

Building Rural Income through Inclusive Dairy Business Growth in Ethiopia (BRIDGE)

Action Research on improved nutrition

BRIDGE Practice brief



Introduction

Ethiopia still has a low per capita consumption of dairy products when compared to other countries in East Africa. Given the serious challenge of malnutrition among children under 5 years in the country, increased consumption of animal source foods is necessary. This will most likely lead to improved health and nutritional outcomes, enhanced cognitive development, etc.. BRIDGE has been working on improved consumption of dairy products through two approaches: (1) nutrition education to increase knowledge and awareness of rural dairy producing households; (2) a school milk program to contribute to better nutrition of children. These approaches are implemented within the context of developing the dairy value chain, to improve the dairy sector. This research brief presents the highlights of the action research on improved nutrition outcomes in BRIDGE with a brief description of studies conducted, main findings, and a case study illustrating these.

Methodology

An action research approach was used in conducting activities under the improved nutrition (Figure 1). This entailed joint identification of problems around nutrition of the dairy farming communities, co-designing/action planning, co-implementation through stakeholders' engagement, sharing of results, and lesson learning. Following the joint identification of problem(s) to address, a survey, study or intervention program was designed depending on the issue being addressed. For example, in the rural consumer study a survey was conducted at household and community level; for the school milk program a review was conducted and an intervention program was piloted at private and public primary schools in the project clusters while the consumer insight study on potential of probiotic yoghurt was a survey conducted over telephones of consumers in Addis Ababa. The data collected from studies

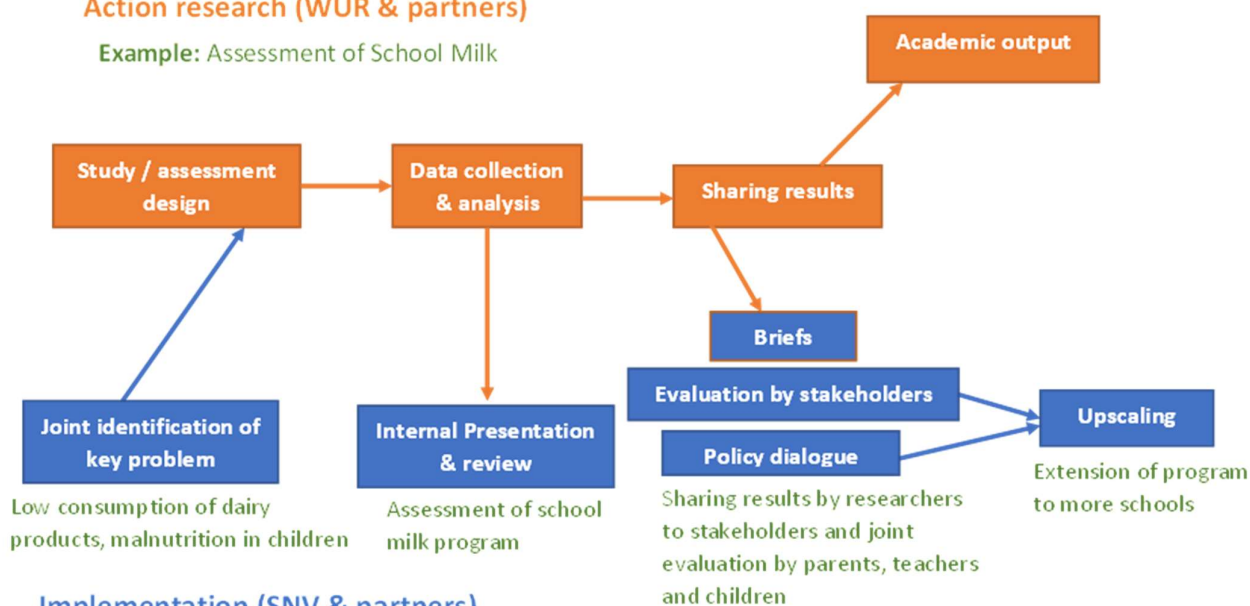
Key messages

- The action research approach offers opportunity for participatory problem identification, co-implementation and lesson learning by different stakeholders on improved nutrition of dairy producing rural communities, including children, and urban poor.
- The assessment of the school milk program and the insight study conducted by the project revealed an immediate improvement in milk drinking culture among pupils. This reinforces the advantage of action research that through joint problem identification and co-implementation, stakeholders' participation is enhanced.
- The action research on school milk program also provides a good platform for building synergies with the Government initiative on school feeding program, which can facilitate additional funding.
- The success of cost sharing model for the school milk program suggests that stakeholders (in this case, parents and school administrators) are ready to invest in an innovation when the benefits are obvious and immediate.

on consumer insight on consumption of dairy products and potential of probiotic yoghurt were analyzed and the results were shared with pertinent stakeholders including policy makers. In addition, there was an assessment of the school milk program where the participating teachers, children and parents were interviewed. Generally, the strengths of action research approach as applied by the project to improved nutrition included serving as platform for learning by different actors, cost-sharing arrangement between the project and parents for the school milk program, and it provides

Action research (WUR & partners)

Example: Assessment of School Milk



Implementation (SNV & partners)

Figure 1. Illustration of action research approach to improved nutrition

opportunity for timely feedback. Besides, the consumer insight studies are focused, and they inform practical recommendations. The main weakness is systematic monitoring and data collection of school milk program and affordability of the cost by poor parents.

Findings

The action research activities carried out included: (i) Rural consumer study on dairy consumption; (ii) Consumer insight study on potential of probiotic yoghurt; (iii) Assessment of school milk program. (iv) Review of nutrition behavioral change communication (BCC) activities.

(i) Rural consumer study on dairy consumption. This study investigated the drivers and barriers to dairy consumption among rural households in the West Amhara, Sululta-Fitche, Adama-Assela and Hawassa-Shashemene project clusters. The study included focus group discussions with community members, key informant interviews with community leaders, religious leaders and health extension workers, and a quantitative survey involving 366 households from the four clusters. A main finding from the study was that cow ownership is the main factor associated with a higher consumption of dairy products (Table 1). This essentially means that households are most likely to consume milk and other dairy products if they own cows. This implies that purchasing milk and dairy products was much less common than consuming what is produced at home.

(ii) Consumer insight study on potential of probiotic yoghurt. BRIDGE partnered with Yoba for Life Foundation to introduce probiotic yoghurt to school children and urban poor. A rapid consumer insight study was conducted to better understand the role of probiotic yoghurt in consumers' diet, to identify the attributes that give probiotic yoghurt an advantage over conventional yoghurt, and to understand how consumers form their purchasing intentions. The study was conducted in Addis Ababa in 2021 through telephone interviews of 98 current probiotic yoghurt consumers using a mixed qualitative and quantitative tool and checklist-based observations at milk shops.

Another key finding of this study was that more dairy products were consumed by households who are better informed of the benefits of consumption, such as prevention of diseases, improvement in children's performance at school, and healthy growth of children. The results also showed that household economic status influenced dairy consumption. These results suggest that efforts to increase dairy consumption in rural areas should promote cow ownership as home production is the most common source of milk and other dairy products. Also, the results showed the importance of creating awareness of benefits of dairy consumption through nutrition education to improve consumption in the rural communities.

Table 1. Dairy consumption frequency (number of days per week) and cow ownership

Variable	Own no cow	Own cow (any no., any breed)	Own local breed	Own crossbred
Number of households	30	336	193	270
Number of days per week (Mean \pm standard error)	2.87 \pm 2.00	3.86 \pm 1.60	3.75 \pm 1.60	4.05 \pm 1.60

Results showed that diversified groups of consumers of probiotic yoghurt in terms of educational status, occupation, physical activity and income. The results further showed that milk shops were the only source of information about probiotic yoghurt. 95% of the respondents reported that they didn't have enough information. Limited availability of probiotic yoghurt was the main barrier to consumption according to the respondents. The factors that influenced purchasing decision of probiotic yoghurt were perceived product safety, organoleptic properties, shopping location, and perceived nutrition health benefits. Taste and texture played an important role in the choice of probiotic yoghurt. 96% of the respondents consumed probiotic yoghurt immediately, as they were afraid to store for future consumption due to lack of awareness on the long shelf-life of probiotic yoghurt. The results also showed that 93% of respondents reported that consumption of probiotic yoghurt served as a substitute for consumption of other dairy products.

(iii) Assessment of school milk program.

Through the school milk program, BRIDGE had reached 20,524 students in 79 public and private schools as of December 2022. Following the piloting of a school milk program at some primary schools in BRIDGE project clusters, an assessment of the program was conducted in July 2022. The rapid assessment of the school milk program was conducted to gain insights on the implementation status and how to improve the design and quality of services delivered to the students. Also, the assessment aimed at documenting the perceived benefits of the program by the participating students, teachers and parents. A mixed qualitative and quantitative tool was developed, and in total 14 selected teachers from four participating schools were interviewed by telephone. Most notable among the changes observed by the teachers interviewed was reduction of hunger among the children. According to the teachers, the yoghurt served as the first food eaten in the day by some children. Other changes observed were improvement in class attendance, increase in school enrolment, noticeable reduction in school dropout, and improvement in physical activity, appearance and



Photo: A sachet of probiotic yoghurt



Photo: Children being served probiotic yoghurt at a school in the school milk program

health status of students as reported by 85%, 42.8%, 87% and 100% of the teachers interviewed, respectively. Some challenges mentioned regarding the program were quality control of the probiotic yoghurt supplied, absence of hand washing facilities at school, and additional work for the teachers as they are participating in

the program voluntarily. Despite these challenges, all the respondents observed that the program has come to stay as the children and their parents are enthusiastic about it.

(iv) Review of Nutrition Behavioral Change Communication (BCC) activities.

As part of Nutrition outcome activities, BRIDGE behavioral change program and nutrition education was incorporated to dairy farmers' extension group (DFEG) to ensure that dairy farming households have the necessary information to improve consumption of diversified food in general and dairy products. The review of nutrition BCC was conducted by interviewing key informants in all the project clusters on the benefits of the activities and the challenges. The nutrition BCC trainings and materials were reported to be relevant, useful, and applicable to improving household nutrition. The frontline workers and Woreda nutrition officials were trained on BCC approach to improve household nutrition education. Some of the challenges mentioned were non-participation of women due to distance from home, and time shortage to participate at the BCC trainings due to their workloads at home. The other challenge mentioned was that men who participated at the BCC trainings hardly shared knowledge acquired with their wives. Regarding the training, key informant interviewees mentioned that the implementation of BRIDGE nutrition BCC was "a one-off training which is unlikely to bring the necessary change in consumption behavior of the dairy households and the review observed that they were not adequately rolled out or cascaded to the trainees. Also, the review suggested that such BCC activities need to acknowledge the importance of at least a number of BCC sessions the DFEG members were expected to participate during certain period while the team plans cascading of the trainings with the frontline workers. Besides, the training on nutrition education could be better handled by health extension workers as most health education workers opined that they are overburdened by workload. To improve BCC training, a "Positive Deviance approach" could be adopted as this will help to focus on solution instead of problem, and on practice rather than knowledge acquisition. This approach can be sustainable as it relies on the internal capacity of the community.

Partners

The key partners involved in the action research on improved nutrition included Ethiopian Universities (Bahir Dar, Mekele, Hawassa, Arsi and Selale Universities), local yoghurt producers, Education offices, the Yoba for Life Foundation, and BOPInc. The local yoghurt producers are responsible for supply of their product to the participating schools. Education offices at regional and zonal levels are providing

Case study: Rising demand among primary school students for probiotic yoghurt

Habte Kindergarten is a private school in Batu town. The school had no previous experience with school milk program and hosts more than 600 students, out of which 300 are in kindergarten. In November 2021, BRIDGE facilitated a consultative meeting on probiotic yoghurt for the school management. The objective of this meeting was creating awareness on the importance of dairy products. After this meeting, the school director phoned the student families to inform and identify interest for the school milk program. The potential probiotic yoghurt supplier for the school: "Yoba for Life" tested his product by collecting feedback from the parents of the students on his product. At the end of this meeting, parents agreed on the proposed size (150ml) of the probiotic yoghurt cup and price of 8 birr per student per day. It was also agreed that the yoghurt will be served on Monday, Tuesday and Thursday. The parents agreed to pay 50% of the total cost. As the school milk program and probiotic yoghurt are new to the school, BRIDGE facilitated a 50% cost sharing approach for the first six months.

The school milk program started with 50 students, but the number of students increased to 110 students by the second week of implementation. After two months, students who were not included started requesting their parents to purchase the yoghurt for them as well. As a result, 186 new students were registered. As of now, the total number of students targeted by the program is 296, and the demand for consuming probiotic yoghurt is still on the rise.

institutional support to the school milk program. Yoba for Life is responsible for training of local entrepreneurs on how to run a small-scale probiotic yoghurt business. As at March 2023, Yoba for Life was supporting 72 active probiotic yoghurt producers in Ethiopia, who together produced 23,645 liter of yoghurt per week. BOPInc developed a marketing strategy to expand the market for probiotic yoghurt in Ethiopia. Through BOPInc, marketing materials such as posters, flyers, banners and light boxes were developed that are used in various campaigns and awareness creation events across the country.

Key recommendations

- Systematic monitoring of the effects of consumption of probiotic yoghurt/milk on child growth and development is necessary by collecting data on anthropometric parameters. This will provide quantitative and verifiable results of the school milk program in addition to the present qualitative assessment through feedback from students, parents, and teachers.

Quantitative and verifiable results are important as evidence for policy advocacy.

- Communication of the findings of the school milk program in form of policy brief should be given priority for engagement with the policy makers in order to facilitate scaling. In addition, information and education materials should be developed to promote school milk program.
- There should be engagement with schools where there is school feeding program to explore opportunities for the integration of school milk program as this will facilitate reaching more schools.

Publications

The key publications from the action research on improved nutrition included nutrition education materials, practice briefs, videos and scientific publications. Some of the publications are listed below:

(i) Moges, D., Bosch, D., ten Hove, H., Snoek, H., van Klinken, R. and van der Lee, J. 2021. Potential of

probiotic yoghurt in Ethiopia: Findings from consumer insight study. Proceedings of Ethiopian Society of Animal Production, page 101-104.

(ii) Bijdevaate, L., Moges, D., and van der Lee, J. 2022 The potential of probiotic yoghurt in Ethiopia, BRIDGE Project Brief, Addis Ababa, SNV Ethiopia and Wageningen UR.

(iii) Hove, H.J. ten, Snoek, H.M., Bosch, D., and Moges, D. 2022. Rural consumer study; Dairy consumption, beliefs and practices among rural populations in Ethiopia. Wageningen Centre for Development Innovation, Wageningen University & Research. Report WCDI-22-195. Wageningen.

Building Rural Income through Inclusive Dairy Business Growth (BRIDGE) is a five-year (Sep 2018- December 2023) project financed by the EKN and implemented by SNV and Wageningen University & Research. The main objective of the programme is to improve the income of dairy farming on household level and contributing to sector transformation are the core objectives of the project.

Please cite this brief as: Demewez Moges, Augustine Ayantunde, Jan van der Lee (2023). Action research on improved nutrition. BRIDGE Practice Brief, Addis Ababa, SNV Ethiopia and Wageningen UR.

Authors acknowledge the contributions of all team members and project partners who participated in the action research.

Contact: SNV Ethiopia, P.O. Box 40675, Addis Ababa, Ethiopia; ethiopia@snv.org or Wageningen Livestock Research: Jan van der Lee, P. O. Box 338, 6700 AH Wageningen, The Netherlands, jan.vanderlee@wur.nl