoglobin levels in a sample of WRA who purchased the Lucky Iron Fish. These needle-free devices provide immediate results, reduce infection risks, and offer a practical alternative to traditional blood tests — making them especially suitable for low-resource, community-based settings.



PARTNERSHIPS

Divine Organic Foods is a woman-led agribusiness and social enterprise specialising in the roots and tuber value chain, particularly cassava and sweet potatoes. It also incorporates secondary value chains such as high-iron beans, carrots, beetroot, vitamin A maize, and amaranth. Over time, it has grown into **Uganda's leading processor** of Uganda National Bureau of Statistics-certified foods and National Drug Authority-classified food supplements.

By utilising a **social enterprise model** to sell the Lucky Iron Fish, a reliable **last-mile delivery system** is created, reaching remote communities that public services have struggled to serve effectively. By integrating the product into existing community-based markets, the approach encourages ownership, consistent use, and long-term impact, without depending solely on donor or government funding.

LUCKY IRON FISH SALES

Month	Marketing Strategy					Subsidy (%)	Unit Price (USD)	Ingots Sold	Total Revenue (USD)
	Nutrition hubs sales	Market day campaign sales	Door-to-door sales	LIF sold with Instant Porridge	LIF sold with seed packets				
March - May	49	0	0	0	0	50%	5.6	49	274.4
June	80	0	0	0	0	50%	5.6	80	448
July	0	30	0	0	50	60%	4.1	80	121
August	0	0	30	60	0	75%	2.7	90	92.7
Sept-Nov	140	0	0	60	0	85%	1.4	200	280
TOTAL	269	30	30	120	50			499	1216.1



DOROTHY'S STORY

Dorothy, a mother from Agago in Northern Uganda, first heard about the Lucky Iron Fish through Divine Organic food community agents. Like many others, she was curious — could this little fish really help improve her child's health?

At first, she wasn't so sure. "It looks like a fish," she thought, "so maybe it's only for cooking fish?" But after learning more about how it works — and that it can be used in any boiling liquid like water, soup, or stew — she decided to give it a try.

Soon enough, the Lucky Iron Fish became part of her family's daily cooking. And as she started noticing the health benefits, Dorothy began spreading the word, encouraging friends and neighbours to try it too.

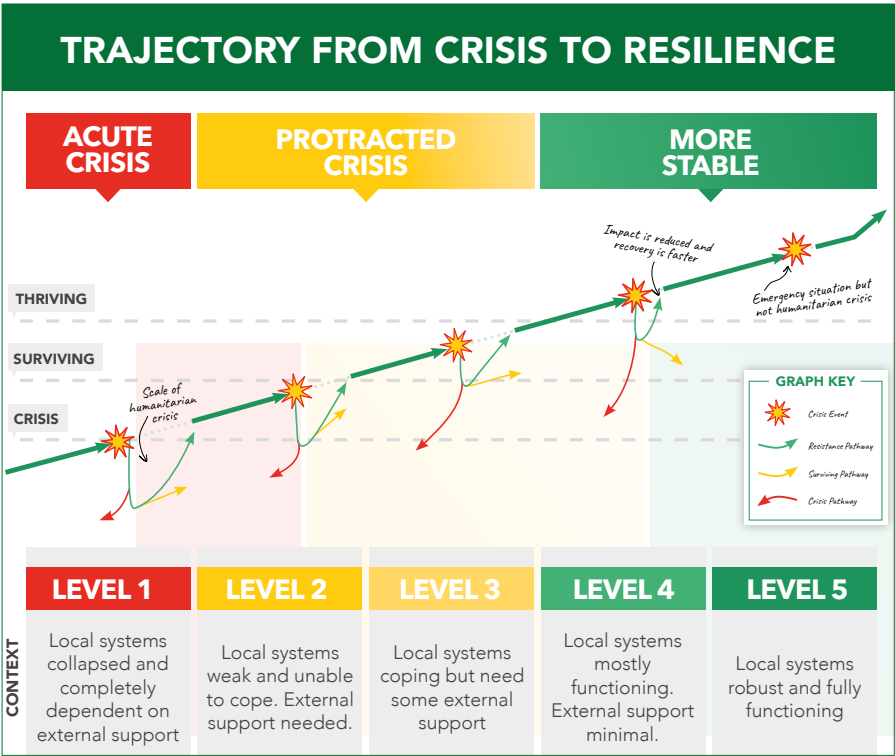
**"TOGETHER,
WE'RE BUILDING
A HEALTHIER
FUTURE FOR OUR
CHILDREN AND
OUR COMMUNITY."**



KEY RESULTS/ LEARNINGS

- 1. Positive Reception and Perceived Benefits:** The Lucky Iron Fish ingot was well received by consumers, who appreciated its simplicity, reusability, and lack of impact on food taste or smell. Many reported improved appetite and visible health benefits.
- 2. Affordability:** Most purchases occurred at an average of \$1.4 (with an 85% subsidy), yet Lucky Iron Fish still remained unaffordable for many. Local or regional production should be explored to reduce costs and ensure a sustainable supply. Partnerships and cost-sharing models with the Ministry of Health should be explored to support access for the most vulnerable.
- 3. Cultural Beliefs and Behaviour Change:** Early adoption of the Lucky Iron Fish was limited by misconceptions and low awareness of iron deficiency. Some community members believed the fish-shaped tool was intended only for cooking actual fish or for use by the chronically ill. Additionally, the lack of resources for a comprehensive media sensitisation campaign hindered broader acceptance. To improve uptake, further development of targeted behaviour change strategies is needed. These should incorporate diverse media channels and ensure communication in local dialects to effectively convey that anaemia is a serious yet manageable health issue, while promoting the use of the Lucky Iron Fish.
- 4. Complementary Products and Seasonality:** Inconsistent access to complementary ingredients (like citrus or tomatoes) affected optimal use. During the planting season, limited disposable income also reduced purchases, but selling Lucky Iron Fish with seeds helped combat this challenge. Future strategies should account for seasonal income and explore bundling Lucky Iron Fish with complementary and well-established products.
- 5. Regulatory Barriers:** Lack of National Drug Authority (NDA) certification limited institutional use, despite recognition by the Bureau of Statistics as a food supplement. Without NDA approval, schools and health facilities could not procure or distribute the product. Engaging relevant authorities is key to unlocking institutional partnerships and scaling up.
- 6. Integration into Broader Public Health Strategy:** The Lucky Iron Fish is a promising, sustainable innovation for addressing iron deficiency anaemia, where previous public health campaigns have fallen short. However, it should be part of a broader strategy addressing multiple micronutrient deficiencies and overlapping health challenges.

GOAL'S NEW STRATEGIC INTENT: FROM CRISIS TO RESILIENCE, PROVIDING LIFE-SAVING EMERGENCY ASSISTANCE AND BUILDING RESILIENCE BY STABILIZING AND STRENGTHENING SYSTEMS.





Irish Aid

An Roinn Gnóthaí Eachtracha
Department of Foreign Affairs

GOAL'S INNOVATION LAB IS

KINDLY SUPPORTED BY IRISH AID

CONTACT

GOAL HQ
Carnegie House
Dún Laoghaire
Co. Dublin, A96 C7W7
Ireland

+353 (0)1 2809779
info@goal.ie

GOAL UK
info@uk.goal.ie

GOAL Global Learning &
Knowledge Sharing
knowledge@goal.ie



goalglobal.org