LUCKY IRON FISH

Stage of innovation

- Ideation and piloting ✓
- Validation
- Scaling

BACKGROUND

Anaemia impacts one-third of the global population. Around 50% of reported cases stem from iron deficiency, which itself results from insufficient dietary iron intake. The condition is the most common nutritional issue among infants, young children, and women of reproductive age in low-income countries. Anemia can lead to poor birth outcomes, inadequate growth and development, and reduced educational and earning potential (Nankinga, 2019) [1].

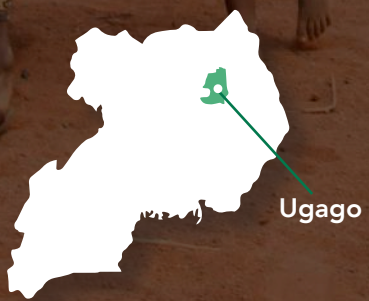
The 2016 Uganda Demographic and Health Survey (UDHS) reported that the prevalence of anemia was 53% in children aged 6-59 months and 32% in women of reproductive age (Nankinga, 2019). Moreover, anaemia has proven very resistant to prevention through public health interventions.

The impetus for innovation here reflects a recognition of the fact that the prevention of anaemia requires early and consistent intervention, which in turn requires robust delivery systems that employ better vehicles to provide iron through diet. Lucky Iron Fish can act as this vehicle, achieving adequate iron intake among populations at risk of anaemia and achieving what has previously not traditionally been possible.

WHAT IS THE INNOVATION ABOUT?

The Lucky Iron Fish (LIF) is a revolutionary iron block that releases absorbable iron during cooking and adds extra iron to daily foods or drinks. Following a systems approach, this innovation promotes a Social Entrepreneur Model to connect the offer (LIF) demand in Uganda. This means delivering a low-cost product into the hands of incredibly hard-to-reach families, and in localities where public health campaigns have repeatedly failed. This innovation will bring together two organizations (LIF and Divine Organic Foods) to work collaboratively to address anemia in Uganda through a sustainable Social Entrepreneur Model. This innovation will follow Divine Organic Foods' social entrepreneur approach with a proven track record of achieving accessible last-mile delivery systems and supporting consumer demand through a trusted network of community agents. The business model is based on workers supplying low-cost health and nutrition products that are valued and in demand by the community. The agents themselves help to create demand through cooking demonstrations and counselling.

LIF was developed in an Asian context, and although it has been trialed successfully in two West African countries and Tanzania, it has not yet been used in the Horn of Africa. It has only been used in programmes using direct distribution or in research trials, never as a product with commercial value, which is the basis of this model's sustainability.



This innovation will be developed to fund a small-scale pilot in **Agago, Uganda.**

IMPACT

A study focusing on LIF's effects found a notable decrease in the prevalence of anaemia among women and children. Additionally, it demonstrated that LIF contributed to improved cognitive performance in children. Another study conducted in Southeast Asia evaluated the impact of using the LIF on women of reproductive age. The study's findings revealed that utilising LIF resulted in a significant increase in serum ferritin levels "serum ferritin levels - a blood protein that contains iron and is reflective of the amount of iron stored in the human body." Moreover, participants readily accepted LIF, and its consumption did not adversely affect food's taste or colour which are issues commonly encountered with traditional iron supplements.

Furthermore, LIF has proven to be a cost-effective solution. A study conducted in Cambodia estimated that its implementation could potentially save the healthcare system over $4 million annually by reducing the burden of anaemia.

Considering its utility and cost-effectiveness, LIF is a promising tool for addressing anaemia, especially in resource-limited settings. Its potential makes it highly valuable for improving public health outcomes in developing countries like Uganda.

POTENTIAL TO SCALE

The LIF has been used in South-East Asia, with scientific studies demonstrating positive outcomes with correct use. LIF's effectiveness, acceptability, and cost effectiveness make it a highly promising tool for improving public health outcomes in countries like Uganda. Moreover, the social model proposed by this innovation to connect the LIF with future users, strives to create a sustainable and scalable approach that not only has the potential to greatly reduce the prevalence of anaemia in Uganda but also in communities across the globe. Anaemia is estimated to affect half a billion women 15–49 years of age and 269 million children 6–59 months worldwide. Africa and South-East Asia are most affected, with an estimated 106 million women and 103 million children affected by anaemia in Africa and 244 million women and 83 million children affected in South-East Asia (WHO, 2023) [1]

Credits: Gastronomía & Cía

NEXT STEPS

GOAL and Divine Organic Foods' will collaborate to identify the populations most vulnerable to anaemia in the target locations where this innovation will be piloted. This will allow the identification of families and localities with the highest need for LIF. Afterwards, GOAL will develop a targeted implementation strategy for the delivery and promotion of LIF in collaboration with Divine Organic Foods. To ensure LIF uptake, Divine Organic Foods will train agents on the benefits of LIF on its effective use, who will then promote its use among households, providing education on its benefits and how to use it effectively. Finally, if LIF demonstrated positive uptake and good results in Uganda, GOAL would explore the potential for national production of a comparable product.

[1] https://doi.org/10.1016/S0140-6736(20)32594-0

[2] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://dhsprogram.com/pubs/pdf/WP149/WP149.pdf

HOW CAN YOU GET INVOLVED?

If you are interested in supporting our innovation with financial contributions or providing technical guidance, please feel free to get in touch with the following contact:

Email
dzedriga@ug.goal.ie

Contact
Daniel Zedriga

Plot 5448, Block 244, Bonge Way,
Kansanga, Kampala, Uganda

PROGRAMME
INNOVATION LAB

Innovating to Overcome Humanitarian Crisis

The GOAL Programme Innovation Lab is a dynamic and collaborative unit established by GOAL to foster innovation within GOAL's programmes and to promote this work both internally and externally with the wider development and humanitarian community.

To get involved or find ways to support our innovations, please visit **goalglobal.org/innovation** and/or contact: **innovationlab@goal.ie**

Scan to visit our website

The GOAL Humanitarian Innovation Fund is designed as a dynamic collaborative process through which strategic partners can engage and provide support to foster innovations which have the potential to enable marginalised populations to overcome humanitarian crisis.

The Innovation Fund is a vehicle for strategic partners who are passionate about how innovation can be applied to overcome humanitarian crisis to support efforts to move communities from Crisis to Resilience. Partners from across the full spectrum of society are invited to engage, including from the those from the private sector, philanthropy, civil society, academic institutions and government bodies.

For more updates and stories from our work supporting communities around the world, visit our **Stories Archive** and follow us on social media:

@GOALGlobal **@GOAL_Global** **@GOALGlobal**

GOALGlobalcharity **GOAL Global**

GOAL Ireland
Carnegie House, Library Road, Dun Laoghaire
Co. Dublin A96 C7W7
Ireland