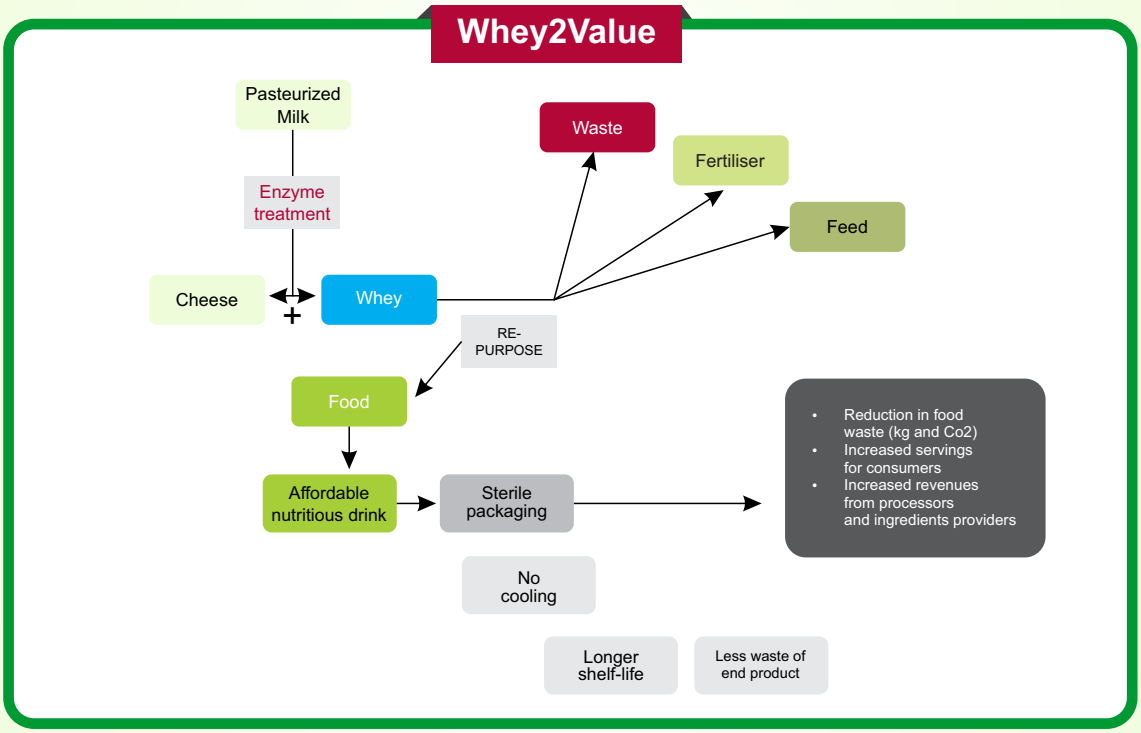
GAIN Access to Better Dairy

Pakistan stands out as a prominent player in the international milk production arena, contributing an impressive 65.7 million tons of milk annually as of 2022. The country has witnessed a notable upswing in commercial dairy production, encompassing milk, yogurt, and cheese, owing to the expanding forces of urbanization and industrialization. Nevertheless, the surge in cheese production has given rise to a concerning environmental issue, primarily linked to the substantial quantities of whey water generated as a by-product. Improper disposal of this whey water poses significant environmental challenges.

For every kilogram of cheese manufactured, 10 liters of milk are processed, resulting in the release of 9 liters of whey. Globally, nearly half of this whey is disposed of in wastewater; however, in Pakistan, approximately about 30% of the whey water is disposed of as near waste. Despite the global trend of harnessing whey as a versatile resource, catalyzing the creation of value-added products such as whey cheese, butter, and animal feed, Pakistan's dairy industry has not fully capitalized on this potential. Recognizing this untapped opportunity, GAIN, with the financial support of Danida Market Development Partnerships (DMDP) and Danida Green Business Partnerships (DGBP) has launched an innovative initiative.



Unlocking Whey's Potential: Innovating Dairy for a Sustainable Future

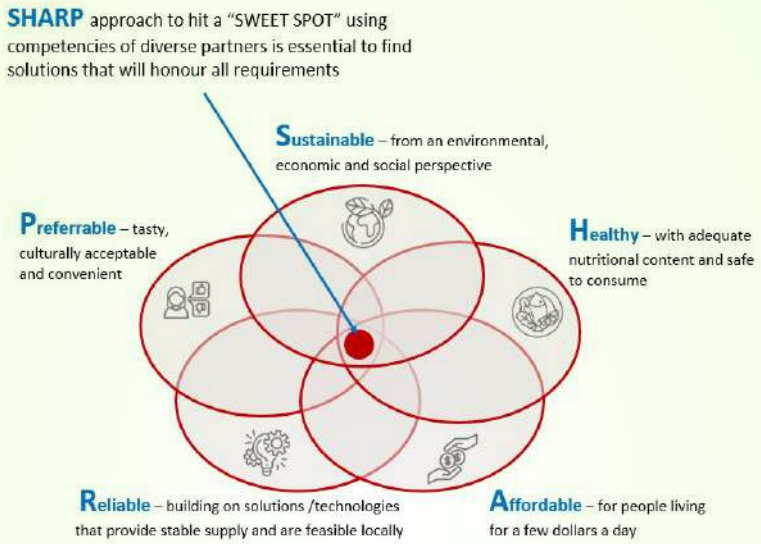
The "Whey2Value" project, spearheaded by the Global Alliance for Improved Nutrition (GAIN) facilitated by the SUN Business Network (SBN), in collaboration with the SUN Movement (MoPDSI) Pakistan, aims to transform the whey water produced in the cheese manufacturing process into a sustainable product. This innovative initiative not only addresses pressing environmental concerns associated with whey disposal but also generates economic and social benefits.

FOOD AND NUTRITION SECURITY AND CLIMATE CHANGE ARE INTERDEPENDENT:

climate change can negatively impact food system, and food systems play a role in driving climate change (in Pakistan, responsible for **41%** of emissions). This makes it imperative to prepare for and mitigate the effects of **food systems** on the **climate change** and vice versa.

The project convened a consortium of partners, each contributing a distinct set of expertise, to collaboratively develop the product. Employing the "SHARP" Model, the partners synergize their expertise to collaboratively develop sustainable whey based dairy products. These products are designed to be accessible to low-income consumers, fortified to address nutritional gaps, and priced affordably per serving.

Explanation of the SHARP Approach



Through fortification techniques and collaborative innovation, this initiative aims to revolutionize the dairy landscape in Pakistan. By leveraging whey and other resources, it aims to develop affordable, nutritious, and environment friendly dairy products, ensuring a sustainable and prosperous future for both the industry and consumers.

Pakistan is ranked as the **8TH MOST VULNERABLE** country to climate change according to the **GLOBAL CLIMATE RISK INDEX 2021**

Pakistan faces serious challenges when it comes to **malnutrition** and **ensuring** access to healthy diets.

GAIN has developed an Environmental Assessment Tool (EnAT) to support and empower GAIN's program greening ambitions. It triggers the programs and projects to consider 10 environmental impact levers like environment compliance, energy, emissions, biodiversity and land use etc. at the design, during implementation and after the completion of the project.

The project adopts an integrated approach, emphasizing both greening and scaling, promising a triple-win scenario. Firstly, it augments profitability for local dairies by introducing a new revenue stream. Secondly, it champions environmental protection by efficiently reducing waste. Lastly, it contributes to the battle against malnutrition by introducing a wholesome and nutritious whey-based beverage.