gain
Global Alliance for Improved Nutrition

INNOVATION BRIEF

USING HUMAN-CENTRED DESIGN TO DEVELOP SCHOOL FEEDING SOLUTIONS IN ETHIOPIA

INNOVATIVE STATEMENT

The Global Alliance for Improved Nutrition (GAIN), in collaboration with the Ministry of Education, development partners, schools, and communities, used Human-Centred Design (HCD) to develop a context-specific approach to integrate dairy into Ethiopia's Home Grown School Feeding Programme (HGSF).

Instead of introducing a predefined dairy provision model, this approach places schools and their respective communities at the centre of identifying challenges and exploring possible solutions to determine a model best suited for their circumstances. Through a participatory co-design process guided by GAIN's HCD Toolkit for Nutrition-Sensitive Social Protection, stakeholders co-developed a decision-support tool for supporting schools to navigate a diverse range of feasible models for making milk provision more feasible and cost-effective.

This approach, piloted at Mulugeta Gedlie Primary School in Sebeta, Sheger City, Oromia Region, was a testament to how locally informed decision-making, community participation, and complementary income-generating activities can contribute to improving the nutritional quality and sustainability of school meals.



IMPLEMENTED IN PARTNERSHIP WITH

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THE CHALLENGE

Although grain-based meals provide an important source of energy, the incorporation of nutrient-dense foods such as milk can help improve the nutritional quality of meals provided to students. This integration remains a challenge for many schools in Ethiopia.



Schools differ in their access to land, water, infrastructure, markets, suppliers, and financial resources, making it difficult for one implementation model to respond adequately to different circumstances. This experience reflects on the broader challenge that a dairy provision model that works in one school may not necessarily be feasible in another school.

Providing dairy through school feeding involves several practical as well as financial considerations, more than just having access to cows or dairy. School can face high cattle-feed costs, insufficient technical expertise, competing farm management responsibilities and constraints regarding infrastructure, storage, water and electricity, and access to markets.

The experience at Mulugeta Gedlie Primary School sheds light on these challenges of sustaining school milk provision. The school previously had received support from the Ethiopian School Meal Initiative (ESMI), which provided ten dairy cows and supported the establishment of milk provision through technical and financial assistance, dairy farm construction and farm management support. However, the difficulty of sustaining milk provision for a large student population and high cattle-feed costs contributed to the discontinuation of the school milk provision in 2019. Recognising the importance of building on existing investments, GAIN held a discussion with ESMI before initiating the intervention to understand the gaps and challenges that had affected the continuity of the existing assets.

To address this challenge, GAIN partnered with schools, local governments, and development partners to co-create innovative solutions using a Human Centred Design (HCD) approach, guided by GAIN's HCD Toolkit for Nutrition-Sensitive Social Protection (NSSP). By collaborating with the Ministry of Education (MoE) and other stakeholders, GAIN's HCD approach provides an adaptable, scalable model that fits with the resource availability and circumstances of the school environment.



THE INNOVATION: HUMAN-CENTRED DESIGN (HCD)

Human-Centred Design (HCD) is an approach that puts the experiences, needs and perspectives of the people at the centre of developing solutions to the challenges that affect them. As opposed to implementing a predetermined intervention, HCD addresses the problems of end users by listening to and understanding their needs and challenges, co-creating potential solutions using a bottom-up approach, and testing and refining those solutions based on real-world experience.

What makes HCD innovative is this shift in enabling schools and communities to identify and develop a solution that fits their own circumstances, recognising that schools are better positioned to identify what is feasible when they are actively involved in decision-making and own the solution long-term.

GAIN APPLIED ITS NUTRITION-SENSITIVE SOCIAL PROTECTION (NSSP) HCD TOOKLIT



In the **Plan phase**, the project goals, current system, timeline, stakeholders, and target groups were identified. In the pilot project, Mulugeta Gedlie School was selected for the implementation of the school milk pilot project, and the stakeholders included the Ministry of Education (MoE), Sheger City, the private sector, the school's Parent-Teacher Association, and other stakeholders.

After planning, the team moved to the **Listen phase**, where we focused on understanding the needs and challenges of the school community. This helped identify the main challenges to school milk programmes despite the school already having dairy cows and previously established farm infrastructure. The highlighted challenges included the high cost of cattle feed, limited financial resources, lack of technical expertise, and the school's operational capacity.

After understanding the needs and challenges of the school community, the team moved to the **Ideate phase**, during which a series of HCD toolkit working sessions and multi-stakeholder workshops were conducted to explore possible ways to address these challenges. Nine potential dairy provision models were explored by participants, encompassing school-based approaches, external partnerships and community-based arrangements. These models included parent- or teacher-led dairy farms, school–community partnerships, collaboration with smallholder farmers or cooperatives, dairy processor corporate social responsibility partnerships, NGO and donor support, direct community contributions, parent engagement, innovative financing, and volunteer-based programmes.

Instead of selecting one model, they worked together to co-create a range of prototype solutions, of which two promising prototypes were identified for further consideration:

PROTOTYPE 01. SCHOOL AWARD SYSTEM

How the award concept works



SCHOOLS ENGAGE
Schools take part in dairy provision as part of school feeding.

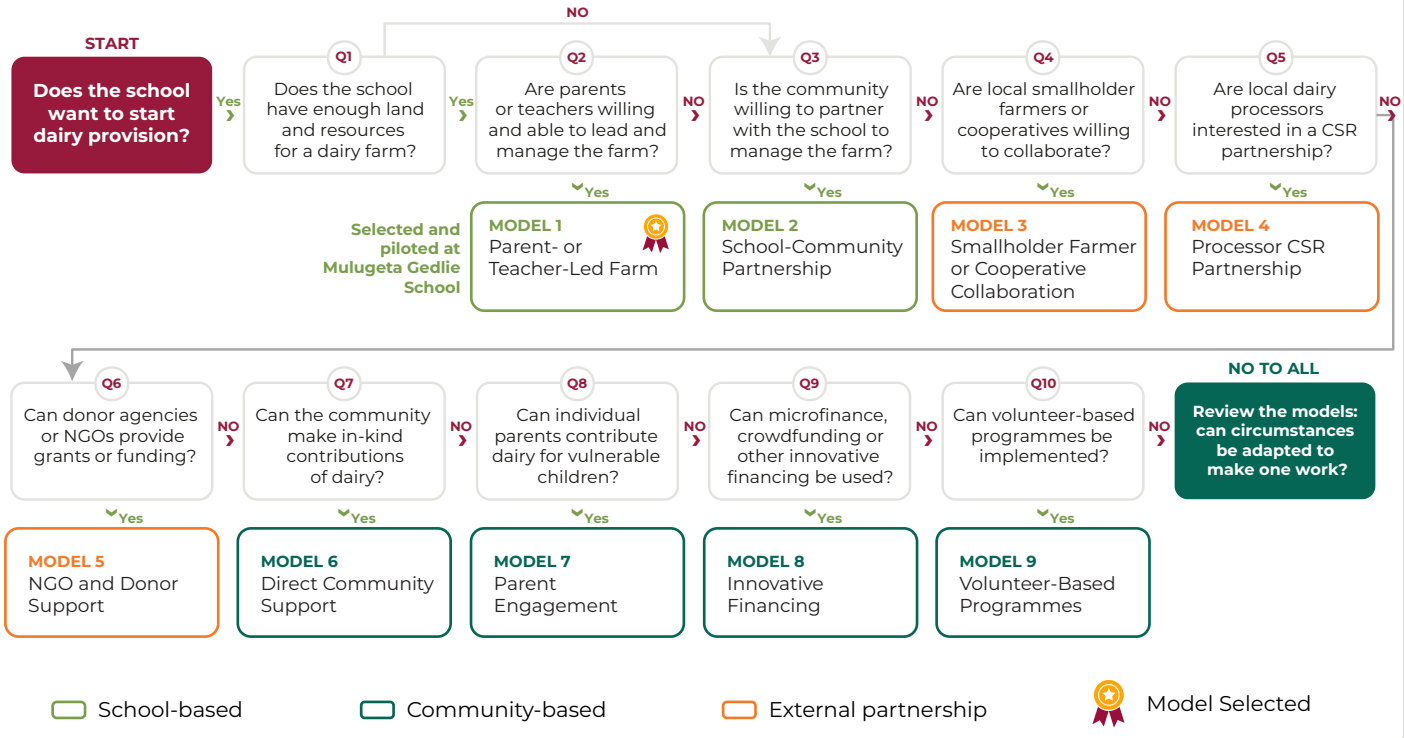
RECOGNITION OR AWARDS
Schools' engagement in dairy provision is recognised or rewarded.

ENGAGEMENT GROWS
Recognition encourages schools to engage more in dairy provision.

An HCD-ideated awards program to boost school dairy provision, which was bypassed after validation to test a decision-support model instead.

PROTOTYPE 02. DECISION-SUPPORT MODEL

How the model identification tool works



Following the validation process, the decision-support model was selected and used to guide the school in assessing potential models against its available resources and capacities. It uses a sequence of Yes/No questions to guide model identification and a detailed checklist to help them further evaluate the suitability of each option.

The parent- or teacher-led model was selected per this process. It involves parents and/or teachers managing a dairy farm on school property in collaboration, developing a business model and establishing partnerships to support the operation.

Finally, in the **Test phase**, GAIN partnered with Mulugeta Gedlie School to see how it addressed the school's challenges and supported school milk provision. To proceed with the project, GAIN and Sheger City signed a Memorandum of Understanding (MoU) to implement the pilot project from April 2025 to June 2026.

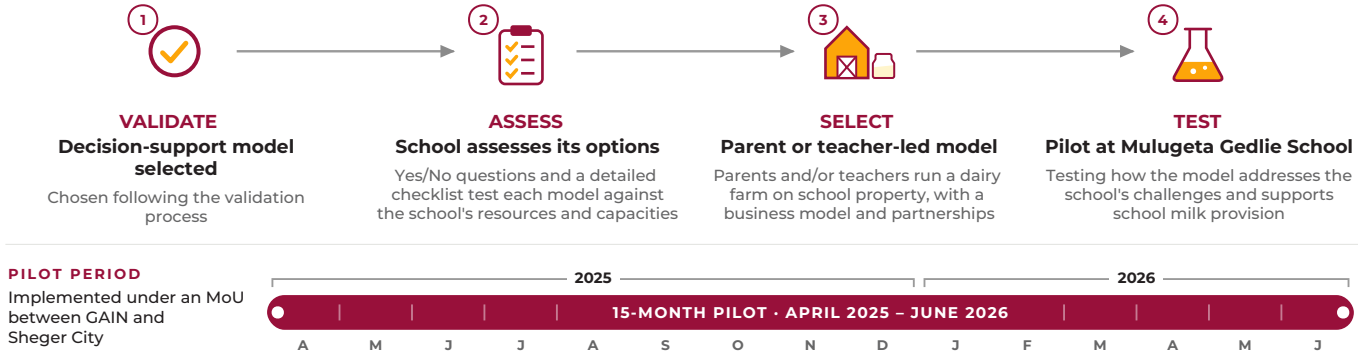
The Nutrition-Sensitive Social Protection (NSSP) HCD toolkit supported the process. To make the toolkit more effective and suitable for the local community, it was adapted into Amharic and Afaan Oromo. The adapted versions followed the original toolkit while considering the local culture and making the information easier to understand for the target audience in Ethiopia.

To share the information, 80 copies of the Amharic version and 80 copies of the Afaan Oromo HCD toolkit were distributed in Sheger City. The translated toolkits were shared not only with stakeholders in Sheger City but also with participants during the project's showcase event, review meeting and closure event, this helped male the approach accessible to a wider group of stakeholders.

The innovation lies not simply in the decision-support tool itself but also in the process through which it was developed and applied. Stakeholders co-created the options, while GAIN supported the schools to make suitable context-specific decisions and tested the selected approach.

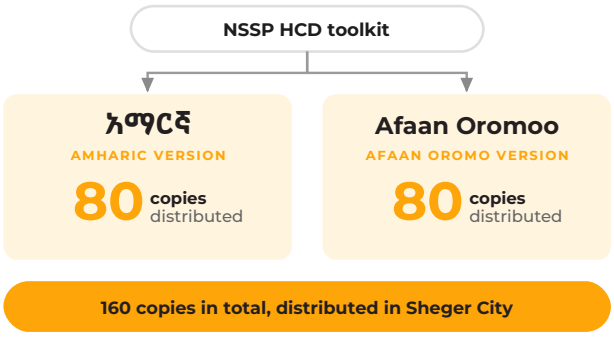
THE PILOT JOURNEY

From decision to pilot



TOOLKIT ADAPTATION

Making the HCD toolkit local



Both versions follow the original toolkit while reflecting local culture and making the information easier to understand for audiences in Ethiopia.

THE INNOVATION

Not just a tool: a process

Decision-support tool + Co-creation process

The innovation is not only the tool, but how it was developed and applied:

1. **CO-CREATE** — Stakeholders co-created the dairy provision options
2. **DECIDE** — GAIN supported schools to make suitable, context-specific decisions
3. **TEST** — The selected approach was tested in practice

RESULTS OF THE PILOT PROJECT

For the implementation of the pilot project, GAIN, the school, and the community contributed resources and support, helping the school start and expand school dairy programmes, eventually expanding to establishing a bakery to support school meals and supplement income for feed.

THE PILOT PROJECT RECORDED THE FOLLOWING RESULTS:

01 **Improved access to nutritious meals:** A total of 553 Grade One students, including 15 special needs students, received 200 ml of boiled milk and 70 grams of fortified bread twice per week.

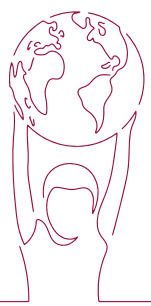
02 **Improved farm management and infrastructure:** The school also introduced elephant grass to support cattle feeding and prepared an area where cows could receive sunlight, which supports cow health and productivity. With this insight provided by Ministry of Agriculture, these improvements contributed to better farm management conditions and supported increased milk production from 420 litres to 1,200 litres per month.

03 **Complementary income-generating activity introduced:** Bread production was developed to provide fortified bread for students as well as generate revenue through its sales. It was intended to help offset dairy-feed costs and support continued milk provision.

04 **Improved school capacity:** Provision of dairy farm and storage equipment, bread-baking equipment, and also training in dairy management, milk safety, and business planning to support implementation. Support also included the establishment of record-keeping and documentation practices to strengthen the school's management and monitoring.

05 **Community ownership reinforced:** Community members contributed USD 2,500 towards the rehabilitation of the dairy farm as well as provided labour for the construction of the bakery, which complements the school's and GAIN's contributions.

06 **Wider community engagement:** A total of 1,126 indirect beneficiaries, including parents, teachers, and members of the school community.



LEARNING FROM THE INNOVATION

The pilot project shows the importance of applying a Human-Centred Design approach when designing solutions. Because of the participatory process, the school identified a parent- or teacher-led dairy farm model which is complemented by bread production as a potential income-generating avenue. This approach might have been overlooked had a more conventional top-down solution was implemented, where solutions are often determined before understanding the context of individual schools fully.

01.

Local solutions:

Context-specific solutions emerge when schools are part of the decision-making.

02.

Sustainability requires looking past the immediate intervention:

understanding the wider operational and financial challenges leads to solutions that address challenges beyond the initial focus on dairy provision. Discussion with ESMI helped identify challenges associated with the previous school milk provision, including feed costs and the operational demands. This created an opportunity to build on existing assets and recognise previous efforts to incorporate lessons from earlier implementation into the HCD process.

03.

Collaboration strengthens ownership:

This creates a foundation for decision-making that is collaborative and a ground where responsibility is shared. Reviewing past interventions and engaging with organisations that previously supported can help avoid duplication, make better use of existing resources and inform more sustainable approaches.

04.

Continued monitoring is essential:

Documenting milk production, student access, bakery sales and equipment maintenance is important to assess whether the selected model is financially and operationally sustainable over time

RECOMMENDATIONS FOR FUTURE APPLICATION

Strengthen the use of HCD: The Ministry of Education and other relevant partners should explore opportunities to apply participatory HCD approaches to understand school-level challenges and develop locally appropriate solutions within existing national HGSF guidelines.

Promote decision-support tools: Support schools to use structured decision guides to assess school feeding models against their resources and capacities.

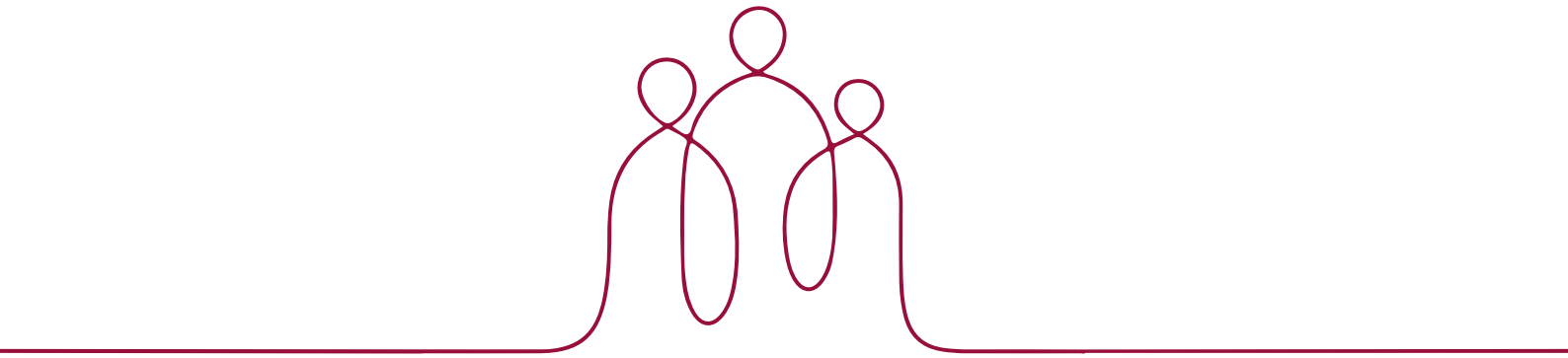
Ensure inclusive decision-making: Involve school administrators, teachers, parents, students, farm workers, and community representatives in the process of identifying needs and selecting models.

Strengthen context-specific technical support: Provide schools with training and technical guidance on cattle feeding, fodder production, animal health, farm management and milk safety. The Mulugeta Gedlie experience highlights the importance of involving agricultural extension services and relevant technical institutions to help schools address practical farm management challenges.

Monitor financial and operational sustainability: Establish monitoring tools to document expenditure and the use of generated income to support school milk provision.

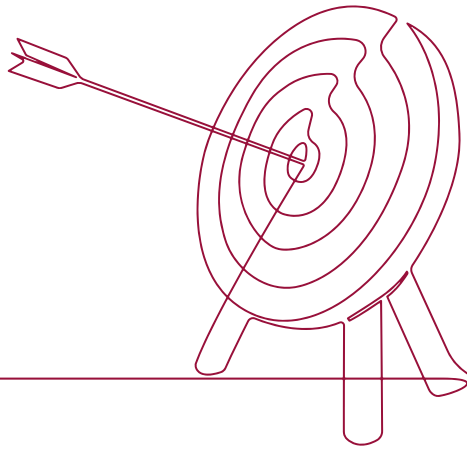
Facilitate experience sharing: Document the implementation process to help other schools assess the suitability of the different models before adopting them.

Essentially, the innovation reinforces that sustainable school feeding heavily depends on how solutions are identified, developed and implemented. Putting schools and communities at the centre of decision-making creates opportunities for locally appropriate, collaborative solutions.



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