



End Line Evaluation

Leadership to Ensure Adequate Nutrition (LEAN) Project

FINAL REPORT

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Submitted by:



Innovative Insights for Sustainable Solutions (I4SS)

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List of Acronyms

BNNC	Bangladesh National Nutrition Council
CB	Caritas Bangladesh
CBO	Community-Based Organization
CCI	Chamber of Commerce and Industries
CHT	Chittagong Hill Tracts
CIP2	Country Investment Plan-2
CP	Collection point
CPMC	Collection point management committee
DAE	Department of Agricultural Extension
DD-DAE	Deputy Director of the Department of Agricultural Extension
DLO	District Livestock Officer
DLS	Department of Livestock Services
DNCC	District Nutrition Coordination Committee
DNI	Direct Nutrition Input
EU	European Union
FGD	Focus Group Discussion
GAIN	Global Alliance for Improved Nutrition
GoB	Government of Bangladesh
GPS	Global Positioning System
HDC	Hill District Council
HIS	Helvetas Swiss Intercooperation
IDF	Integrated Development Foundation
I4SS	Innovative Insights for Sustainable Solution
JF	Jum Foundation
LEAN	Leadership to Ensure Adequate Nutrition
LGI	Local Government Institution
LSP	Local Service Provider
MCH	Mother and Child Health
M&E	Monitoring and Evaluation
MEAL	Monitoring, Evaluation, Accountability and Learning
MOCHTA	Ministry of Chittagong Hill Tracts Affairs
MS	Market System
MSME	Micro, Small and Medium Enterprise
MSP	Multi-Stakeholders' Platforms
MSP	Ministry of Social Protection
MTR	Mid-Term Review
NGOAB	NGO Affairs Bureau
NNS	National Nutrition Service
NPAN	National Plan of Action for Nutrition
NPAN2	National Action Plan for Nutrition-2
OA	Overall Objective
OC	Outcome
OP	Output
PG	Producer Group
PPPP	Public Private Partnership Platform
PTI	Primary Teachers Training
PLW	Pregnant and Lactating Women
ROM	Result Oriented Monitoring
SBCC	Social Behavior Change Communication
SMC	Social Marketing Company
SMC	School Management Committee
SO	Specific Objective

SP	Service Provider
SPA	Service Providers Association
TA	Traders' Association
ToR	Terms of Reference
UNCC	Upazila Nutrition Coordination Committee
UP	United Purpose
VC	Value Chain
VCD	Value Chain Development
WASH	Water Sanitation and Hygiene
WBC	Women Business Centre

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Sincerely,

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Executive Summary

Bangladesh and Chittagong Hill Tracts (CHT) Context

As per Bangladesh Demographic and Health Survey (BDHS) Report: 2017-18, the prevalence of stunting among children under five years old is 31%, wasting is 10.5%, and underweight is 22.0%. The prevalence of overweight and obesity is also increasing, especially among women. Various factors contribute to malnutrition in Bangladesh, including poverty, lack of access to nutritious food, poor water and sanitation, inadequate healthcare services.

The nutrition and health status of people in the CHT (home to several indigenous communities, including the Chakma, Marma, Tripura, Tanchangya, and others) is generally poor compared to other regions of Bangladesh. Malnutrition and infectious diseases are significant public health concerns in the region. According to a study conducted in 2018, the prevalence of malnutrition among children under five in the CHT was 40.8%, with stunting (low height for age) being the most common form of malnutrition. Malnutrition is linked to poor dietary diversity, limited access to healthcare, and poor sanitation and hygiene practices. Limited access to healthcare and inadequate infrastructure further exacerbates the health challenges faced by local communities. The indigenous communities in the CHT often face additional health challenges due to their unique cultural and socioeconomic circumstances.

About The LEAN Project:

The European Union (EU) funded five-year project on nutrition governance named "Leadership to Ensure Adequate Nutrition (LEAN)" has been undertaken in three hill districts of Bangladesh: Rangamati, Khagrachari and Bandarban with an overall objective to **contribute to improved maternal and child nutrition in the Chittagong Hill Tracts**, Bangladesh.

United Purpose (formerly known as Concern Universal) played the role of the lead agency with five other organizations, such as, GAIN and Helvetas worked as technical partners, Caritas Bangladesh worked as both technical and implementing partner, and IDF and Jum Foundation as implementing partners

The project undertook tailored intervention strategies with a focus on three outcome areas:

1. Nutrition Governance,
2. Social and behavioral change communication for nutrition improvement,
3. Climate smart agriculture, value chain and market development.

The project adopted: a) Community led design to cover hard to reach areas, b) market system approach, c) enterprise based model for sustainable BCC on health, nutrition, WASH, d) community based organizations: adolescent leaders, women entrepreneurs, LSPs, e) MSPs a platform for community stakeholder to demand, accountability and improve services, f) System strengthening through capacity building, improved coordination of local govt. structures/line departments and g) real time monitoring system.

The project worked to reach about 210,000 households in 3 hill districts (Rangamati, Bandarban and Khagrachari). Since beginning in 2018, the project has strengthened 3 District Nutrition Coordination Committees, 18 Upazilla Nutrition Coordination Committees and 77 Multi-Stakeholder Platforms at union level, supported the formation of 164 women's business centres to promote sustainable health, nutrition and WASH services and economic empowerment. These centres are complemented by the works of 4,155 adolescent clubs which have been formed and oriented on nutrition, hygiene and WASH, reaching over 141 high schools for Blue School programming. A total of 84,681 pregnant and lactating women (PLW); 67,180 under 5 children, and 94,106 adolescents were reached by the project till year 05. In order to meet the demand created by these community-level efforts, more than 1080

Local Service Providers and 18 Service Providers Associations have been developed to increase nutrition sensitive food production through climate smart vegetable and poultry value chain development with 99,297 Producers.

Project Assessment

The project has already completed its planned period of operation. At the inception phase a baseline survey was conducted and later a Mid-term Evaluation was conducted. Based on the MTE recommendation, the project adopted appropriate measures to accomplish the tasks within the remaining period of the project. The Innovative Insights for Sustainable Solution (II4SS) has been assigned to carry out an Endline Evaluation of the LEAN Project.

Evaluation Objectives and Methodology

The purpose of this evaluation was to learn how well the LEAN project worked and what were the particular features of the project and context that made a difference. It also intended to measure the impact of the project interventions through comparison between the baseline situation and the end-line situation, document lessons learnt and make recommendations for better designing and more effective implementation of future related projects.

The evaluation was designed to address key questions concerning relevance, coherence, efficiency, effectiveness, impact and sustainability. Emphasis was given to capturing and analysis of secondary and primary data. Both quantitative and qualitative approaches and methods were applied for primary data collection. The process involved preparatory meeting/consultation, document review, household surveys, FGDs, case studies, and in-depth interviews. Structured questionnaires (for household surveys), FGD guidelines, in-depth interview guidelines and case study checklists were used as data collection tools. The tools were developed through a rigorous process taking programmatic and technical experts' views. Quality assurance measures included finalization of data collection tools through field testing, orientation for data enumerators, continuing follow-up, data cleaning etc. Integration of quantitative and qualitative data was assured for a comprehensive analysis and correlated findings to provide a holistic view of the project's impact and effectiveness. Simple random sampling approach was followed to selected respondents from indigenous groups, stakeholders including children under five, pregnant & lactating women, adolescent boys & girls, producers, local service providers (LSP) women business centre (WBC) members. For qualitative survey conducted FGD with selected project stakeholders like Bangladesh National Nutrition Council (BNNC) members, District Nutrition Coordination Committee (DNCC) members, Upazila Nutrition Coordination Committee (DNCC) members, Multi-Stakeholder Platforms (MSPs), Local entrepreneurs (latrine producers, satopan seller etc.), private sector actor (SMC, RFL, A. R. Malik Seed).

Evaluation Findings

a) Findings from Evaluation Criteria Perspective

Relevance	LEAN was designed and implemented considering the needs of the target population in relevance to the nutritional aspects, gaps and weakness of the nutritional governance issues, and in relevance with GoB policies and priorities. The project facilitated functioning of local relevant institutes and sensitized project beneficiaries as well as ensuring nutrition governance and its benefits to all.
Coherence	Formation and strengthened different producers (LSPs, Sanitary materials and satopan sellers), service providing (Public and private sectors, WBC,

	Collection centers/points) and groups (Women group, Adolescent club etc.) that benefited among each other.
Efficiency	Proficiency of the LEAN project remarkably earned in establishing relationship between inputs and outputs in a timely and effective manner and to expected standards.
Effectiveness	Local level marketing opportunities (linkages, Collation points, Nhari Jhuri etc.) created due to increasing productions and thus access to market is also being amplified. WBC operators became self-reliant through training and fund support from the LEAN project. As the LSPs became skilled in technical point of views which helped them increase theirs' products introducing innovative ideas and quality thus it grew into larger business opportunities and became popular in the localities as well.
Impact	WBC is one of the key successful approaches of the LEAN project. The WBC operators has demonstrated their ability to meet community demands. This has helped them to increase their income. Community people are also being able to collect WASH and personal hygiene related items from the WBCs.
Sustainability	Multi-sector approaches had built/inspired inter-sector coordination, linkages, and sharing which strengthened activities related to nutrition issues. WBCs being based in the communities created easy access for people to get services or collect relevant items whenever needed. This is quite popular to the community as it gives services which meet their basic needs and thus it is one of key 'beauty' of the project. In the meantime, WBC sellers also found growing their business and services that strengthened its socio-economic development and access to decision making process both at family and societies. Blue school students and adolescent club members have prepared themselves to act as change makers and ambassadors improving nutrition sensitive families and communities/societies improving nutrition sensitive families and communities/societies.

b) Findings from Programmatic Interventions Perspective

Nutrition Governance (DNCC, UNCC, MSPs)

By considering the relevance of the multi-sector stakeholders' involvement at district, sub-district (upazila) and Union Parishads for implementing NPAN2, LEAN took initiatives to improve and strengthen local nutrition governance by facilitating District and Upazila multi-stakeholder platforms (MSPs). In 3 CHT districts, the multi sector platforms (DNCCs, UNCCs and Union MSPs) conduct regular meetings which has enabled closer engagement between different government departments and LGSPs. According to all multi-sector stakeholders, they had not considered or focused on nutrition issue previously. Now they keep in mind nutrition during target setting, planning and progress reviewing and further planning in their departments. Union MSPs are playing a significant role to raise awareness and energize the community on nutrition issues (e.g. cultivation of nutrition vegetable and foods, nutritious food, food preparation and cooking, health hygiene, etc.). The members of Union MSPs also keep close relations with WBCs, LSPs and UNCCs. It is important that government recognize the Union MSPs by considering their importance and acceptance in the community. In addition, government could appoint nutritional focal point persons to conduct regular meetings in absence of LEAN project staff.

Blue School

The LEAN project activated 141 student brigades and conducted trainings about their roles and responsibilities including WASH activities, nutritious foods and nutrition practices, the importance of iron tablet and folic acid for the adolescent girls, cleanliness at personal and school level. The project supported the establishment of vegetable/ nutrition gardens in all schools including the hands-on training and provided hardware supports for the nutrition garden. LEAN also organized training for the blue schoolteachers (who were the focal point persons) who played crucial roles in implementing the blue school concept. As a result, the students now know about the impact of malnutrition and nutrition and the importance of balance diet in their life. They also have come to understand how to develop nutrition gardens, improved understanding around harvesting and selling that has positioned them to do the same activities in their own residences. The student brigade members share about nutrition, nutrition garden and WASH activities in the classes. It is found that the dropout rate among the students especially girls' students reduced, while the regular presence of students increased on average.

Anthropometric Information

According to Multiple Indicator Cluster Survey (MICS) 2019, the moderate stunting (-2SD) of U-5 children is 27%. And the endline survey the moderate stunting found 19.2%. So, the reduction is 7.8%.

The endline survey evidenced that the project achieved the impact level indicator (BMI for reproductive mothers) comfortably as the survey found only 6.2% mothers as underweight, whose BMI is less than 18.5. The baseline figure was 10%, so the reduction of underweight women is 3.8%.

On average, 28.1% adolescent girls of the project working area were found with the prevalence of low BMI (less than 18.5). According to the Nutritional Status of Adolescent Girls in Bangladesh: A Review Paper Focusing on Regional and Institutional Variations (*published in the American Journal of Public Health Research, July 2020*), the prevalence of low BMI (undernourished) of adolescent girls is found 50%. And it is found 28.1% in endline survey. So, the reduction is 21.9%. The baseline findings don't match with the journal report.

Basic on Nutrition

The project also played a role in enhancing knowledge and understanding about nutrition. The survey found that 98% of the project participants possessed information regarding nutrition which they acquired through attending WBC Sessions, LSP Sessions and Training.

Meanwhile, 95.5% of project participants attended nutrition-related awareness sessions and 96% attended training on hand washing practices. Many of them adopted better practices in the areas of food production, food preparation, breastfeeding, etc.

Furthermore, over 62.1% from the project area stated that they now seek support from various government institutions for their food security and nutritional needs. In this, they mostly go to the local government institutions (mainly Union Parishad), Upazila Department of Agriculture Extension (DAE), Upazila Family Planning Office, Upazila/Union Level Health Facilities.

Food Security and Consumption Pattern

Notably, a very high percentage of the households (98.9% in the project area and 88.8% in the non-project area) are aware about minimum diversity of food for women.

Regarding balanced food consumption, the situation for women in the family - particularly pregnant and lactating women, adolescent girls and children under 5 years of age is comparatively higher than was found at the baseline stage.

The orientation sessions about the food groups contributed in enhancing the knowledge of pregnant and lactating mothers on different 'food groups'.

Moreover, 83.6% of women in project area were found to be consuming at least 5 (out of 10) food groups in last 24 hours. While 47.4% of under-5 children in project area got 5 types of balanced food during the last 24 hours. As reported by the interviewees, food deficiency is most acute during the periods of Chaitra (April-May) and Ashar (July-August).

Reproductive Health Aspects of PLW

Multiple pregnancies are common. More than 20% of the total respondents have had three or more pregnancies. There are reported cases of pregnancy related complications which led to abortion, still birth, intra uterine fatal death etc.

Therefore, it is crucially important to keep attention on the needs of the women during pregnancy, continue awareness related to pregnancy and assure availability of affordable services for the pregnant women.

The LEAN Project took all these issues into consideration and designed appropriate interventions. However, based on the evaluation findings, it is apparent that more work is needed in these areas. While in one hand there is indication of good practice regarding reproductive health (i.e. ensuring antenatal and postnatal check-ups, consumption of iron tablets, calcium tablets during pregnancy, and nutritious food, getting delivery in hospital etc.) in the other hand it observed that a mentionable number of the pregnant women did not do as needed. For example, a similar proportion of PLW did not take TT Vaccine in the project area (4.4%) than those in the control area (5%). Furthermore, a not insignificant number didn't have antenatal and postnatal check-ups or did not have enough scope to take rest. However, the proportion of pregnant women who adopted good practices, in several aspects, is much higher among the project participants than the non-project participants.

Infant and Young Child Feeding Practices

It is a matter of satisfaction that among the PLWs (423) a high percentage (97% of project participants and 93% of non-project participants) were able to breastfeed their babies.

Over 80% started breastfeeding within an hour of the child's birth. More than 80% provided breast milk to babies 3 or more times within the first 24 hours. A significant number of the lactating mothers provided colostrum milk (produced during the first few days after delivery) to their newborn babies.

Meanwhile, 62.7% of the project participants started providing complementary food (besides breast milk) to babies from the sixth month of the child's birth. A good proportion of the respondents (89.8% of the project participants) mentioned that they provided cooked food to their children within the last 24 hours.

Health Management, Vitamin A Supplementation and Vaccination for Children

The survey found that the level of awareness among the respondents regarding diarrheal diseases and required measures is enhanced. A significant portion can explain symptoms of dehydration due to diarrhea and know what to do during diarrhea.

It is a positive indication that a very high percentage (91.5%) in the project area of the lactating mothers continue breast feeding their babies during diarrhea. The use of packet saline or homemade saline is also evident.

In addition, it is apparent that project interventions made contributions in enhancing the awareness level regarding the "do's and don'ts" related to diarrhea. The breastfeeding

practice among the lactating mothers is higher than in the non-project area.

The practice of ensuring Vitamin A Capsule and deworming tablet/syrup in the project area is also good. However, the rate of vaccination is yet to be at an acceptable level, and it requires planned actions to bring in further improvement in the scenario.

It is found that for treatment for illness most participants went to Upazila Health Complex, Community Clinics and some to District Sadar Hospital. It is particularly encouraging to note that more than 80% relied on and made use of government health facilities.

Producer / Value Chain

A very high percentage of the producers (involved in agriculture), use an improved variety of seeds, hybrid variety of seeds and improved methods in farming. Many of them were also the first adopters of the new technology in the local area. The use of improved variety seeds and hybrid seeds and improved technology has increased as compared to the baseline situation.

Among the project participants 70.2% have linkage with input market actors and 71.9% with output markets actors. This suggests a very notable role for the project interventions in improving the status of project participants on this metric. The qualitative survey also revealed that the project selected LSPs, WBCs and other producers' groups were linked with relevant market actors that helped them in selling their outputs/products and buying raw materials/inputs.

Local Service Provider (LSP)

Over 98% became a local service provider (LSP) three or more years ago. Most of them had been supported through training, workshops, visits, and demonstrations, coaching etc. They also received agricultural tools and machinery. The LSPs render support to the producer groups, which includes technical sessions, business plan development, nutrition sensitive vegetable, fruits, bean cultivation etc.

Many of the LSPs are linked with input suppliers/companies and distant buyers/traders. More than 90% in the project area mentioned that there has been an increase in business turnover for MSMEs through linkage with the LSPs.

Most of the LSPs have plans to expand their service territory in the next five years. Many want to strengthen linkages with the private sector and respective government departments. Some also want to get involved with input business.

Women Business Center

LEAN facilitated the establishment of 164 Women's Business Centres (WBCs) in three districts during the project period, effectively leveraging existing knowledge about their success elsewhere in Bangladesh. The project provided different types of trainings and hardware supports to 100% WBCs.

WBCs sold training and awareness sessions, as well as counseling for women, children, and adolescents on diversified, safe, and nutritious food, prenatal and postnatal counseling, health hygiene, handwashing practices, and nutrition/vegetable gardening and providing mobile banking and internet services and selling menstrual hygiene products, agricultural inputs, WASH products. Satopan selling was also notable. WBCs services (informational and physical), products/ goods and awareness sessions helped the community - especially pregnant and lactating mothers - in a variety of ways. The study revealed that women's

position in their family and society has become strengthened and their access to community and upazila health clinics, as well as increasing agriculture and livestock supports.

WBCs provided support to adolescents regarding awareness raising events on health hygiene (use of hygienic pad, cleanliness, etc.), the establishment of nutrition garden/ vegetable demo plots and the organizing of foundation training on basic nutrition and adolescent leadership.

WBCs' business capital has also significantly increased during the project period from their initial capital outlay when the WBCs were established. The positive changes in business capital signifies the sustainability of WBCs as well as the success of LEAN's WBC model. The district level outlets (Nari Jhuri/ Women's Basket) in 3 CHT districts are playing a key role for providing access to markets for the WBCs products. These outlets have good linkages with output markets including different private sectors (e.g. RFL, SMC). District level outlets are also playing the bridging role among private sectors and local WBCs through collecting (from private sectors at wholesale rate) and distributing products of private sectors to the local WBCs.

Overall, 87.5% of the project participant households are aware of the Women Business Center (WBC) and among them 92% have sought services from the Center.

Water Supply, Sanitation and Hygiene Management Practice

Menstrual hygiene-related campaigns and school-based awareness events raised awareness among adolescents on these issues. As a result, adolescents are now more aware of their personal and menstrual hygiene management, including the accessibility of WASH items (Sanitary pads etc.) and cleanliness which are interlinked with overall adolescent health. Meanwhile, qualitative assessment also revealed that the WASH practices among the project participants across all three districts has also remarkably improved.

The baseline and endline comparison for the indicator, source of water for drinking water shows that the use of supply water (inside and outside of the house) has significantly increased, particularly in Khagrachari and Rangamati districts (1.7% and 0.7% to 22.9% and 18.7%, respectively). The result also illustrates that the people in the Chittagong Hill Tracts now have increased access to safe drinking water through reducing use of water from streams (locally known as '*chhora*') or other unprotected sources; Along with quality water accessibility, their sanitation and hygiene practices were also improving.

Women Empowerment

Regarding decisions made by project beneficiaries about income and expenditure at the family level, the endline evaluation found a notable difference between baseline and endline data. On average, 69.8% respondents mentioned that they take decision jointly about income and expenditure. The survey reveals that 66% of families in Rangamati district take decisions jointly, compared with only 33.5% during baseline. Furthermore, there has also been a significant change of decisions taken by people individually. At baseline the range was 0.8% to 1.9%, which has been increased to 9.4% to 14.6% in the surveyed three districts at the endline stage.

On average, 82.8% women responded that they take decision jointly about the pregnancy. The project participants in Khagrachari have the highest percentage of joint decision-making during pregnancy by both the husband and wife themselves (89.7%). Meanwhile, this percentage is 79.4% and 77.2%, respectively, for Rangamati and Bandarban districts.

The endline evaluation data from the LEAN Project reveals that joint decision-making between husbands and wives is predominant when it comes to engaging in social and economic

activities across the three districts. On average, 59.5% women responded that they take decision jointly for social and economic activity.

Household Income and Expenditure:

The evaluation revealed that project participant households' monthly income has increased compared to the project baseline. It is significant that 53.1% of households' monthly income is between above 10,000 to 20,000 taka. While in the baseline, only 29.8% households' income were in the same range. Simultaneously, 23.6% households monthly reached between above 20,000 to above 50,000 taka, while in the baseline survey only 4.8% households' income were in the same range.

Regarding expenditure, most of the project households (60.6%) spent above 3,000 to 8,000 taka/ month (36,000-96,000 taka/year) for food consumption and 43.0% spent above 5,000 to 10,000 taka/ month (60,000-120,000 taka/year).

Evaluation Recommendations (Major)

- 1) Budget allocation is required for need-based (additional) training sessions for newly transferred govt. staff to familiarize them with the project to ensure their active involvement.
- 2) The government should appoint 'Nutrition Focal Point Persons' with educational backgrounds in nutrition at district and upazila levels.
- 3) The extent of engagement of boys and men needs to be enhanced in the implementation of various community-level intervention.
- 4) Adolescents (particularly girls) should be brought under 'social safety-net' programmes like '*pushti-allowances*'.
- 5) Projects should identify and incorporate sustainability mechanisms during the implementation phase and address issues that may hinder the sustainability aspects after the closure of the project.
- 6) Supporting Local Service Providers (LSPs) Associations through collaboration with other projects is essential. For example, LEAN can connect LSPs and WBCs with similar projects in CHT to ensure continuous support for the community.
- 7) Sensitization of traditional institutions on nutrition related issues and coordination with LGIS and other relevant local structures is important.

1. Introduction

1.1 LEAN Project Background

Bangladesh Context: Bangladesh has shown remarkable progress in improving overall nutrition, but challenges persist, with malnutrition remaining a major issue. As per Bangladesh Demographic and Health Survey (BDHS) Report: 2017-18, the prevalence of stunting among children under five years old is 31%, wasting is 10.5%, and underweight is 22.0%. The prevalence of overweight and obesity is also increasing, especially among women. Various factors contribute to malnutrition in Bangladesh, including poverty, lack of access to nutritious food, poor water and sanitation, inadequate healthcare services. Additionally, inadequate maternal and child feeding practices, including early initiation of breastfeeding, exclusive breastfeeding for the first six months, appropriate complementary feeding remains as challenges.

To address these challenges, the Government of Bangladesh (GoB) has implemented various policies and programs, including the National Nutrition Services (NNS) programme, which aims to improve the nutritional status of mothers and children through a comprehensive package of nutrition interventions. The government has also undertaken initiatives to improve access to safe drinking water and sanitation facilities, promote exclusive breastfeeding and appropriate complementary feeding, and enhance nutrition education and counseling. Overall, while Bangladesh has made progress in improving its nutrition situation, continued efforts are needed to address the remaining challenges and ensure that all people in the country have access to adequate and nutritious food.

The Second GoB **National Plan of Action for Nutrition 2016-2025 (NPAN-2)** states that the economic & social costs of malnutrition, in terms of reduced economic returns and a loss of disability-adjusted life years and the consequences to both individual and national economic development are considerable and life-long. Further investments in sustaining food and nutrition security interventions, improving programme execution performance and upscaling nutrition sensitive programmes are required. Despite GoB initiatives, challenges in maternal & child feeding practices persist.

Chittagong Hill Tracts (CHT) Context: The CHT is home to several indigenous communities, including the Chakma, Marma, Tripura, Tanchangya, and others. The CHT covers an area of approximately 13,295 square kilometers and has a population of around 1.5 million people. The situation in the CHT remains complex and fragile, with ongoing issues related to land rights, development, and political representation. The livelihoods of people in the CHT are predominantly based on agriculture and forestry, as well as small-scale industries and trade. The region's rugged terrain and heavy rainfall provide favorable conditions for the cultivation of crops such as rice, jute, tea, and tobacco. The indigenous communities also engage in shifting cultivation, where they clear small plots of land and cultivate crops for a few years before leaving the land fallow for regeneration. The nutrition and health status of people in the CHT is generally poor compared to other regions of Bangladesh. Malnutrition and infectious diseases are significant public health concerns in the region. According to a study conducted in 2018, the prevalence of malnutrition among children under five in the CHT was 40.8%, with stunting (low height for age) being the most common form of malnutrition. Malnutrition is linked to poor dietary diversity, limited access to healthcare, and poor sanitation and hygiene practices. In addition to malnutrition, infectious diseases such as malaria, dengue fever, and tuberculosis are common in the CHT, with malaria being particularly prevalent in the region. Limited access to healthcare and inadequate infrastructure further exacerbates the health challenges faced by local communities. The indigenous communities in the CHT often face additional health challenges due to their unique cultural and socioeconomic circumstances. For example, traditional beliefs and practices may affect health-seeking behavior, and limited access to education and economic opportunities may contribute to poor health outcomes. Efforts have been made to address the health and nutrition challenges in the CHT, including through the provision of healthcare services and nutrition programmes, as well as community-based interventions to promote better health practice.

1.2 LEAN Project Description

The European Union (EU) funded five-year project on nutrition governance named "Leadership to Ensure Adequate Nutrition (LEAN)" has been undertaken in three hill districts of Bangladesh: Rangamati, Khagrachari and Bandarban with an overall objective to **contribute to improved maternal and child nutrition in the Chittagong Hill Tracts**, Bangladesh. LEAN intended to address some of the critical challenges linked with nutrition in CHT due to its unique political, social, economic and geographical features and exclusion over the years. The project aimed to reduce malnutrition, improve health outcomes, and enhance well-being, especially for vulnerable groups like women and children

The project was undertaken to strengthen nutrition governance in the CHT's three districts while promoting positive nutrition practices and supporting the development of women-led nutritious agricultural products. The project has been working to increase the availability and consumption of diversified, safe and nutritious foods, while also creating an enabling environment for improved and sustained pro-poor nutrition security service delivery and demand.

The project has been designed and implemented by a consortium (combining the skills and experience of six organizations) that represents both the **supply and demand side**. United Purpose (formerly known as Concern Universal) played the role of the lead agency with five other organization: GAIN and Helvetas worked as technical partners, Caritas Bangladesh worked as both technical and implementing partner, and IDF and Jum Foundation as implementing partners

Funded by the European Union, the Leadership to Ensure Adequate Nutrition (LEAN) project aims to break the perpetual cycle of undernutrition in 78 Unions from 18 Upazilas in the three Districts of the Chittagong Hill Tracts. The project is working to improve maternal and child nutrition for 282,000 pregnant and lactating mother, children under 5 and adolescent girls from 210,000 households by providing holistic, nutrition-sensitive and nutrition-specific Livelihood models to diversify diets and income for the most vulnerable. LEAN is achieving this by increasing the availability and consumption of diversified, safe and nutritious food, and creating an enabling environment for improved, sustained pro-poor nutrition security service delivery & demand.



The project was built on the proven track record of validated models around agricultural value chain development, public-private partnership building, and pro-poor local governance of Swiss Inter cooperation (HELVETAS) in the CHT; on the technical expertise of Global Alliance for Improved Nutrition (GAIN) in multi-stakeholders platform facilitation, policy advocacy, private sector alliance building and inter-sectoral cooperation in the CHT; on the nutrition and water sanitation and hygiene (WASH) outreach and strong presence in Bandarban District of local NGO Caritas Bangladesh (CB); on the vast network of savings groups in Khagrachari and the multi-million Euro microfinance programme of local NGO Integrated Development Foundation (IDF); and the extensive experience in micro agribusiness development and eco-friendly Jhum cultivation in Rangamati of local NGO Jum Foundation (Jum).

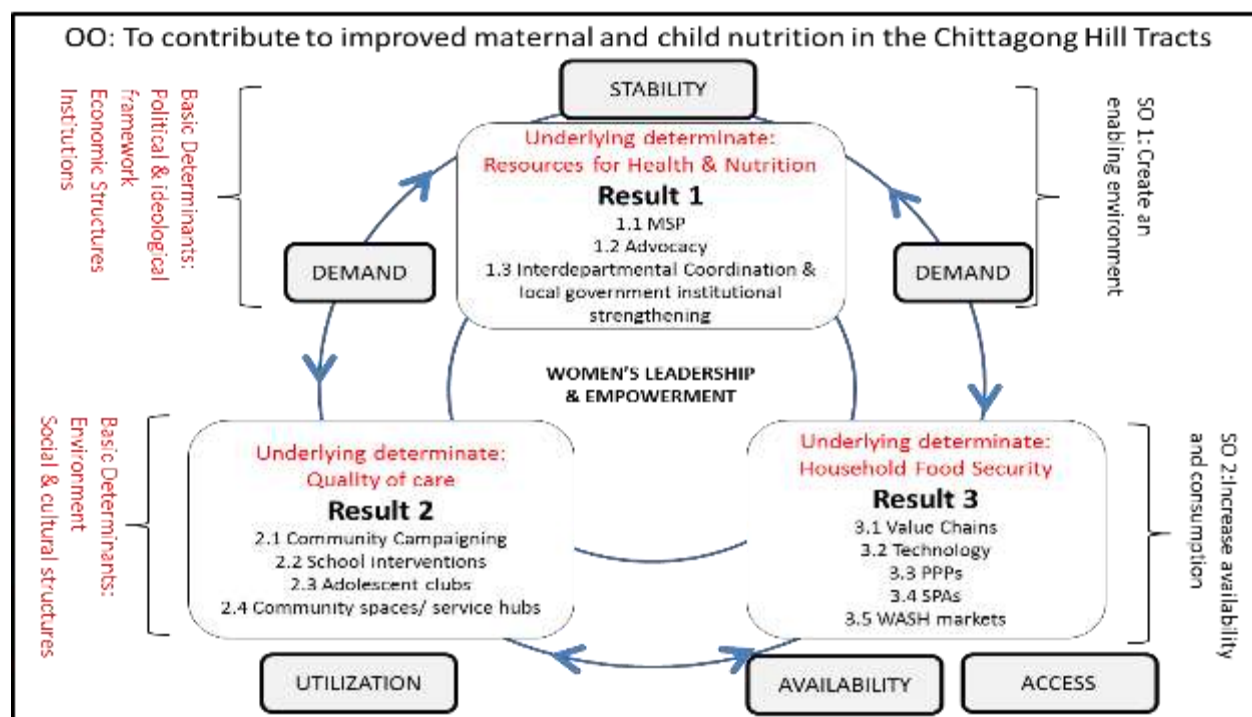
Upon assessment of the specific nutritional needs and challenges (within target communities); their dietary habits, access to nutritious food, and knowledge of optimal nutrition practices, the project undertook tailored intervention strategies with a focus on three outcome areas:

1. Nutrition Governance,
2. Social and behavioral change communication for nutrition improvement,
3. Climate smart agriculture, value chain and market development.

The project adopted: a) Community led design to cover hard to reach areas, b) market system approach, c) enterprise based model for sustainable BCC on health, nutrition, WASH, d) community based organizations: adolescent leaders, women entrepreneurs, LSPs, e) MSPs

a platform for community stakeholder to demand, accountability and improve services, f) System strengthening through capacity building, improved coordination of local govt. structures/line departments and g) real time monitoring system.

Causal Pathway of LEAN Project

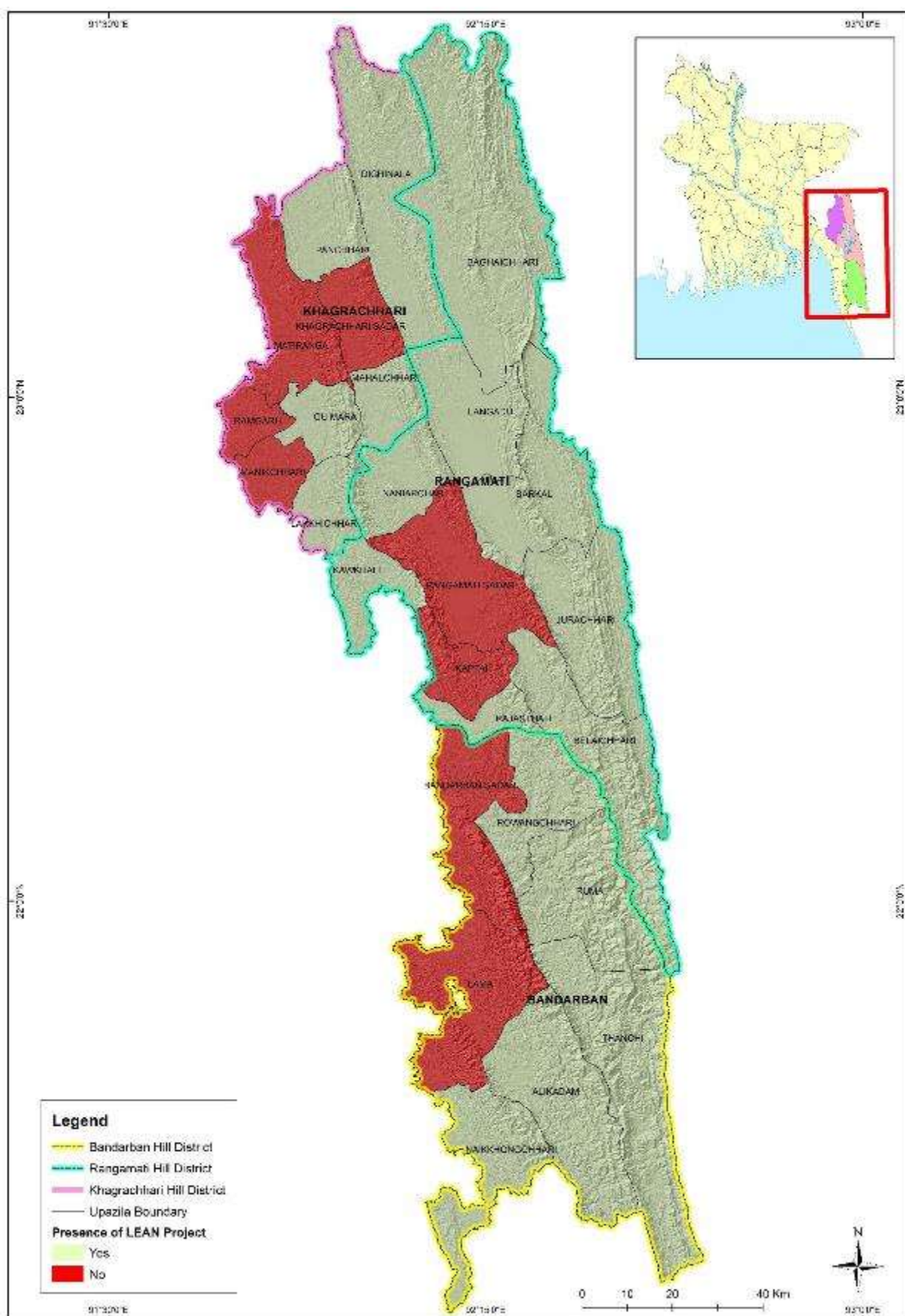


Stakeholders and Project Beneficiaries: The project worked to reach about 210,000 households in 3 hill districts (Rangamati, Bandarban and Khagrachari).

Table-1: Stakeholder information

Stakeholders	Detailed Information
Project donor	European Union (EU)
Primary implementing organization	United Purpose (UP), HELVETAS Swiss Intercooperation (HELVETAS), Global Alliance for Improved Nutrition (GAIN) as technical partners
Implementing partners	Caritas Bangladesh (CB), Jum Foundation (Jum), Integrated Development Foundation (IDF)
Government stakeholders	Ministry of Chittagong Hill Tracts Affairs (MoCHTA), Bangladesh National Nutrition Council (BNNC), Department of Agricultural Extension (DAE), Department of Livestock Service (DLS), Department of Women Affairs (DWA), Department of Social Service (DSS), District Nutrition Coordination Committee (DNCC) members, Upazila Nutrition Coordination Committee (UNCC) members
Community groups	Hill Councils, Union Parishads, UP standing committee and Community Clinics, local market actors, Multi-Stakeholder Platforms (MSPs), service providers association (SPA), Women's Business Centres (WBCs), Micro Small Medium Enterprises (MSMEs), Blue School, Public Private Partnership Platforms (PPPPs), adolescents club
Target Beneficiaries	Children and adults involved in the programme and the evaluation • 100,000 adolescents • 1,080 local service providers • 101,000 producers • 82,000 pregnant women and lactating mother • 100,000 CU5

Project Working Area Map



Project Interventions:

Since beginning in 2018, Leadership to Ensure Adequate Nutrition (LEAN) project has strengthened 3 District Nutrition Coordination Committees, 18 Upazilla Nutrition Coordination Committees and 77 Multi-Stakeholder Platforms at union level as well as supported the formation of 164 women's business centres to promote sustainable health, nutrition and WASH services and economic empowerment. These centres are complemented by the works of 4,155 adolescent clubs which have been formed and oriented on nutrition, hygiene and WASH, reaching over 141 high schools for Blue School programming. A total of 84,681 pregnant and lactating women (PLW); 67,180 under 5 children, and 94,106 adolescents were reached by the project till year 05. To meet the demand created by these community-level efforts, more than 1080 Local Service Providers and 18 Service Providers Associations have been developed to increase nutrition sensitive food production through climate smart vegetable and poultry value chain development with 99,297 Producers

Table-2: The expected results and corresponding indicators

	Result Chain	Indicators
Overall objective	To improve maternal and child nutrition in Chittagong Hill Tracts (CHT)	OOI 1: Prevalence of stunted children under 5 years old in Chittagong Division
		OOI 2: Prevalence of low BMI (<18.5) among ever-married women aged 19-49 years in Chittagong Division
		OOI 3: Prevalence of undernourished adolescent girls in Chittagong Division
Outcome 1	Enabling environment and awareness created for improved and sustained pro-poor nutrition security service delivery.	OCI 1.1 MSIs, DNCC, UNCC in CHT are functional/advocated CHT nutrition agenda at national level
		OCI 1.2 Percentage of National level line agencies prioritized allocation of budget for CHT in nutrition related area.
		OCI 1.3 DNCC & UNCC developed/revised annual activity plan in cooperation with the Hill District Councils in line with NPAN2 and CIP2.
Outcome 2	Availability & consumption of safe and diversified nutritious food increased for poor pregnant, lactating mothers, adolescent and children through value chain intervention	OCI 2.1 Prevalence of household food insecurity
		OCI 2.2 Percentage of women who consume 5 or more out of 10 food groups (MDD-W indicator) daily
		OCI 2.3 Percentage of households practicing adequate hygiene practices for food preparation and consumption
		OCI 2.4 Decreased percentage of children affected by infectious diseases.
		OCI 2.5 Prevalence of Children 6-23 months consuming a minimum acceptable diet (Meal frequency & diet diversity)
		OCI 2.6 Percentage of women engaged in local institution and decision-making power in family and social institution
Output 1	Effective governance system activated, strengthened	OPI 1.1 No. of Hill District Councils facilitating functioning multi-stakeholder platforms in line with NPAN2 and CIP2.
		OPI 1.2 No. of GoB Line Department officials are trained on nutrition sensitive inter-sectoral programming.
		OPI 1.3 No. of traditional leaders and local government officials are trained on nutrition related activities.
Output 2	Nutrition sensitive awareness, demand and behaviour change increased at community level	OPI 2.1 No. of women of reproductive age, adolescent girls, children under 5 reached by nutrition related interventions
		OPI 2.2 No. of pregnant/lactating women, adolescent girls had information on nutrition & health services from WBC
		OPI 2.3 No. of adolescents trained on nutrition sensitives issues
		OPI 2.4 No. of student brigade activated
		OPI 2.5 No. of women started selling inputs, outputs and services
		OPI 2.6 No. of peoples who participated in awareness sessions on proper handwashing practices
		OPI 2.7 No. of nutrition sessions facilitated by adolescent
		OPI 2.8 No. of adolescents performed in nutrition events
		OPI 2.9 Percentage of Child marriage reduced (new indicator)
		OPI 3.1 No. of smallholder farmers have linkages with input market actors (modified indicator)
Output 3	Nutrition-sensitive and climate smart value chains promoted.	OPI 3.2 No. of smallholder farmers have linkages with Output market actors (modified indicator)
		OPI 3.3 No. of food insecure people receiving assistance through interventions supported by the EU (new indicator)
		OPI 3.4 Percentage of LSP capacitated on nutrition sensitive production technologies
		OPI 3.5 Percentage of LSPs developed their knowledge and skills on market linkages and established network with backward and forward market including private company
		OPI 3.6 No. of Smallholder farmers adopted innovative, climate smart and agro-ecological production technologies after receiving guidance from LSPs
		OPI 3.7 No. of Smallholder farmers increase income by 15%
		OPI 3.8 No. of MSME s increase their business turnover by 10% due to strengthen function of respective value chain
		OPI 3.9 Percentage of local rural markets have availability of competitively priced, diversified, nutritious foods (5 food groups)
		OPI 3.10 No. of Smallholder farmers increase their own food production in nutrition sensitive value chains by 20%
		OPI 3.11 No. of smallholder farmers who receive access to financial services

Assessment of the Project:

The project has already completed its planned period of operation. At the inception phase a baseline survey was conducted to create a basis to track the changes, measure the progress, and assess the extent of achievement of the intended results.

Later a Mid-term Evaluation was conducted which came out with the following recommendations:

- Acceleration of unfinished and undone project activities (Outcome 1 and Outcome 2).
- Continue to support MSPs (DNCC, UNCC and Union MSP) to maintain their functionality until the end of the project to ensure it becomes a natural practice and sense of ownership among the members of MSPs. Hence, they keep these platforms active and functional (Outcome 1).
- Endorse regularization of DNCC-UNCC-Union MSP meetings to strengthen CHT's nutrition governance network (Outcome 1).
- Promote interconnecting Annual Multi-Sectoral Nutrition Work Plan (AMSNWP) of DNCC- UNCC- Union MSP (Outcome 1).
- Promote interconnecting nutrition-sensitive budgeting (including the budget for AMSNWP) of DNCC-UNCC-Union MSP (Outcome 1).
- Endorse production and supplies of highly nutritious foods by expanding the role of smallholder farmers-producer groups-LSPs, WBCs and WMSMEs network (Outcome 2).
- Promote weekly sales of nutritious foods and menstruation products through the campaign by school brigades (Outcome 2).
- Promote marketing by WBCs in the schools considering the high prevalence of child malnutrition and menstruation hygiene of adolescents (Outcome 2).
- Strengthen the capacities of WMSMEs and WBCs to ensure a doorstep supply of nutritious foods, menstruation products and WASH materials (Outcome 2).
- Many smallholder farmers followed the Jhum (traditional hill cultivation practice) cycle of 3-6 years, creating alternative livelihood for these farmers (Outcome 2).
- In association with Upazila Agriculture Extension Office and LSPs, LEAN needs to create more model fields of introduced technologies and demonstrate success in creating a more confident appeal among the potential smallholder farmers (Outcome 2).
- Promote regular reporting of DNCC and UNCC to BNCC to ensure effective nutrition governance, maintaining a bottom-up approach (Output 1).
- Assess the performance and change SBCCs and IECs used in nutrition-related awareness campaigns for pregnant women, lactating mothers and adolescent girls (Output 2).
- Transferring climate-resilient agro production knowledge, skills and technologies at the doorsteps of smallholder farmers through training and orientation sessions conducted or facilitated by LSPs, WBCs and WMSMEs (Output 3).
- Introduce climate-resilient agro production knowledge, skills and technologies to households for adaptation in kitchen gardening (Output 3).
- Through LSPs, WBCs and WMSMEs oriented national and international agro companies about the geographical adaptation needs of CHT (Output 3).

Based on the MTR recommendation, the project adopted appropriate measures to accomplish the tasks within the remaining period of the project and to ensure more effective results.

As detailed previously, the Innovative Insights for Sustainable Solution (II4SS) was subsequently assigned to carry out an Endline Evaluation of the LEAN Project.

2. Evaluation Objective

The purpose of this evaluation was to learn how well did the LEAN project work and what were the particular features of the project and context that made a difference; to assess the extent to which the project has achieved its expected outputs and outcomes, identify contextual challenges and areas where there have been gaps and the degree of success in addressing them.

It also intended to measure the impact of the project interventions through comparison between the baseline situation and the end-line situation. Another purpose of the evaluation was to identify, and document lessons learnt and make recommendations for better designing and more effective implementation of future related projects.



In particular, the evaluation intended to:

- 1) Assess the project's relevance, coherence, efficiency, effectiveness, impact, and sustainability.
- 2) Capture best practices and generate a document of the lessons learnt that would be used to guide the implementation of new projects and interventions, including key evidence-based advocacy points for the context.

Specific Expectations form the Evaluation (as per ToR)

To collect data on project targeted beneficiaries at the end of the project.

To measure the impact of project at community level

To measure the progress of selected outcome indicators as well as some output indicators.

To capture **best practices** and document the **lesson learnt** that would be used to guide the implementation of new projects and interventions, including key **evidence-based advocacy points** for the context.

Whether the activities carried out and ways of working led to the **changes the project aimed** for. If not, whether the teams effectively **identified barriers** to those changes and how the team **addressed these barriers**.

Success of changes achieved (outcomes and impact both positive and negative when compared to baseline values of LEAN in relation to objectives because of the Action), how significant this is and for whom.

To assess the **relevance, coherence, effectiveness, efficiency and sustainability** of the interventions of the project, including the strategy and implementation process.

To assess how **key cross-cutting issues**, relevant to the context were considered during the project design and implementation.

to capture end line information against each outcome and output indicator from different sources as outlined in the log frame

3. Evaluation Methodology

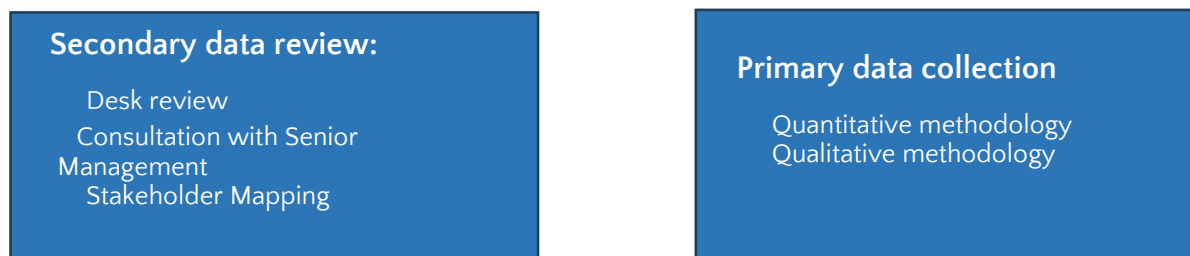
3.1 Overall Design and Planning

A three-phase, step-by-step process, as outlined in the following diagram, has been followed for the evaluation purpose.



3.2 Data Sources and Collection Process:

Emphasis was given to capturing and analysis of secondary and primary data. Both quantitative and qualitative approaches and methods were applied for primary data collection.



The process involved preparatory meeting/consultation, document review, household surveys, FGDs, case studies, and in-depth interviews.

Structured questionnaires (for household surveys), FGD guidelines, in-depth interview guidelines and case study checklists were used as data collection tools.

The tools were developed through a rigorous process taking programmatic and technical experts' views. Quality assurance measures included finalization of data collection tools through field testing, orientation for data enumerators, continuing follow-up, data cleaning etc.

Integration of quantitative and qualitative data was assured for a comprehensive analysis and correlated findings to provide a holistic view of the project's impact and effectiveness.

3.3 Description of the Step-by-Step Process

An inception meeting and consultation with United Purpose LEAN team was held to support the evaluation team to gain insights into the project's overall strategy, objectives, challenges which helped to align the survey with the organization's goals.

The evaluation team (II4SS) completed **desk review of relevant available documents** to understand the context, project objectives, activities, results, and outcomes. The document review formed the basis of data collection tools.

List of Secondary Documents

1. Full application of the LEAN project
2. Baseline survey report
3. LEAN project logframe
4. Mid-term review report
5. Annual performance survey report
6. Tender (RFP) document for the evaluation
7. Second National Plan of Action for Nutrition (NPAN2) 2016-2025
8. Country Investment Plan (CIP-3)

Efforts were in place for **identification and mapping of various stakeholders** involved in or affected by the project. This helped understanding the current Knowledge, Attitude and Practice (KAP) with key stakeholders such as the District Nutrition Coordination Committee (DNCC), Upazila Nutrition Coordination Committee (UNCC), Bangladesh National Nutrition Council (BNNC), and the Ministry of Social Welfare and different level of stakeholders.

Emphasis was given on **assessment of the potential and unanticipated barriers towards project** and study objectives which worked as factors for the project success and sustainability.

3.4 Evaluation Questions

The evaluation was designed to address key questions concerning relevance, efficiency, effectiveness, impact and sustainability. The evaluation team developed draft data collection instruments based on the given evaluation criteria and key questions

Table-3: Evaluation questions

Key Evaluation Questions	
Relevance	- To what extent does the LEAN project address the identified needs? How well does the LEAN project align with NPAN-2 priorities?]
Efficiency	- Do the outcomes of the programme represent value for money? - To what extent is the relationship between inputs and outputs timely, cost-effective and to expected standards?
Effectiveness	- Did the LEAN project produce or contribute to the intended outcomes in the short, medium, and long term? For whom, in what ways and in what circumstances? - What unintended outcomes (positive and negative) were produced? - To what extent can changes be attributed to the LEAN project?
Impact	- What range of outcomes (intended and unintended) has the LEAN project contributed to taking account of each of social, economic, environmental and cultural considerations in Chittagong hill tracts? - How has the LEAN project influenced the stakeholder (BNNC, HDC, DNCC, UNCC, Union MSP etc.) community, and what capacities has it built toward nutrition governance? - Is the project impacting positively on key stakeholders, WBC, producer groups and issues that have been identified as important in project design?
Sustainability	- Is there evidence that the initiative is likely to grow, scaling up and out beyond the project life? - How sustainable have these changes been after the end of each cohort of the project?

3.5 Applied Techniques and Process (Quantitative and Qualitative)

Quantitative	Qualitative
The quantitative approach was applied to measure the project progress against selected outcome indicators. Household survey was conducted among selected project beneficiaries using a self-explanatory structured questionnaire to collect the data about nutrition governance, social and behavioral change communication for nutrition improvement and climate smart agriculture, value chain and market development. Household level information was gathered from project beneficiaries and from HH Head/spouse. KoBo Toolbox was used to ensure error free data collection. An anthropometric survey was conducted among pregnant and lactating women (PLW), children under five, and adolescents. Measurements of their height, weight, MUAC, and BMI was taken to calculate the stunting, wasting and undernourishment. A tool was developed and used for the 'anthropometric survey'. Experienced enumerators (who did anthropometric survey before) were deployed after providing hands-on training. Experts from the LEAN project and II4SS facilitated this session.	The qualitative approach involved “why” and the “how” concerns. The purpose was to gain an in-depth understanding of the project interventions undertaken to achieve the intended results. It allowed a deeper look at issues of interest and exploration of the nuances from various levels of stakeholders on different perspectives. This was required for understanding the project's relevance in the community and evaluating the effectiveness, efficiency, and impact of interventions. FGD were conducted with: a) Pregnant & Lactating Women (PLW) and Adolescents b) Adolescents: Boys and Girls of Blue School and Adolescent Clubs to understand the current situation: - the extent of enabling environment and awareness created for improved, sustained pro-poor nutrition security service delivery - how effectively the nutrition governance system activated, strengthened at communities - the level of enhanced nutrition- sensitive awareness, demand and behavior change at community level. A guiding document was used to facilitate the FGDs. Conducted meetings with Government Stakeholders (using meeting guidelines/notes for facilitators) to capture their views on LEAN project activities, engagement, and contribution of the government departments and also to document what went well, what went wrong, what should be considered for future planning and programme development. Key Informant Interviews (KII) were conducted to gather in-depth qualitative data on project processes, challenges, and successes. The KII covered key project stakeholders, including implementing partners, government representatives, and community leaders. Case stories were collected to provide in-depth narratives on specific instances of impact, success, or challenges. This qualitative method offered a contextual understanding of the project's outcomes. On the basis of detection of cases of interest during household surveys and having information/clues from the LEAN project staff the plots of case stories were identified/selected and in-depth data/information was collected for the case story.

3.6 Sampling method and sample size

A simple random sampling approach was followed in the selection of respondents from indigenous groups, stakeholders including children under five, pregnant & lactating women, adolescent boys & girls, producers, local service providers (LSP) women business centre (WBC) members.

The qualitative data collection process included the conducting of FGD with selected project stakeholders including but not limited to: Bangladesh National Nutrition Council (BNNC) members, District Nutrition Coordination Committee (DNCC) members, Upazila Nutrition Coordination Committee (DNCC) members, Multi-Stakeholder Platforms (MSPs), Local entrepreneurs (latrine producers, satopan seller etc.), private sector actor (SMC, RFL, A. R. Malik Seed).

a. Quantitative Survey Sample Size:

For the quantitative survey, data has been collected both for household level and anthropometric information. In household survey, Pregnant and Lactating Women (PLW), Producers, Local Service Providers (LSP) and Women Entrepreneurs (Women Business Centers). And, in 'anthropometric survey', data were collected from under-five children, PLW and Adolescent Girls. The total sample for household survey was 1,148, while it was 1,551 for the 'anthropometric survey'. The district-wise and project and non-project wise samples are given below:

Table-4: Sample size for quantitative survey

Household Survey				
Particulars		Project Area	Non-Project Area	Total
Type	PLW	363	60	423
	Producer	456	80	536
	LSP	89	17	106
	WBC	61	22	83
	Total	969	179	1148
District	Bandarban	148	32	180
	Khagrachari	350	52	402
	Rangamati	471	95	566

Household + Anthropometric Survey				
Particulars		Project Area	Non-Project Area	Total
Type	PLW	751	113	864
	Producer	456	80	536
	LSP	89	17	106
	WBC	61	22	83
	U-5 Children	489	72	561
	Adolescent Girls	480	69	549
Total		2326	373	2699

Anthropometric Survey				
Particulars		Project Area	Non-Project Area	Total
Type	U-5 Children	489	72	561
	PLW	388	53	441
	Adolescent girls	480	69	549
	Total	1357	194	1551
District	Bandarban	240	56	296
	Khagrachari	493	59	552
	Rangamati	624	79	703

Covered

- 3 Hill Districts: Rangamati, Bandarban, Khagrachari

- 18 Upazilas:

Rangamati - 8

Khagrachari - 5

Bandarban – 5

- 37 Unions

Rangamati - 16

Khagrachari - 14

Bandarban – 7

3 Districts, 18 Upazilas, 37 Unions

Note: for non-project area, samples were selected considering control and spill-over effects

b) Qualitative Survey Sample Size:

Table-5: Sample size for qualitative survey

Qualitative Tools	Type of Stakeholders	Number of Samples/Events			
		Total	Bandarban	Khagrachari	Rangamati
Meeting with relevant Govt. and Other stakeholders	District Nutrition Coordination Committee (DNCC)	3	1	1	1
	Upazila Nutrition Coordination Committee (UNCC)	6	2	2	2
	Union Multi-stakeholder Platforms (MSPs)	9	3	3	3
	Local Entrepreneurs (latrine producers, satopan sellers)	6	2	2	2
	Private Sector Actor (SMC, RFL, A.R. Malik Seed)	2	1	1	
Focus Group Discussion (FGD)	Pregnant and Lactating Women (PLW)	3	1	1	1
	Adolescents (Girls)	3	1	1	1
	Adolescents (Boys)	3	1	1	1
Key Informant Interview	Deputy Commissioner (DC)/Civil Surgeon	3	1	1	1
	Health / Family Planning (FP)	6	2	2	2

Qualitative Tools	Type of Stakeholders	Number of Samples/Events			
		Total	Bandarban	Khagrachari	Rangamati
(KII)KIIs	Directorate of Primary Education (DPE)	3	1	1	1
	Directorate of Primary and Secondary Education (DSHE)	3	1	1	1
	Department of Agriculture Extension (DAE)	3	1	1	1
	Department of Livestock (DoL)	3	1	1	1
Case Story	Pregnant and Lactating Women (PLW)	3	1	1	1
	Adolescents (Girls)	2	0	1	1
	Adolescents (Boys)	2	0	1	1
	Producers	1		1	
	Local Service Providers (LSP)	1		1	
	Women Business Center (WBC)	1		1	

3.7 Data synthesis and analysis

a. Data Collection: Using the tools developed by II4SS, data collection was made through Kobo ToolBox to ensure quality. The Data Enumerators were trained on the indicators, processes and techniques of data collection and a data collection guideline along with facilitator's notes were provided to them.

b. Data Integration: Quantitative and qualitative data were integrated for a comprehensive analysis. This enabled the research team to observe correlating findings, as well as to further examine where notable differences were observed. The result is a holistic view of the project's impact and effectiveness.

c. Thematic Analysis: A thematic analysis on qualitative data was conducted to identify recurring themes related to nutrition governance, behavior change communication (BCC), and agriculture interventions.

d. Cross-Cutting Issues: Aspects such as gender and sustainability, were also analyzed to understand how they have been addressed in the project.

3.8 Limitations of the study

The study encountered the following major limitations and challenges

- Interaction, communication and capturing information from respondents representing different ethnic communities and languages was challenging.
- Scattered settlements posed challenges in finding the exact beneficiaries in all cases to facilitate appropriate comparison with baseline data.
- Due to seasonal agricultural activities in some remote areas, respondents were not available. This hampered the survey.
- Fragile road and river communication and insecurity also limited the data enumerators' regular movement and they couldn't collect data in time. So, they had to little bit changes their data collection plan.
- Similarly, restricted movement in some areas, e.g. Naikhongchhari upazila in Bandarban, Panchari in Khagrachari and Barkal upazila in Rangamati district.

However, based on the above limitations and risks, the consulting agency has designed and proposed a risk assessment and mitigation plan to ensure the smooth completion of the evaluation.

4. Findings

4.1 Findings against the Key Questions and the Evaluation Criteria

The endline study was conducted keeping in mind the following 'evaluation questions':

- **How well did the LEAN project work?**

LEAN project and its interventions and approaches bring people to achieve a particular objective like; create access to nutrition services and facilities.

- **What were the particular features of the LEAN project and context that made a difference?**

LEAN project facilitated different government sectors like; agriculture, fisheries, livestock etc. that to some extent works on producing nutrient-rich crops at community level which helped those disseminating pertinent messages and services to respective beneficiaries.

- **What was the influence of other factors (example: social perspective, religious views, political conflicts, natural hazard etc.)?**

LEAN project has brought people in the CHT in a platform through its different interventions remote spaces and thus it influenced other key factors in the societies with multi-cultured communities in terms of social perspective, religious views, political conflicts, natural hazard etc.

Table-6: Assessment on six 'Evaluation Criteria'

Evaluation Criteria and Key Questions	Evaluation Findings
RELEVANCE	
• To what extent does the LEAN project address the identified needs? (E.g., Capacity building of stakeholders on nutrition sensitive programming)? ➤ How well does the LEAN project align with NPAN-2 priorities? Does the project represent a legitimate role for dual governance system?	• The 'anthropometric survey' result proves the relevancy of the project promoted strategies, interventions and activities as all the three impact indicators of the 'overall objectives' are successfully met by the project. The prevalence of stunting of U-5 children, underweight of reproductive women and undernourished of adolescent girls reduced as per project target. • LEAN project conducted several awareness sessions with WBC members, Adolescent clubs, PLW and students of Blue schools on nutrition issues (different types of food groups for children, adolescent and PLWs) and build up capacities and technical know-how on facilitating sessions at respective communities. • Blue school students and adolescent club members have prepared themselves to act as change makers and ambassadors improving nutrition sensitive families and communities/societies improving nutrition sensitive families and communities/societies. ➤ The key interventions of the LEAN project were very much relevant with the needs of its beneficiaries and relevant stakeholders such as: the project facilitated functioning of DNCC, UNCC and Union MSPs which strengthened coordinated efforts on nutrition issues and services to beneficiaries from different Govt. and other relevant service providers

Evaluation Criteria and Key Questions	Evaluation Findings
	➤ LEAN project played its vital role in activating district and local institutes (functional DNCC, UNCC, UMSPs etc.) to align with NPAN-2 priorities. ➤ LEAN project facilitated functioning of local relevant institutes and sensitized project beneficiaries as well to ensuring nutrition governance and its benefits to all.
COHERENCE	
● How well does the LEAN intervention fit in?	• The LEAN project applied a 'holistic approach' that enables to bring all relevant stakeholders (government departments, private sectors, producers, LSPs, etc.) under one umbrella. • DNCC, UNCC and Union MSPs are rendering their respective services through the project promoted platforms, such as WBC and LSP. Therefore, the root-level beneficiaries are receiving the nutrition-related information at their door-step. • WBC interacts both with communities, adolescent girls and private sectors. They interact with union level multi-sector platforms. The project could bring good coherence among these stakeholders. • Local Service Provider and Producers work collaborate --- producers receive improved technical agriculture knowledge, getting improved seeds from producers. They are also oriented with output markets through the joint collaboration among LSP and producers. • Adolescent club and Blue school students were found acting as the 'ambassadors' on health and nutrition issues in terms of theirs' family and communities.
EFFICIENCY	
● Do the outcomes of the programme represent value for money? ➤ To what extent is the relationship between inputs and outputs timely, cost-effective and to expected standards?	• The LEAN project raised knowledge on nutrition and its importance on public health which reduces diseases due to lack of nutrients and cost for medications. ➤ Proficiency of the LEAN project remarkably earned in establishing relationship between inputs and outputs in a timely and effective manner and to expected standards
EFFECTIVENESS	
● Did the LEAN project produce or contribute to the intended outcomes in the short, medium and long term? For whom, in what ways and in what circumstances?	Yes, as outlined below, the LEAN project contributed to intended outcomes the total population living in the CHT aiming PLWs, CU5, and Adolescents etc. This was achieved through raising their knowledge, skills and learning on nutrition and promoting changes in practices in their life-style. - Short term: LEAN facilitated strengthening access to Govt. services for community people; It also facilitated skill training for targeted beneficiaries, which had the intended effect. - Medium term: Local level marketing opportunities have been created due to increased production and thus access to market has also been amplified; WBC operators have increased self-reliance through training and fund support from LEAN project; LSPs became skilled in technical point of views which helped them increasing theirs' products and in the localities as well. - Long term: To establish and strengthen nutrition governance the project facilitated coordination meetings with relevant stakeholders which accelerated coordination among stakeholders and different government departments. These are for the total population living in the CHT aiming PLWs, CU5, and Adolescents etc. through raising their knowledge, skills and learning on nutrition in to practices in their life-style.

Evaluation Criteria and Key Questions	Evaluation Findings
➤What unintended outcomes (positive and negative) were produced? ● To what extent can changes be attributed to the LEAN project?	➤Positive- <i>The members of the project LSPs got registration from Cooperatives by themselves for savings and giving loans among members.</i> ➤Negative- <i>Dependency on LEAN project especially, functioning of DNCC, UNCC and Union MSPs.</i> ● The project has some key approaches, which have been integral to the observed changes, including introducing and strengthening WBC, LSP, Blue school, linkages to private sector actors and multi-sector approaches. These created access to services, business opportunities, women empowerment in terms of participating decision-making process both at family and society and market linkages. ● Efforts to promote the functioning of the DNCC, UNCC and Union MSPs strengthened coordinated efforts on nutrition issues and services to beneficiaries from different Govt. and relevant private sectors actors and service providers. These also helped Govt. departments to think beyond project objectives/targets and inclusion of nutrition, primary healthcare services, life skills and coverage of services and reaching at remote spaces in the CHT district. ● Community awareness on nutrition, maintaining personal safety and hygiene promoted change in behavior and reduce the spreading of different infectious diseases and tackling malnutrition especially of children, adolescents and PLWs. ● Adolescents including blue school student and clubs representing as the ambassadors who disseminating importance of health and nutrition and bring people in to practices.
IMPACT	
● Is the wider project story being told? ➤What range of outcomes (intended and unintended) has the LEAN project contributed to – taking account of each of social, economic, environmental and cultural considerations in Chittagong hill tracts?	● The wider story of the project is to improve maternal and child nutrition in Chittagong Hill Tracts as overall and in this regards the project intended inputs/interventions were executed smartly which make people aware on health and nutrition issues and its inter-linked factors which changes the life-styles, food habits and dealings of personal health safeties. As evidenced, the reduction of stunting status of U-5 Children, prevalence of low BMI (of women) and prevalence of undernourished adolescent girls have been reduced. ➤LEAN project brings an incredible range of outcomes across different spheres in the CHT. - Social: It has been observed during the survey that the people have sound knowledge on nutrition and nutrient-rich food groups for CU5, adolescents and PLWs and also in to practices. - Economical: Facilitated the economic empowerment of women through WBC and collection points and linkages with different actors and introducing value chain. It helps to diversify people's economic interest and earning approaches through increased production using improved crop varieties and cultivation modalities. - Environmental: People were found to be aware on and used to cultivating climate resilient agricultures and practicing improved technologies and variety of seeds - Cultural: LEAN facilitated strengthening community cohesiveness; formation of different groups and effective linkages among them and improving their knowledge and skills.

Evaluation Criteria and Key Questions	Evaluation Findings
• How has the LEAN project influenced the stakeholder (BNNC, HDC, DNCC, UNCC, Union-MSP etc.) community, and what capacities has it built toward nutrition governance? ➤ Is the project impacting positively on key stakeholders, WBC, producer groups and issues that have been identified as important in project design?	• Project facilitated Govt. stakeholders to include accumulating nutrition issues into their regular project interventions and built their capacities through training and demonstrations; • Communities were becoming aware on nutrition issues. ➤ Yes, many positives changes nhave been observed among the stakeholders. - Govt. Stakeholders: Increase coordination - WBC: Strengthened capacity and skills in managing business and deliver services. WBC is one of the key successful approaches of the LEAN project and the WBC operators' in the meantime are able to meet community demands which helped them increasing income significantly. In this connection community people is also now able to collect their daily needs including WASH items, like access to menstrual pads for personal health management from the WBC. - LSPs: Technical skills, business management skills and able to develop and implement business plans. The increasing of productions and it sales by the LSPs (satopan, latrine materials, Vermin composts etc.) is also notable.
SUSTAINABILITY	
• Is there evidence that the initiative is likely to grow – scaling up and out – beyond the project life? ➤ How sustainable have these changes been after the end of each cohort of the project?	• Introduction of multi-sector approaches that increasing inter department coordination and reduces overlapping of interventions and ensuring effective uses of resources and facilitate uniform development at communities • Introduction of WBC at community level that might be a strongly scalable and self-sustaining process too. “Nari Jhuri”/ “Women’s Basket”, district level outlets in 3 CHT districts, ensuring the women entrepreneurs with access to new forms of capital - including impact investment, revenue from product sales and service delivery – and harnesses the collective purchasing power of WBCs. • LSP and its registration, opening / establishment of collection centers etc. LSPs are turning towards an association which is the sign of stability. • Blue school approaches creates awareness among adolescents and growing them as the ‘ambassadors’ on health and nutrition issues in terms of theirs’ family and communities. • Public awareness raised on importance of nutrition, nutrient-rich food groups and its intakes, health hygiene, safely managed WASH, health safety for PLW, CU5 and adolescents. ➤ Community awareness, establishment of different community groups (WBC, LSP, adolescent club etc.) would carry out learning and into practices. ➤ Establishment of collection centres and getting registration of LSPs: the popularity of this approach is already grown among the service receivers which would turn into its sustainability. ➤ Functioning of local institutes (DNCC, UNCC, Union MSPs etc.)- built inter-department coordination, ➤ Multi-sector approaches: buildup inter-sector coordination, linkages and growing of sharing attitudes which strengthening activities related to nutrition issues.

Evaluation Criteria and Key Questions	Evaluation Findings
• How likely are they to persist beyond the life of the project as a whole? ▪ Did certain interventions show greater sustainability than others? Why? • Is there an added value role for donors to play beyond programme completion? ➤ Did the programme effectively capitalize on lessons learnt from replication of best practice models to influence policy and practice?	• Awareness and practices will be carried on beyond the life of the project in the areas as it reached at the remote spaces of the hills through the collective success of the project initiated approaches and effective coordination among stakeholders includes DNCC/UNCC, UMSPs and different groups. ▪ Among the project interventions, WBC showed the greater sustainability than others. WBC sellers are based at communities which people have easy access to and could collect anything, anytime they needed from it. This is very much popular to community as it gives services which meet their basic needs and thus it one of key 'beauty' of the project. In the meantime, WBC sellers also found growing their business and services that strengthening its socio-economic development and access to decision making process both at family and societies. ▪ LEAN project expand new technologies in cultivation and introduces group marketing system/approaches ▪ LEAN built capacity of LSPs and WBCs through training and material supports which helped them socio-economic development both directly and indirectly. • In addition to project regular supports (training, awareness, business linkages etc.), there were other supports by the donors which sped up business including business start-up supports, technical advisory supports for business development (business plan and management etc.) and convening relevant stakeholders, leverage resources etc. ➤ Yes, through introducing- - Multi-sector approaches - Establish and strengthen community groups like; WBC, LSP, Collection centres - Creation of adolescent clubs, Blue school model etc. - Awareness sessions, events at schools etc. - Linkages with greater buyers/sellers, producers/service providers etc. - Accessibly to relevant Govt. services - Introducing vermin compost that improving vegetable cultivation and rural economy - Introducing improved and hybrid variety crops cultivation (fruits, food grains etc.) - Rearing cow and poultry, fisheries etc. at remote spaces in the hill communities

4.2 Assessment of the Multi-Sectoral Platforms (MSPs) at Different Levels

Multi-Sectoral Platforms (MSPs) from Union to District levels

NPAN2 for 2016-2025 was developed based on Bangladesh government's commitment and the priorities of the NNP 2015 and on recent global and local evidence. To ensure a multi-sectoral, multi-level and multi-stakeholder approach, the NPAN2 engages over 17 ministries, and numerous stakeholders and partners, both domestic, regional and global, in the implementation of its activities at upazila, district, and national levels.

By considering the relevance of the multi-sector stakeholders' involvement at district, subdistrict (upazila) and Union Parishads for implementing NPAN2, LEAN took initiatives to improve and strengthen local nutrition governance by facilitating District and Upazila multi-stakeholder platforms (MSPs). The project promotes NPAN2 and CIP2 agenda through MSPs to achieve the Sustainable Development Goals by 2030 as a commitment of the Bangladesh Government.

LEAN targeted the sensitization of nutrition-related line departments of the Government of Bangladesh (GoB) and activated nutrition-governance-focused Multi-Sectoral Platforms (MSPs) from Union to District levels (3 DNCC, 18 UNCC, 77 Union MSP) in Bandarban, Khagrachari and Rangamati which are most remote district of Bangladesh and where all people are hard to reach with limited knowledge and practice of nutrition-sensitive and nutrition-specific healthy practices. The endline evaluation conducted meetings with the coordination committees and key informant interviews with the members (different government services departments) of those coordination committees.

District Nutrition Coordination Committee (DNCC)

The 26-member District Nutrition Coordination Committees (DNCCs) have the mandate to coordinate multisectoral nutrition efforts at district level. LEAN project played vital role for reformation of DNCC and functioning their activities aligning with NPAN-2. The project staff mainly facilitated conducting the coordination committees' meetings, preparing planning, follow-up, etc activities. Because each DNCC member are busy to implement respective department's regular activities. LEAN project's supportive roles help to conduct regular meetings of DNCC. The DNCC members are aware of the NPAN-2. They didn't find much time to sit together and to conduct planning meetings. However, now the DNCC meeting is being held quarterly and regularly. UNCCs presidents and member secretaries participate in the DNCC meeting. They shared progress in the meeting. DNCC supports to UNCCs by suggesting incorporating nutrition issues in their regular activities and disseminate relevant messages to respective project target groups. The DNCC provided feedback and guidelines to UNCCs. Each district and upazila level government department work together for setting target, monitoring progress and further planning by focusing on nutrition in the district and upazila level. Then the departments shared own activities and progress in the DNCC meeting and discussed. In the meetings and KIIs, it is found that almost all the DNCC members visited project communities and listen from the women, adolescents, producers, LSPs and WBCs on nutrition activities and way of maximizing the government support. According to the DNCC members, before the activation of DNCC, they didn't consider or focus on nutrition issue. Now they keep this in mind during target setting, planning and progress reviewing. However, during the endline evaluation, it was found that government agencies need to work more collaboratively. Government can appoint nutritional focal point persons who can closely work DNCC member secretary to conduct regular meetings in absence of LEAN project staff. There should be a budget for the DNCC meetings.

Upazila Nutrition Coordination Committee (UNCC)

The 18-member Upazila Nutrition Coordinating Committee (UNCC) is tasked with planning, implementing, coordinating and evaluating all health and nutrition-related activities in upazila level in line with the national nutrition action plan. LEAN also started work with the 18 target UNCCs from the beginning of intervention and emphasized activating them. The project conducted orientation and workshops for the UNCC members. LEAN staff facilitated UNCCs to conduct quarterly meetings and prepare planning and ensured the participation of UP chairman. As a result, UNCC helped to set the target as per the set indicator and then share in the UNCC and DNCC meetings. UNCC is becoming a bridge between UP and District. As a result, Nutrition planning and implementation at upazila and district becoming easy based on the needs of the local level. The chairpersons (Upazila Nirbahi Officer- UNO) and member secretaries (Upazila Health and Family Planning Officer) from each UNCC attend the DNCC meetings and provide necessary information. UNCC members also visit project activities at the community level. They also facilitate the UNCC in developing and/or revising their

annual activity plan in cooperation with Hill District Councils. According to the UNCC members, as a result of continuous LEAN support they have been able to reach to the community to raise their awareness on nutrition foods, cooking process, women and child health, early marriage, health and hygiene, etc. and providing technical to them on improved variety, cultivation method, poultry and cow rearing, family planning, vegetable gardening, etc. During the meeting and KII with UNCC members it is clear that they still need support to regularize the meeting and planning. According to the UNCC members, they need to appoint nutrition focal point persons in upazila health complex and community clinics who can provide support for conducting regular meeting and documentation, government should strengthen the coordination among different service providing agencies at upazila level for successful the UNCC planning and implementation, formally recognize and include the Union Parishads in NPAN-2 and allocate enough budget for conducting meetings, seminar, etc. on nutrition issue.

Union level Multi Sector Platform

NPAN 2 ensures upazila and district, and national levels multi sector committees, except union level MSP. But without the involvement of union parishads the target of NPAN 2 couldn't be achieved. So, LEAN project emphasized the formation of union level MSPs in 77 unions to maximize the impact of different government agencies' efforts to improve the nutritional conditions on the lives of people in CHT. During the meetings with DNCC and UNCC members, they opined that the inclusion of the Union MSP approach in NPAN 2 will help district and upazila level line agencies to reach at the household level in remote areas for ensuring nutrition for the people, especially for the women, children and adolescents. The Union MSPs are formed by the UP representatives, local leaders, eg. Karbari and Headmen, union level line agencies staff, etc. Most of the Union MSPs are active and conduct regular meetings, prepare plans and try to allocate budget to work on nutrition issues in their respective unions. Due to insufficient budget they are unable to do more (e.g. organize programmes for the awareness raising on nutrition at community level, provide hardware supports for vegetable gardening, etc.). The UP chairmen are the member of UNCC and they regularly participate in the meetings and get opportunities to share their opinions in the meeting. Union MSP members play key roles on discussing and sharing messages about nutrition foods, cooking process, women and child health, early marriage, health and hygiene, etc. As a result, knowledge on food groups, food processing/ preparation and management and dietary practices and MHM are increasing among the community people. During the discussion with the Union MSPs, it is come out that there is a need of continuous support to orient them for better understanding on NPAN-2. For this, conducting regular meetings, strengthening the coordination with UNCC and providing support to the community people are required. According to the Union MSPs, BNCC should be committed and develop an action plan to activate the Union Level Multi Sectoral Platforms (MSPs) and provide proper support to ensure improved nutrition and health hygiene in CHT, considering the CHT context need to strengthen the coordination among District, Upazila (sub-districts) and MSPs and activate the Zila Parishads.

Blue School

LEAN implemented the Blue School concept in 141 schools in Bandarban (30 schools), Khagrachari (45 schools) and Rangamati (66 schools) districts. At the beginning of the project, LEAN activated 141 student brigades, previously inactive and conducted trainings about their roles and responsibilities including WASH activities, nutritious foods, nutrition practices, importance of iron tablet and folic acid for the adolescent girls, cleanliness at personal and school level (regular hand washing, handwashing station and toilet cleaning, menstrual hygiene management, process of sanitary pad disposal, etc. The project supported to establish vegetable/ nutrition gardens in all schools including hands-on training. The project provided hardware supports- sanitary napkin (for adolescent girls), soap, antiseptics (dettol/ savlon, etc.), Harpic, brushes, water tanks, water filters, etc. for health hygiene and fruit plants, seed, organic fertilizer and pesticides, spade, shovel, basket, bin, fence, bowl, irrigation equipment, and cash etc. for nutrition gardens. LEAN also organized training blue school teachers (who were the focal point persons) who played crucial roles in implementing the blue school concept. In the FGD, the students informed, *"Now we know about the*

impact of malnutrition and nutrition and the importance of balance diet in their life". According to them, recent price hikes are the main barrier for getting nutritious foods and balanced diets. The students also know how to develop nutrition garden, harvesting and selling. The teachers informed the evaluation team that they played facilitating roles, while the students prepared earth, planted seeds and fruit saplings, undertook general care, harvesting and also sold items in the local hat bazar. That gave them in-depth experience to do the same activities in their own residences. The student brigade members shared experiences about nutrition, nutrition garden and WASH activities in the classes. The project continued follow-up of the blue school activities and closely worked with school management committees (SMC), teachers and students. According to a teacher, **"Blue School is a wonderful program like a dream. The program should continue at schools. Students received hands on training on field preparation for fruit and vegetable plantation, nourish the garden, harvesting and selling in the local Bazar/ Hat"**. As a result of the blue school activities the dropout rate among the students especially girls' students reduced and regular presence of students averagely increased. It has seen that the interest and enthusiasm of students, school management committees and teachers the blue school program will be continued if they can avail budget and water facilities in time.

4.3 Respondent's Demographic Information

A total of 1149 individuals (775 female and 374 male) were reached via under the quantitative endline survey. Among them 970 were from the project area and 179 from the control areas.

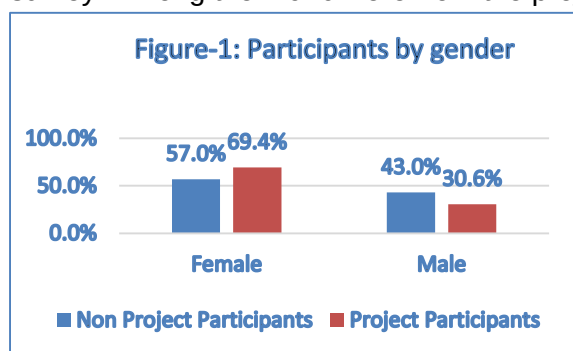


Table-7: No. of respondents				
Particulars		Project Area	Non-Project Area	Total
Type	LSP	89	17	106
	PLW	363	60	423
	Producer	456	80	536
	WBC	62	22	84
Total		970	179	1149
District	Bandarban	149	32	181
	Khagrachari	350	52	402
	Rangamati	471	95	566

The respondents were selected from all the three districts of CHT ensuring representation of the Local Service Providers (LSPs), Pregnant and Lactating Women (PLWs), Producers and Women Business Centers (WBCs). The samples were chosen from the population comprising of different religion, ethnicity, gender and age groups.

Table-8: % of Respondents by gender, religion, ethnicity and age groups		
Gender	Female	67.4%
	Male	32.6%
Religion	Buddhist	72.7%
	Christian	3.0%
	Hindu	2.6%
	Muslim	21.7%
	Other	0.1%
Ethnicity	Bengali	22.5%
	Bowm	0.4%
	Chak	0.1%
	Chakma	56.0%
	Khasia	0.1%
	Marma	10.3%
	Mro	1.4%
	Tanchangha	5.1%
	Tripura	4.0%
Age Group	19 to 35	57.7%
	36 to 50	31.8%
	51 to 60	8.1%
	60+	2.4%

Two thirds of the respondents (out of 119) were female. Meanwhile, the number of male and female members within the surveyed household was 2752 and 2790 respectively (The ratio of male and female members among the surveyed households/families is 49.76 50.24).

The majority (almost three quarters) of the respondents are Buddhist. One-fifth are Muslim and the rest belong to other religions (Christian, Hindu, Other).

By ethnicity the presence of Chakma is most dominant (56%) while that of the Bengali is also mentionable (22.5%). The presence of Marma community (10.3%) is not negligible.

Close to 60% is within the 19-35 age-group and slightly more than 30% is within the 36-50 age-group.

The mean (average) household size of the respondents is 4.83.

The same within the project participants is 4.77 and non-project participants is 5.16.

The scenario is not much different in Bandarban, Khagrachari and Rangamati hill districts.

7.6% of the respondents are illiterate. Less than 2% passed H.S.C and nearly 12% have above H.S.C level education.

The education level of the majority is within Primary to S.S.C.

The scenario by education level is almost the same between project participants and non-project participants.

By occupation, the housewife (homemakers) takes the highest percentage. The scenario is similar both in control area and project area. The 2nd highest by occupation is farmer. The next major portion is involved as agro-entrepreneurs. The percentage of agro-entrepreneurs is more than double in project areas than in control areas. The engagement in business is also mentionable.

Table-9: Respondents age				
Particulars	District	Mean	# of HHs	Std. Dev
Project Area	Bandarban	4.68	149	1.78
	Khagrachari	4.77	350	1.58
	Rangamati	4.79	471	1.69
	Total	4.77	970	1.66
Non-Project Area	Bandarban	4.69	32	1.28
	Khagrachari	4.33	52	1.32
	Rangamati	5.78	95	2.54
	Total	5.16	179	2.15
Total	Bandarban	4.69	181	1.70
	Khagrachari	4.71	402	1.55
	Rangamati	4.96	566	1.90
	Total	4.83	1149	1.75

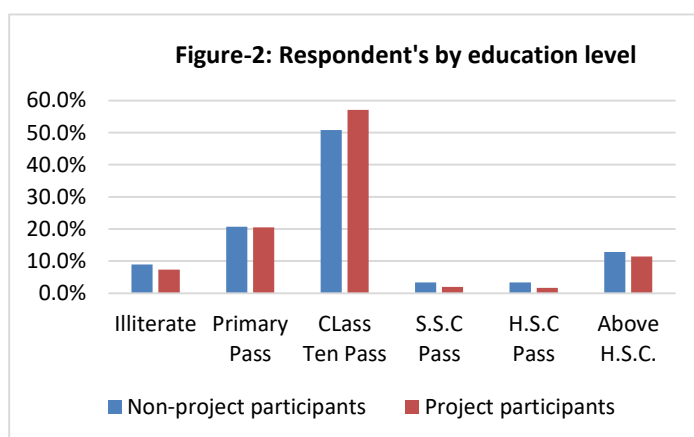


Table-10: Respondents by profession

Distribution by Profession (Respondents and HH Heads)	Project Area		Non-project area	
	Respondent	Household Head	Respondent	Household Head
Agro-entrepreneur	24.4%	24.1%	11.2%	12.3%
Business	6.5%	11.5%	9.5%	11.7%
Cultivation in both	3.2%	1.8%	1.7%	2.2%
Cultivation in Jum	4.3%	3.0%	2.2%	2.8%
Cultivation in plain land	-	4.0%	-	2.8%
Day Labour	0.1%	0.1%	1.1%	-
Driver (CNG, bus, truck etc.)	1.1%	4.0%	4.5%	7.3%
Fabrics (Looming/Knitting/Tailoring)	0.3%	0.4%	0.6%	-
Farmer	15.6%	28.8%	25.1%	39.7%
Fish Cultivation	0.3%	0.7%	-	-
Fishing	0.3%	0.4%	-	1.1%
Housewife	37.5%	5.5%	34.6%	2.8%
Others	0.3%	4.5%	2.2%	7.3%
Poultry/animal husbandry	1.9%	2.0%	-	-
Professional Expert (advocate/doctor/agriculture/health/livestock)	1.2%	1.3%	2.2%	1.1%
Rickshaw/Van puller	-	0.8%	-	0.6%
Service holder (Govt./NGO/Private, etc.)	2.0%	6.5%	5.0%	8.4%
Unemployed	0.9%	0.5%	-	-

4.4 Findings on Nutritional Parameters

The LEAN project has been implemented in Rangamati, Khagrachari and Bandarban hill districts of Bangladesh with a focus on two intended outcomes: OC1: Enabling environment and awareness created for improved and sustained pro-poor nutrition security service delivery and OC2: Availability and consumption of safe and diversified nutritious food increased for poor pregnant and lactating mothers, adolescents and children through value chain intervention. The overall objective to improve the maternal and child nutrition status in CHT is intended to be measured by 03 broader/impact level nutrition-specific indicators:

OO1: Prevalence of stunted children under 5 years old in Chittagong Division

OO2: Prevalence of low BMI (<18.5) among women aged 19-49 years in Chittagong Division

OO3: Prevalence of undernourished adolescent girls in Chittagong Division.

This chapter sets out the analysis and main findings from the 'anthropometric survey'. Under the anthropometric survey, data were collected from three project target groups: a. Under Five Children (U-5 Children), b. Pregnant and lactating women (PLW) and c. Adolescent Girls. The number of total surveyed participants for the anthropometric survey is shown in the table.

A total of 1,551 were surveyed, among them 1,357 (87.49%) were from project areas and the rest 12.51% were from non-project areas. The highest number of respondents were taken from Rangamati district. All respondents were randomly selected from the project beneficiary list were provided by central M&E and/or from the root level staff

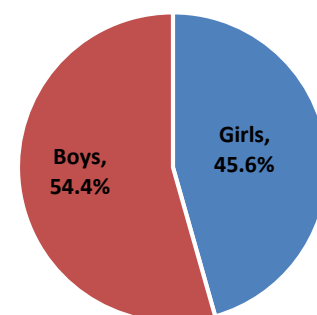
Table-11: Participants of anthropometric survey				
Particulars		Project Area	Non-Project Area	Total
Type	U-5 Children	489	72	561
	PLW	388	53	441
	Adolescent Girls	480	69	549
Total		1,357	194	1,551
District	Bandarban	240	56	296
	Khagrachari	493	59	552
	Rangamati	624	79	703

A. Under Five Children (U-5 Children)

Among the surveyed participants of U-5 children, the ratio of boys is higher than that of girls; 54.4% were boys and 45.6% were girls.

Table-12: Age-Group-wise girls and boys of U-5 children proposition (project area)						
District	Age of 1 to 6 Months		Age of 7 to 24 Months		Age of 25 to 60 Months	
	Girls	Boys	Girls	Boys	Girls	Boys
Bandarban	2.08%	3.51%	43.75%	40.35%	54.17%	56.14%
Khagrachari	10.13 %	7.53%	17.72%	12.90%	72.15%	79.57%
Rangamati	3.13%	2.59%	40.63%	36.21%	56.25%	61.21%
Total	4.91%		30.88%		64.21%	

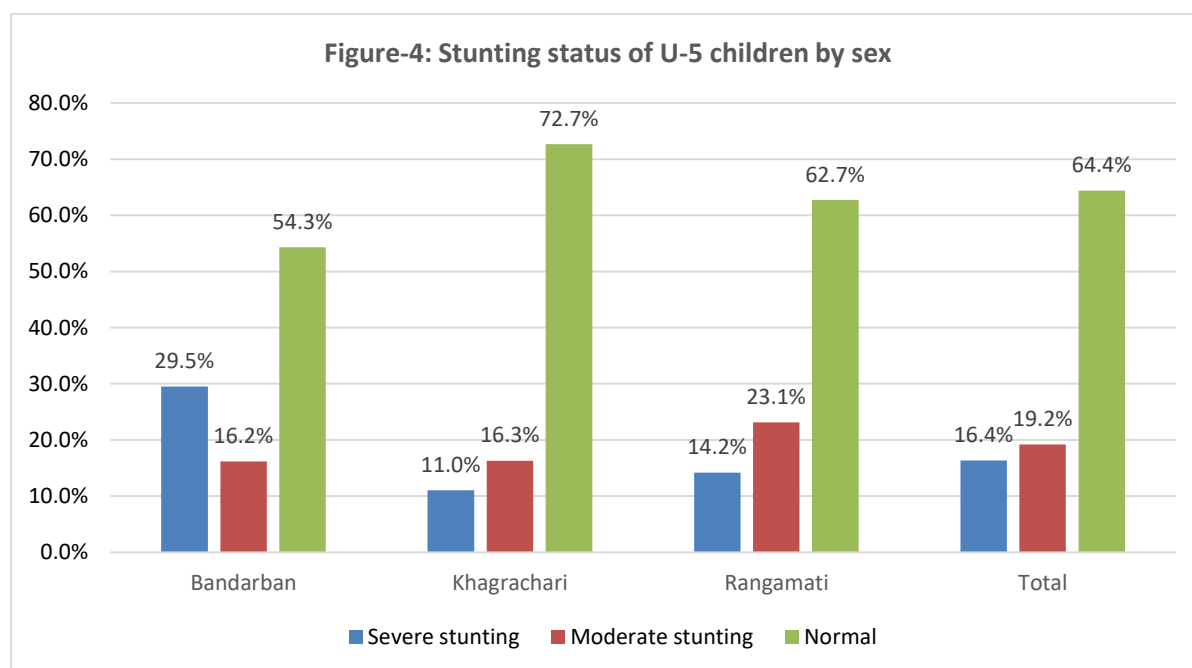
Figure-3: Surveyed U-5 Children by sex (project area)



According to the age-group, 64.2% U-5 children are from the age of '25 to 60 months', 30.9% in '7 to 24 months' and 4.9% are from '1 to 6 months'. The percentage of girls of Bandarban district in the age group of '7 to 24 months' is significant (43.8%), the same percentage for Khagrachari district is only 17.7%.

OO1: Prevalence of stunted children under 5 in Chittagong Division

Regarding outcome 1, the endline survey found that, overall, 35.6% U-5 children, irrespective of sex are stunted - among them 16.4% are severely stunted and 19.2% are moderate stunted. On the other-hand, 64.4% children are found with normal or without stunting.



According to Multiple Indicator Cluster Survey (MICS) 2019, the moderate stunting (-2SD) of U-5 children is 27%. And the endline survey the moderate stunting found 19.2%. So, the reduction is 7.8%.

Table-13: District-wise stunting status of U-5 children

District	Stunting status	Endline		
		Boys	Girls	Total
Bandarban	Severe stunting	26.3%	33.3%	29.5%
	Moderate stunting	14.0%	18.8%	16.2%
Khagrachari	Severe stunting	7.5%	15.2%	11.0%
	Moderate stunting	18.3%	13.9%	16.3%
Rangamati	Severe stunting	12.1%	16.7%	14.2%
	Moderate stunting	25.9%	19.8%	23.1%
Total	Severe stunting	13.5%	19.7%	16.4%
	Moderate stunting	20.7%	17.5%	19.2%

The change rate both for severe stunting and moderate stunting is significant. On average, the endline findings show that 16.4% U-5 children are severely stunted and 19.2% are moderate stunted.

In comparison with baseline data, there is a significant decrease in overall stunting status Thus, the project has reached the target of its impact indicator OO1 (the target was 4% reduction in stunting status). The other significance is that when it is moderate stunting, the rate is high for the boys (20.7%); on the contrary, girls (19.7%) are more severely stunted than boys (13.5%).

Prevalence of Underweight and Wasting

From the collected data, the underweight and wasting status of under-5 children was measured. It is well-known that the geographical, social, cultural, transportation structures/facilities, and remoteness prove challenging for hilly areas. However, in spite of this adverse situation, the moderate wasting status (11.2%) is very close to the national figure (9.8%¹). The most significant achievement is, the severe + moderate underweight status (19.8%) which is also better than the national figure (27.8%²). **This is evidence in support of the chosen project interventions and proves that the project has been able to disseminate the nutritional messages at the community level effectively.** Along with disseminating messages, there were other direct nutrition-specific interventions at the community levels. Besides, government initiatives including 'observance of nutrition week', school gardening, etc. – all these factors played role for achieving the positive result in nutrition sector.

Table-14: Status of under-weight and stunting

District	Status of under-weight				Status of wasting		
	Severe underweight	Moderate underweight	Normal		Severe wasted	Moderate wasted	Normal
Bandarban	3.8%	15.2%	81.0%		3.8%	11.4%	84.8%
Khagrachari	4.7%	9.3%	86.0%		5.8%	7.0%	87.2%
Rangamati	15.1%	13.7%	71.2%		13.2%	14.6%	72.2%
Total	9.0%	12.5%	78.5%		8.6%	11.2%	80.2%

The endline data was also collected from non-project areas. It is observed that the prevalence of severe + mild wasting is 25%, which further underlines the impact of the project interventions.

Presence of Oedema

Out of 489 surveyed U-5 children, only 6 were found with oedema. In percentage, it is 1.2% of the total surveyed samples.

OO2: Prevalence of low BMI (<18.5) among women aged 19-49 years

The LEAN project works with pregnant and lactating women (PLW) and one of its overall objectives is to reduce 3% of the prevalence of low BMI of mothers - in this perspective, it is evident that the project achieved this impact level indicator comfortably

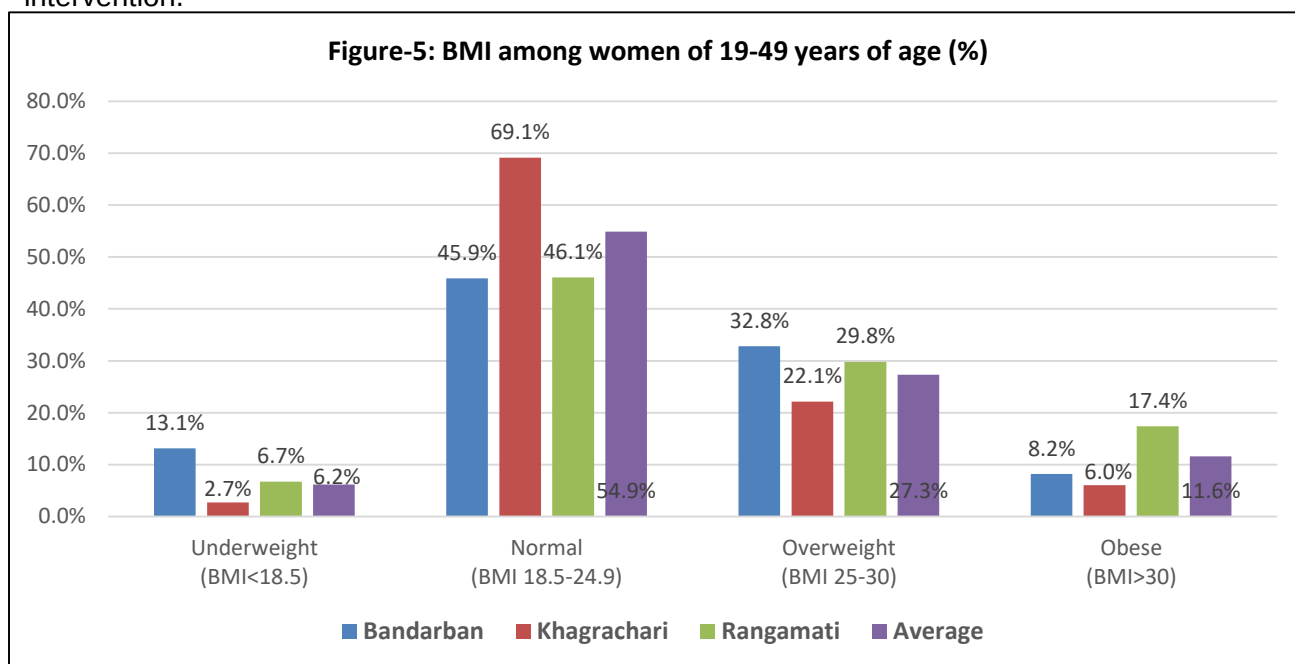
Table-15: Status of weight against BMI				
Area	Underweight (BMI<18.5)	Normal (BMI 18.5-24.9)	Overweight (BMI 25-30)	Obese (BMI>30)
Project area	6.2%	54.9%	27.3%	11.6%
Non-project area	9.4%	54.7%	24.5%	11.3%

as the endline survey found only 6.2% mothers as underweight, whose BMI is less than 18.5. The baseline figure was 10%, so the reduction of underweight women is 3.8%. The prevalence of underweight in Khagrachari district is the lowest with only 2.7% mothers underweight. Meanwhile, the normal/acceptable BMI (69.1%) is also observed in Khagrachari district.

In the endline survey, irrespective of all districts, 27.3% women are found as overweight, with the highest percentage of overweight women found in Bandarban district. There are also some obese

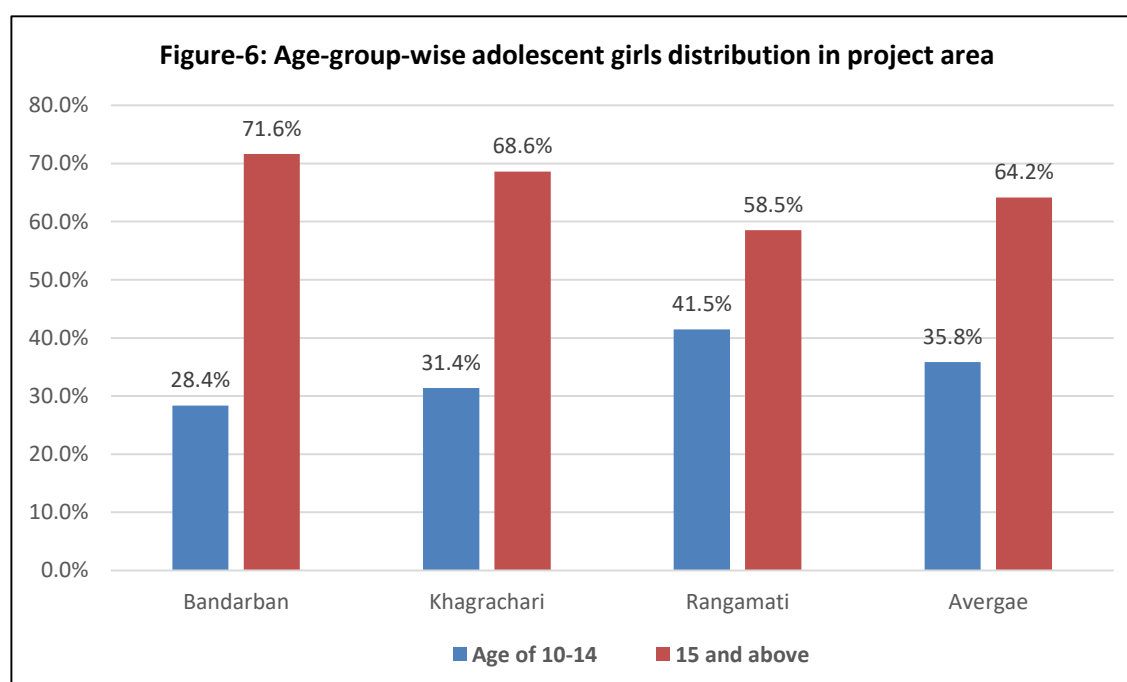
women, overall, 11.6% women are found as obese, and the largest ratio of obese women (17.4%) is found in Rangamati district.

In the non-project area, 9.4% women are found as underweight, means their BMI is than 18.5, which is 3.2% more than the project area. This finding further underlines the impact of the project intervention.



003: Prevalence of undernourished adolescent girls in Chittagong Division

A total of 549 adolescent girls' anthropometric data were collected – among them 480 were from project working areas, with the remaining 69 being from non-project areas. The average age irrespective of project/non-project area is 15.2 years. The age-group-wise distribution of the surveyed adolescent girls in project area is outlined in the below chart



In all three hill districts, the sampled population of '15 and above' age-group is higher than that of '10-14' age-group --- on average, it is almost double.

On average, 28.1% adolescent girls of the project working area were found with the prevalence of low BMI (less than 18.5). This figure is broadly the same for all three hill districts, with a better result found in Khagrachari district (25.6%). According to the Nutritional Status of Adolescent Girls in Bangladesh: A Review Paper Focusing on Regional and Institutional Variations (*published in the American Journal of Public Health Research, July 2020*), the prevalence of low BMI (undernourished) of adolescent girls is found 50%. And it is found 28.1% in endline survey. So, the reduction is 21.9%. The baseline findings don't match with the journal report.

Interestingly, the prevalence of undernourishment in the non-project area is only slightly higher than the project area - 33.3% adolescent girls of the non-project area were found to be underweight or undernourished.

Approximately two-thirds of adolescent girls were found to have a normal BMI range (18.5 to 24.9), broadly the same for all three districts. Meanwhile, 8.3% of adolescent girls were found to be overweight in the surveyed project working areas.

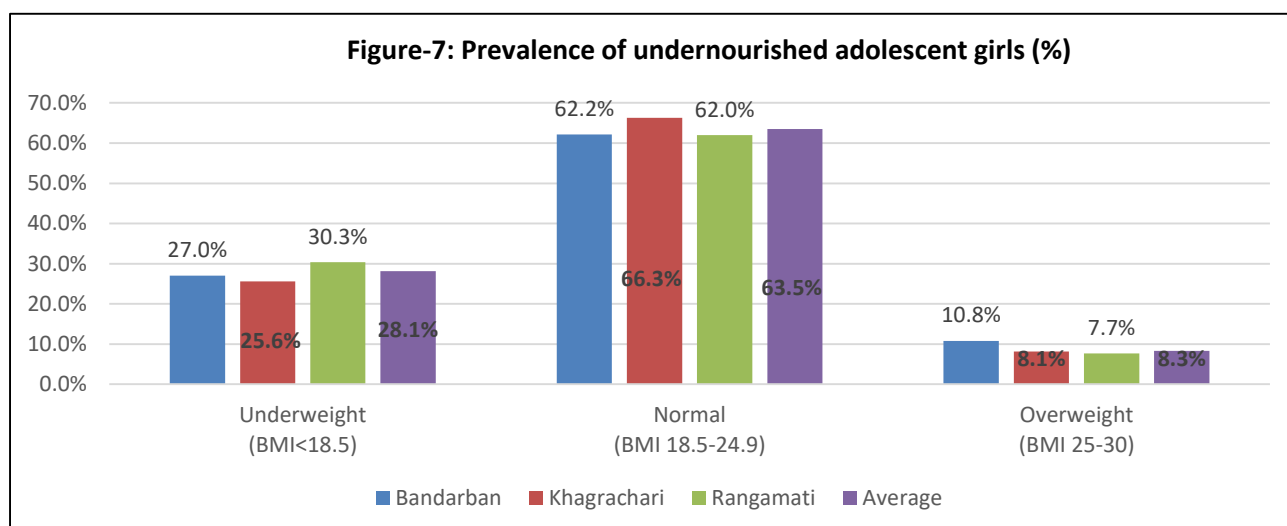


Table 16: Comparing baseline and endline status of undernourished adolescent girls

District	Underweight (BMI<18.5)		Normal (BMI 18.5-24.9)		Overweight (BMI 25-30)	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Bandarban	51.5%	27.0%	48.5%	62.2%	2.4%	10.8%
Khagrachari	68.7%	25.6%	28.9%	66.3%	1.0%	8.1%
Rangamati	67.3%	30.3%	31.7%	62.0%	0.0%	7.7%
Average	62.5%	28.1%	36.4%	63.5%	1.1%	8.3%

There is a reduction of undernourished adolescent girls for all three districts and increase of normal status, which is also good; but there is increase of overweight prevalence, which is a concerning issue.

Table-17: Severely/moderately short

Project/ Non-project area	Undernourished (BMI<18.5)	Normal (BMI 18.5-24.9)	Overweight (BMI 25-30)
Project area	28.13%	63.54%	8.33%
Non-project area	33.33%	59.42%	7.25%

No single adolescent girls in the 10-14 age group were found to be severely short considering their age in project areas and very few of them (3.5%) were found to be moderately short.

Meanwhile, 16.6% adolescent girls of the 15-19 age group were found to be severely short and 24.7% as moderately short. The findings depict the vulnerability of older-aged adolescent girls. It's an area of consideration for future programming. The puberty-aged adolescent girls need more nutritious food than the lower-aged group that might hinder the proper growth of the older-aged group of adolescent girls as their family couldn't manage required nutritious food as per their need.

From the 'anthropometric survey', it is revealed that the project gained a tremendous achievement in all the overall Objectives. It was only possible through introducing multiple nutrition-specific and nutrition sensitive interventions both from project side and from the local (district and sub-district) administration. This result thus proves the relevancy of the project activities.

Statement of a Mother

"I am Sangthi Mro, 31 years old, living in Thingu Para, Ward No. 1 of Chaikhyang Union Parishad, Ali Kadam Upazila. I used to attend sessions under the LEAN project in Thingu Para, WBC, facilitated by Mrs. Tripura, five times before. We used to discuss various topics at different times, but this time we discussed ten topics in one session. I never realized the importance of these topics before. After having my second child, I realized how much each of these topics was necessary for my child and family.

On the date of 24-04-21, during the discussion meeting, I came to know about the nutritional requirements of my child. Now, I can use GPS card to measure my child's weight, mid-upper arm circumference, and height, and understood how much nutrition they have and how much they need. Besides, I saw all the facilities available in the community clinic directly. So, I have decided that I will come to the WBC centre every month to know the nutritional status of my child. I am very grateful for all these opportunities and facilities, which I might have paid special attention to if I had received them during the time of my first child. Today, I was given a food plate, which I think is necessary for my child, even if I forget, I will understand by seeing the picture of the plate. So, I thank to the LEAN project."

4.5 Basic on Nutrition

The majority (98%) of the project participants and three-fifths (62%) of the non-project participants stated they possessed information regarding nutrition. District-wise there was not much variation in the scenario. The respondents noted that they became aware about nutrition from various sources. These included: the WBC Sessions, LSP Sessions and LEAN Training which played vital roles. While government departments, media and other sources also played a role in disseminating knowledge about nutrition.

Table-18: Status of nutrition awareness

District	Possessed Information on Nutrition			Reported Means and Sources of Information on Nutrition Mentioned by Project Participants	
	Yes	No	Don't know		
Bandarban	68.8%	6.3%	25.0%	WBC Session	21.6%
Khagrachari	59.6%	36.5%	3.8%	LSP Session	20.9%
Rangamati	61.1%	22.1%	16.8%	Training of LEAN	24.7%
Non-project area	62.0%	23.5%	14.5%	Theatre/Cultural Event, Social Message,	7.8%
Bandarban	98.7%	1.3%	0.0%	Religious Leaders	9.2%
Khagrachari	99.1%	0.3%	0.6%	Govt. Departments	5.0%
Rangamati	97.0%	2.1%	0.8%	School	10.3%
Project Area	98.0%	1.3%	0.6%	Media	0.4%
				Others	

Figure-8: Project HHs participated in awareness sessions on nutrition issues

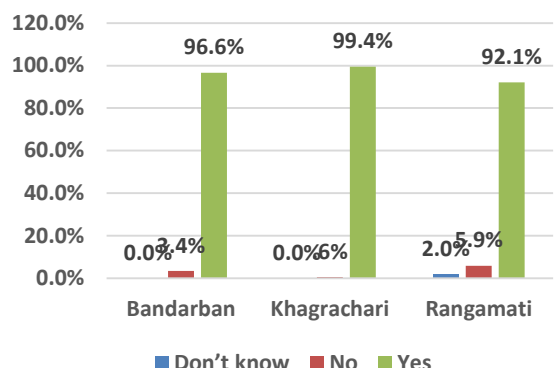
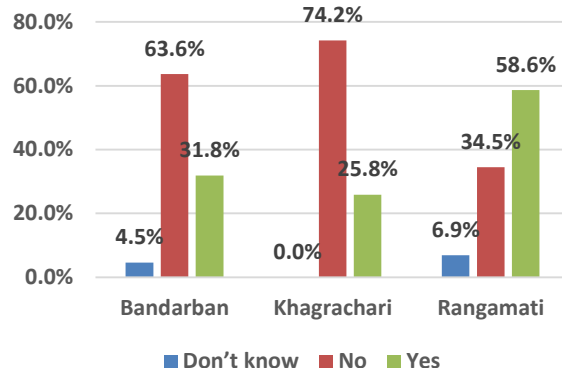


Figure-9: Non-project HHs participated in awareness sessions on nutrition issues



Over 90% of the respondents (95.5% of project participants and 44.1% of non-project participants) attended nutrition related awareness sessions or training.

43% from the control area and 96% from the project area attended training on hand washing practice.

Table-19: Participation in training on hand washing practice

District	Project Area	Non-Project Area
Bandarban	96.6%	62.0%
Khagrachari	98.9%	48.1%
Rangamati	93.6%	33.7%
Total	96.0%	43.0%

Since attending the training sessions, project participants have adopted better options/practices in the areas of food production, food preparation, food intake, breastfeeding, and maintaining hygiene practices. It means that they had better understanding and knowledge by attending the sessions and now applying the learning acquired from the training.

Table-20: Behavior Change after Training	Percent
Food preparation maintaining hygiene	19.1%
Cooking nutritious food	16.5%
Feeding young children nutritious foods	10.3%
Breastfeeding	11.4%
Hygiene practices	13.1%
Nutritious food intake	16.1%
Nutritious food production	13.5%
Other	0.1%

Furthermore, 87.5% of the project participant households are aware of the Women Business Center (WBC) and among them 92% have sought services from the Center.

Conversely, 19% of the non-project participant households knew about WBC and among them 55.9% have sought services from the Center.

*Multiple responses

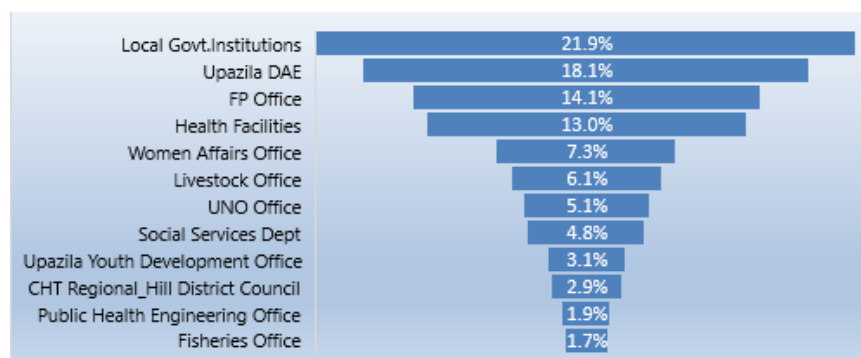
From these results it can be observed that the project played a role in raising awareness about the WBCs and in increasing the rate of those seeking services from the Centers. Overall, 98% of the project participants and 91.2% of the non-project participants acknowledged that they found WBC services useful.

District	Project Participants	Non-Project Participants
Bandarban	76.5%	53.1%
Khagrachari	69.1%	80.8%
Rangamati	52.2%	13.7%
Total	62.1%	40.2%

(52.7%) in Rangamati district (as compared to other two hill districts).

Based on the response of those who claimed that they seek support from various government

Figure-10: Percent of users of govt. institutions (multiple responses)



Over 62.1% from the project area and 40.2% from the control area stated that they seek support from various government institutions. The proportion of individuals seeking support from govt. institutions are relatively low

institutions, it is observed that they mostly go to the local government institutions (mainly Union Parishad), Upazila Department of Agriculture Extension (DAE), Upazila Family Planning Office, Upazila/Union Level Health Facilities. The trend of seeking support from Women Affairs Office, Livestock Office, UNO Office, Social Service Dept. Office is neither very low

nor very high. The tendency of seeking support from other mentioned institutions (including CHT Regional Council/Hill District Council) is obviously low.

4.6 Food Security and Consumption Pattern

The majority of the surveyed households, both in the control area and project area, are involved in agricultural (crop) production, poultry rearing and livestock rearing. There is scope to inspire the rest of the households to get involved with such activities for income enhancement. The rate of involvement is relatively high in the project area.

Notably, a very high percentage of the households (88.8% in the control area and 98.9% in the project area) are aware about minimum diversity of food for women. A small proportion in the control area and much fewer in the project area had some worries regarding availability of food in the past 12 months. Due to economic stresses, some households have needed to adopt mechanisms or adjust for food deficiency by undertaking daytime fasting, skipping some meals, taking less food than usual, compromising with choice of nutritious food items etc. Based on the responses of the surveyed households shown in the table below it is found that such a situation prevails though quite less in the project area than control area. Therefore, efforts should be strengthened to enhance food security and bring in improvement in food consumption patterns.

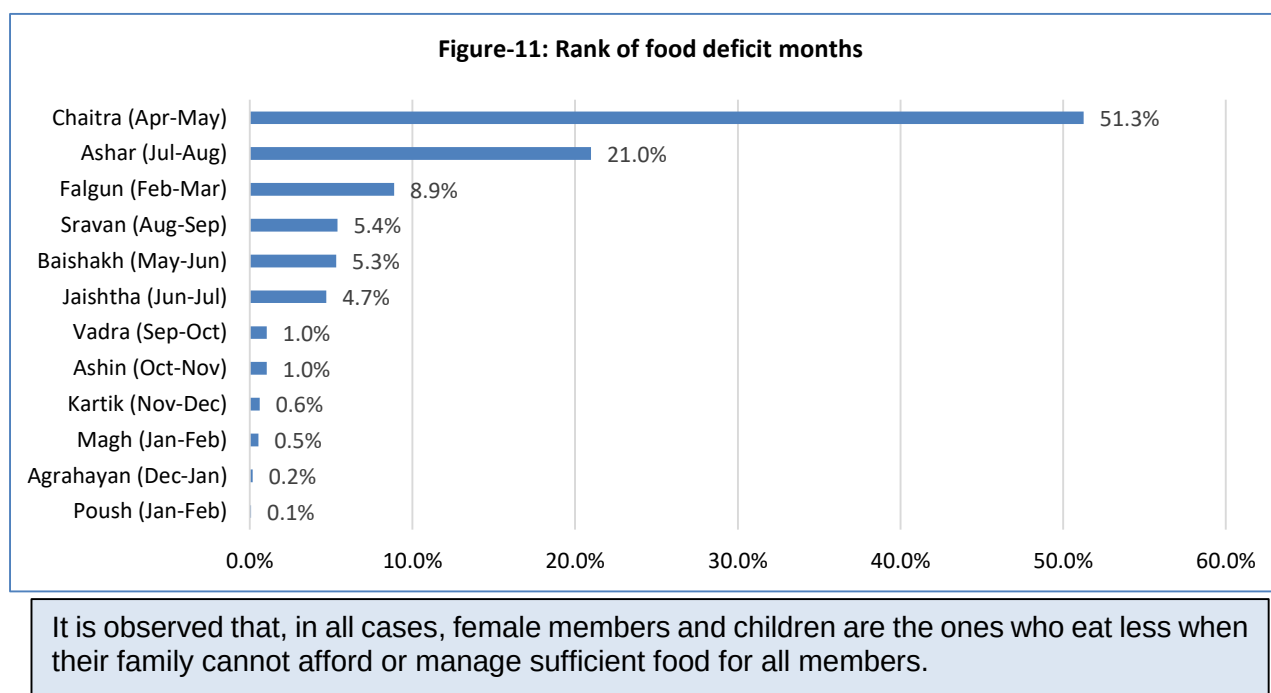
Table-22: Food security and consumption status

Food Security and Consumption Status of Surveyed Households	Project Area	Non-Project Area
Involved in agricultural production	88.0%	72.1%
Involved in poultry rearing	85.2%	73.7%
Involved in livestock rearing	74.2%	56.4%
know about minimum diversity of food for women	98.9%	88.8%
Had to worry for availability of enough food in last 12 months	2.5%	24.6%
Could not afford preferred food for family in last 12 months due to lack of resources	36.7%	45.8%
Had to eat limited variety/nutritious food due to lack of resources	25.2%	45.8%
Had to take some unwanted food (could not afford to have food of their choice)	20.5%	36.3%
Had to take less/smaller meal due to insufficiency of food in last 12 months	18.8%	36.3%
Sometimes had no food for one or more meals	14.3%	19.6%

Sometimes had no meal during an entire day (had no food at all to eat)	10.2%	14.0%
Pregnant/lactating women in the family took 5 types of balanced food in last 24 hours	48.8%	29.1%
Adolescent girls in the family took 5 types of balanced food in last 24 hours	55.8%	35.8%
Children under 5 in the family took 5 types of balanced food in last 24 hours	47.4%	31.3%
Women in the family consumed at least 5 (out of 10) food groups in last 24 hours	83.6%	45.3%

Regarding balanced food consumption, the situation for women in the family, particularly pregnant and lactating women, adolescent girls and children under 5 years of age is comparatively higher than the baseline.

Most food deficient months:



As reported by the interviewees, food deficiency is most acute during the periods of Chaitra (April-May) and Ashar (July-August). The other periods when they face moderate food deficiency include Falgun (February-March), Sravan (August-September), Bishakh (May-June) and Jaistha (Jun- Jul).

Knowledge about food groups

The Minimum Dietary Diversity for Women (MDD-W) is a population-level indicator of diet diversity validated for women aged 15-49 years old. The MDD-W is a dichotomous indicator based on 10 food groups and is considered the standard for measuring population-level dietary diversity in women of reproductive age. The 10 food groups are- grains, roots, tubers, pulses, nuts & seeds, dairy products, meat, poultry, fish, eggs, dark leafy greens & vegetables, other Vitamin, A-rich fruits & vegetables, other vegetables and fruits. In the FGDs with women and adolescents, the study found that the project provided orientation about the food groups and its importance. The projects also oriented them on how to set different food items in daily meals. The qualitative assessments revealed that the pregnant and lactating mothers have average knowledge on 'food groups' needed for U-5 children and also for mothers. When questioned about the importance of 'food groups' for U-5 children, the mothers replied that it helps in brain growth and bone growth; they added that a healthy mother gives birth to a healthy baby. The mothers can say the names of food groups for children and mothers separately.

Table-23: Food consumption status of family members, women and U-5 children

Food (out of 10 groups) consumed by family members (except children under 5) in last 24 hours		Food (out of 8 groups) the under-five children consumed in last 24 hours	
Grains, roots, tubers.	17.7%	Breast feeding	16.0%
Pulses	12.2%	Grains, roots, tubers, ...	10.0%
Nuts& seeds	5.9%	Legumes, pulses, nuts	10.2%
Dairy products	6.8%	Dairy products	11.3%
Meat, poultry, fish.	12.6%	Flesh foods	9.6%
Eggs	13.1%	Eggs	15.3%
Dark leafy greens & vegetables	12.0%	Vitamin A-rich fruits & vegetables	9.1%
Other Vitamin A-rich fruits & vegetables	7.7%	Other fruits & vegetables	5.6%
Other vegetables	7.3%	Not applicable	13.0%

*Multiple responses

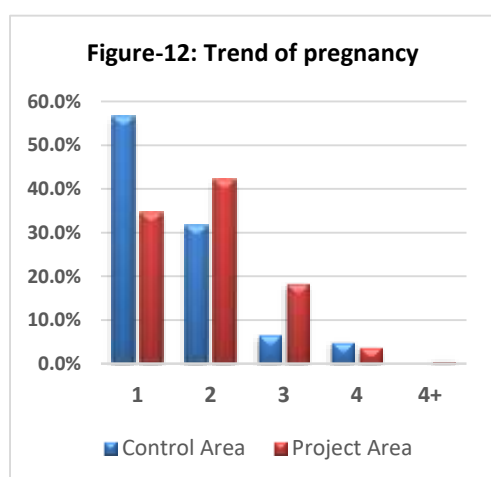
Consumption of 5 or more food groups by women and children under five (in last 4 hours)	Project Area	Non-Project Area
Women consumed at least 5 (out of 10) food groups in last 24 hours	83.6%	45.3%
Under-5 children got 5 types of balanced food in last 24 hours	47.4%	31.3%

*Multiple responses

It is observed that more than 80% of the women in project area consumed at least 5 (out of 10) food groups in last 2 hours. It is also found that close to 50% of the children under 5 of 5 types of balanced food in last 24 hours. The food consumption habit is relatively better in the project area as compared to that in the non-project area.

4.7 Reproductive Health Aspects of PLW

During pregnancy and lactation women's food intake has a direct impact on the physical and cognitive development of the child. Maternal and child undernutrition has negative impacts on cognitive development, learning outcomes, adolescent and adult health, productivity and national economic growth. The project intended to create an enabling environment for improved nutrition service delivery, improved market systems and behavior change, improved availability and consumption of nutritious foods.



Based on the response of the PLWs (363 in project area and 60 in control area) it is found that multiple pregnancies are common. More than 20% of the total respondents have had three or more pregnancies. Those who got pregnant twice or less may go through further pregnancies over time. This happens for various reasons including personal preference, death of children, as well as pressure from family.

There are reported cases of pregnancy related complications which caused abortion, still birth, intra uterine fatal death etc.

Therefore, it is crucially important to keep attention on the needs of the women during pregnancy, continue awareness related to pregnancy and assure availability of affordable

services for the pregnant women.

Table-24: Last child delivery status	Percent
Live Birth	90.5%
Abortion	0.2%
Still Birth	0.5%
Intra Uterine Fatal Death	0.5%
Not applicable	8.3%

The LEAN Project took all these issues into consideration and designed appropriate interventions. However, based on the evaluation findings, it is apparent that more work is needed in these areas.

While in one hand there is indication of good practice regarding reproductive health (i.e. ensuring antenatal and

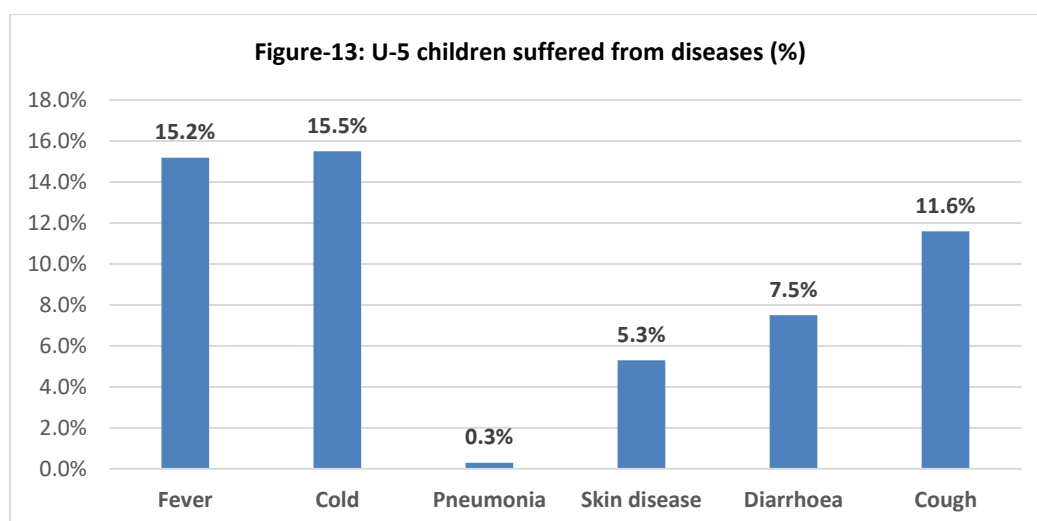
postnatal check-ups, consumption of iron tablets, calcium tablets during pregnancy, and nutritious food, getting delivery in hospital etc.) in the other hand it observed that a not insignificant number of the pregnant women did not do as needed. For example, a similar proportion of PLW did not take TT Vaccine in the project area (4.4%) than those in the control area (5%). In addition, several women didn't have antenatal and postnatal check-ups or did not have enough scope to take rest. However, and of importance to the impact of the project, the proportion of pregnant women who adopted good practices, in several aspects, is much higher among the project participants than the non-project participants.

Table-25: Wellbeing status related to reproductive health

Status of Wellbeing Related to Reproductive Health	Project Area	Non-Project Area
Had delivery of child in hospital/clinic (institution)	61.40%	55.50%
Had delivery of child through traditional birth attendant (TBA)	35.50%	38.30%
Did not take any TT vaccine	4.40%	5.00%
Could take rest for less than two hours during pregnancy	24.50%	31.70%
Did not at all visit any hospital/clinic for antenatal care	12.10%	23.30%
Visited hospital/clinic, at least four times, for antenatal care	44.60%	16.70%
Did not at all visit any hospital/clinic for postnatal care	17.10%	25.00%
Visited hospital/clinic, at least four times, for postnatal care	12.90%	16.70%
Could not avoid hard/risky work (e.g. weightlifting, long duration walks) during pregnancy	27.50%	18.30%
Took iron tablet during pregnancy	90.90%	75.00%
Took calcium tablet during pregnancy	90.40%	68.30%
Took additional food during pregnancy	60.30%	36.70%
Had enough support from the in-laws during pregnancy	90.60%	61.70%
Adolescents in the family understand the need for taking nutritious food at adolescent age	52.10%	16.70%

Diseases of U-5 children

Of the diseases experienced by children under five, most suffered from cold, which is 15.5%. Fever (15.2%) was the second most common and the next most prevalent diseases are cough (11.6%) and diarrhea (7.5%) for the U-5 children.



4.8 Infant and Young Child Feeding Practices

Table-26: Breast feeding practices of PLWs

Breast feed babies	Non-project participants	93.3%
	Project participants	97.0%
Provided colostrum milk	Non-project participants	85.0%
	Project participants	94.8%

It is a matter of satisfaction that among the respondent PLWs (423) a high percentage (97% of project participants and 93% of non-project participants) were able to breastfeed their babies.

Breast feeding start time after delivery	Less than 1 hour	80.1%
	Within 6 hours	10.9%
	Within 1 day	4.7%
	After 1 or more day	0.9%
	Other	3.3%
Times of breast feeding within 24 hours	Not a single time	13.7%
	1-2 times	3.8%
	3-6 times	46.3%
	More than 6 times	36.2%
Methods of breastfeeding	Own breast milk by herself	88.5%
	Own breast milk using bottle	4.8%
	Expressed breast milk	3.9%
	Breast feeding by another female	0.4%
	Other	2.4%
Reasons for not providing breast milk	Did not think it important	25.0%
	Had lack of milk in breast	12.5%
	Other	62.5%

Over 80% started breastfeeding within an hour of the child's birth. More than 80% provided breast milk to babies 3 or more times within the first 24 hours. While 88.5% of the lactating mothers breastfeed their babies themselves and around 5% use bottles for the purpose. A significant number of the lactating mothers provided colostrum milk (produced during the first few days after delivery) to their newborn babies. As colostrum milk contains high levels of immunoglobulins, antimicrobial peptides, and growth factors it is important for supporting the growth, development, and immunologic defense of neonates.

Among those (a very few) who didn't go for breastfeeding, 12.5% of them mentioned lack

of milk in breast as the reason.

Around the age of 6 months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs. An infant of this age is also developmentally ready for other foods. This transition is referred to as complementary feeding. If complementary foods are not introduced around the age of 6 months, or if they are given inappropriately, an infant's growth may falter. Ensuring that infants nutritional needs are met requires that complementary foods are:

- **Timely** – meaning that they are introduced when the need for energy and nutrients exceeds what can be provided through exclusive breastfeeding.
- **Adequate** – meaning that they provide sufficient energy, protein, and micronutrients to meet a growing child's nutritional needs.
- **Safe** – meaning that they are hygienically stored and prepared, and fed with clean hands using clean utensils and not bottles and teats.
- **Properly fed** – meaning that they are given consistent with a child's signals of appetite and satiety, and that meal frequency and feeding are suitable for age.

Table-27: Type of food consumed by children aged 6-24 months

Breastfeeding	20.3%
Eggs	19.0%
Dairy products	13.9%
Grain, roots, tubers,	12.2%
Vitamin A rich fruits and vegetables	11.2%
Flesh foods	9.6%
Legumes, pulses and nuts	7.2%
Other fruits and vegetables	6.5%

*Multiple responses

Besides breastfeeding, 19% of children aged 6-24 months consumed eggs. While the figure is 13.9%, 12.2% and 11.2% respectively for dairy products, grain/roots/tubers, etc. and vitamin-A rich fruits and vegetables. In addition, it was discovered from data analysis that 62.7% of the project participants and 54.5% of the non-project participants started providing complementary food (besides breast milk) to babies from the sixth month of the child's birth. A good proportion of the respondents (70% of the non-project participants and 89.8% of the project participants) mentioned that they provided cooked

food to their children within the last 24 hours. However, the number of participants who did not provide complimentary food to their children was not insignificant and therefore, it calls for continuation of further awareness building on the issue.

Table-28: Items (among the 10 Food Groups) Taken by the PLWS	
Grains, roots, and tubers	18.6%
Pulses	12.3%
Nuts and seeds	6.7%
Dairy	6.9%
Meat, poultry, and fish	11.8%
Eggs	13.5%
Dark leafy greens and vegetables	12.4%
Other Vitamin A-rich fruits and vegetables	7.3%
Other vegetables	7.2%
Other fruits	3.3%

*Multiple responses

Table-29: Aware about 5 balanced food		
Area	PLWs	Adolescents
Project Area	95.3%	64.2%
Non-Project Area	60.0%	30.0%

4.9 Health management, vitamin-A supplementation & vaccination for children

The LEAN project undertook various measures to improve health management, ensure vitamin supplementation and vaccination for children. These included nutrition sessions, demonstration on cooking (preparation) of nutritious food by WBCs and feeding nutritious diversified food to under 5 children.

Other initiatives include demonstration of food plate, theater programme by theater groups, MUAC test, GMP measuring, hand washing practices, facilitation of intake of deworming tablets and vitamin A capsule, demonstration of nutritious food related video clips through mini projector etc.

The survey found that the level of awareness among the respondents regarding diarrheal diseases and required measures is enhanced. A significant portion are able to explain symptoms of dehydration due to diarrhea and know what to do during diarrhea.

Table-30: Homebased treatment during diarrhea	
Packet saline	93.6%
Homemade saline	29.8%
Zink syrup	28.4%
Zink tablet	9.9%
Liquid food	20.3%
Give more food	9.5%
Give less food	4.3%
Other	5.4%
Not applicable	0.7%

*Multiple responses

It is a positive indication that a very high percentage (91.5%) in the project area of the lactating mothers continue breast feeding their babies during diarrhea. The use of packet saline or homemade saline is also evident.

Furthermore, it is apparent that the project interventions made contributions in enhancing the awareness level regarding the “do’s and don’ts” related to diarrhea. The breastfeeding practice among the lactating mothers is higher than in the non-project area.

The reported instances of babies’ sickness in the past two months are notable, particularly given the higher rate found in the project area (28.7%) than found in the non-project area (20%). On a more positive note, in most cases the parents sought treatment. However, it is a matter of concern that doctors had to prescribe antibiotics in 30% cases in the non-project area and 41.6% cases in the project area. The practice of ensuring Vitamin-A Capsule and deworming tablet/syrup in the project area is good. The rate of vaccination is yet to be at an acceptable level, and it requires planned actions to bring in further improvement in the scenario.

Table-31: Childs’s health management

Child's Health Management, Vitamin A Supplementation & Vaccination	Project Area	Non-Project Area
Continued breast feeding of babies during diarrhea	91.5%	70.0%
Baby fell sick within last two months	28.7%	20%
Went for treatment of baby who fell sick	92.3%	83.3%
Doctor prescribed antibiotic	41.6%	30.0%
Children was provided Vitamin A Capsule	96.7%	78.3%
Children was provided deworming tablet/syrup	88.4%	58.3%
Children was provided measles vaccine (after 9 months of birth)	73.3%	51.7%
Children was provided all vaccines in time	68.6%	33.0%

The respondents who acknowledged that they did not provide vitamin supplement and/or vaccine to their babies gave a variety of reasons for not doing so. These included lack of understanding about

Table32: Reasons for not providing vitamin-A supplement & vaccine to children

Reasons	Vitamin A Capsule	Deworming Tablet/Syrup	Measles Vaccine	All Vaccines
Vaccine center is far	50%	05%	10%	-
Didn't know	-	63%	-	50%
Didn't know the date	50%	28%	50%	15%
Didn't know the location	-	05%	40%	23%
Other	-	-	-	12%

the requirement, not having information about vaccination date. Some mentioned the long distance of the center from their home as a reason. Regardless of the reasons, further efforts are needed to raise awareness of the importance of these actions for ensuring the health of their babies. The most common illnesses among the respondents, their family members

were fever, cough, cold related diseases while a few mentioned skin diseases and measles.

Among those who took treatment, the majority went to Upazila Health Complex, Community Clinics and some to District Sadar Hospital. It is encouraging to note that more than 80% relied on and made use of govt. health facilities. One of the reasons for choosing govt. health facilities is the low cost of treatment. The other reasons include continuing efforts by the government to make health facilities available and affordable for mass people. The awareness raising and motivating actions of the project also played a role.

Table-33: Treatment taking scenario

Places where treatment was taken (those who went for treatment)		Reasons for not taking treatment (those who didn't go anywhere for treatment)	
District Sadar Hospital	9.8%	Didn't feel necessity	50.0%
Upazila Health Complex	54.9%	Medical center is too far	42.9%
Family Welfare Center-FWC	2.3%	Other	7.1%
Community Clinic	17.3%		
Village Doctor	9.0%		
Private Clinic	4.5%		
Other	2.3%		

*Multiple responses

Those who did not go anywhere for treatment mentioned that they didn't feel the necessity, or the health facilities were far from their home.

4.10 Producer / Value Chain

Table-34: Adaptation of improved agricultural practices	Project area	Non-project area
Number of Producers	536	80
Involved with agriculture	98.9%	92.5%
Follow improved methods in farming	84.9%	66.3%
Grow multiple crops simultaneously on the same field	82.2%	47.5%
Initiated new technology in the area as a first adopter	51.5%	35.0%
Using of variety of seed (multiple responses)		
Use local variety of seeds	74.3%	66.3%
Use improved variety of seeds	51.4%	47.2%
Use hybrid of seeds	9.5%	62.1%

the first adopters of the new technology in the local area. The use of improved variety seeds and hybrid seeds and improved technology has increased as compared to the baseline situation.

For value addition purposes, some of the producers (91.4% in project area and 31.3% in non-project area) process crops after harvesting. Many of them (87.7% in the project area and 57.5% in the non-

Table-35: Processing, storage, market linkage and sales practices	Project area	Non-project area
Process crops after harvesting	91.4%	31.3%
Storage the crops	87.7%	57.5%
Sale crops collectively with other farmers	48.0%	7.5%
Selling Points (multiple responses):		
Home	51.1%	32.5%
Collection point	35.5%	2.5%
Local market	86.8%	87.5%
Urban market	3.9%	15.0%
Other	2.0%	8.8%
Linkage with Market Actors:		
Input Market Actors	70.2%	31.3%
Output Market Actors	71.9%	18.8%

project area) store their crops, which enables them to wait for a higher market price. The extent of involvement in processing and storing of crops is much higher among the project participants than the non-project participants. They explore different and/or multiple options to sell their products. These include sales from home, sales at fixed collection points, sales at local/urban markets etc. Though more than 85% (both in the control area and project area) did sold it in the local market but the proportion of sales from home is also mentionable. A good portion of the project participants also became habituated with sales at/through collection points.

In the value chain system, linkage with market actors plays a vital role. As reported, among the non-project participants, 31.3% have linkage with input market actors and 18.8% with the output market actors (traders). The scenario is far better among the project participants. Among them 70.2% have linkage with input market actors and 71.9% with output markets actors. This suggests a very notable role for the project interventions in improving the status of project participants on this metric. The qualitative survey also revealed that the project selected LSPs, WBCs and other producers groups were linked with relevant market actors that helped them in selling their outputs/products and buying raw materials/inputs.

A very high percentage of the producers, both in the project area and in the control area, were found to be involved with agriculture of whom a good number got accustomed with the use of improved variety of seeds, hybrid variety of seeds and improved methods in farming. Many of them were

In total 239 producers (48% in the project

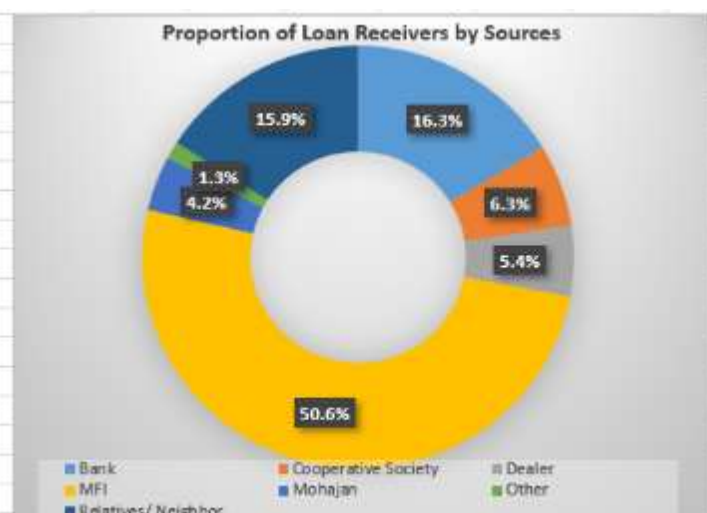
Table-36: Support and production statu

	Project Area	Non-Proje
Received support	79.4%	5.0%
Production increased	79.2%	8.8%

area and 25% in the control area) took loans for agricultural production. More than 70% took loans from institutional sources like Banks, MFI, Corporate Society etc. The largest proportion (50.6%) went to MFI for this purpose.

The number of the producers who received loans from private money lenders (individuals, known locally as 'Mahajan') is very small (10) but attempts should be made to discourage taking loans from Mahajans as they charge high interest for lending, therefore, the risk of inability to repay is also high.

Close to 80% of the project participants mentioned that they had received support from the LEAN Project and had an increase in their production level. Meanwhile, a few of the non-project participants mentioned that they had support from the project and observed an increase in their production level.



A Successful Producer

Mashingno Marma is a 29 years old women living at Mongprae Para, Ward No. 4, Alekhyang Union, Ruma Upazila, Bandarban district. She has a total of 4 children (2 sons, 2 daughters) in his family. Now, she is a compact vegetable cultivator and earns BDT 50,000 to 60,000 by cultivating fruits and vegetables in each season. Before 3/4 years, she was passing a 'struggled life' and she had to live taking loans from the traders or from the mohajans. In the mid-2020, she had a chance to be introduced with LEAN project. Since becoming involved with the LEAN project, Mashingo had the opportunity to acquire knowledge about various topics such as fruit orchard cultivation and vegetable Cultivation through LSP session facilitation. After receiving training, Mashingo cultivated sesame, eggplant, bitter gourd, beans, potato, tomato, banana, and papaya. Now she earns an income of ranging from BDT 50,000 to 60,000 by cultivating fruits and vegetables in each season. Observing Mshingo's success, other neighbour have started cultivating fruits and vegetables. She commented, *"seeing them, I am also happy that their financial situation is going to be changed. For this reason, I express my heartfelt gratitude to the LEAN project."* Now, Mashingo don't need to take loan from traders/mohajons, she can invest her earned money to her own business. She has been transformed to a 'successful producer'.

4.11 Local Service Provider (LSP)

Over 98% mentioned that they became a local service provider (LSP) three or more years ago. Most of them had been supported through training, workshops, visits and demonstrations, coaching etc. They also received agricultural tools and machinery. In turn, they became able to render support to the producer groups, which includes technical sessions, business supports for the latrine producers, business plan development, nutrition sensitive vegetable, fruits, bean cultivation etc.

Table-37: Status of support to LSP and services by LSP

Support Received by LSPs	Project Area	Support Provided by LSPs to Producer Groups	Project Area
Training	100.0%	Climate smart technical support*	41%
Workshop	68.2%	Nutritional sensitive vegetable cultivation	64%
Visit	77.3%	Nutritional sensitive fruits gardening	59%
Demonstration	59.1%	Nutritional sensitive bean cultivation	36%
Agricultural Tools/Machinery	77.3%	Nutritional sensitive native chicken rearing	73%
Technical Session	73%	Other	5%
Development of business plan	55%	*Climate smart technical support: Vermicomposting, drip irrigation, sex pheromone traps	

*Multiple responses

All of the LSPs mentioned that local rural markets have both availability and competitive prices of diversified and nutritious foods. Many of the LSPs, both in the project and control areas, are linked with input suppliers/companies and distant buyers/traders. More than 90% in the project area and 70% in the non-project area mentioned that there has been an increase in business turnover for MSMEs through linkage with the LSPs. In the FGDs, LSPs Share information with the community people/ producers- Home gardening; how to take care of the pregnant and lactating mothers; importance of colostrum milk; usefulness of the improved latrine.

Table-38: Opinion regarding availability, price, linkage, business turnover	Project Area
Local rural markets have availability and competitive price of diversified and nutritious food	98.99%
Have linkage with input suppliers/companies	84.3%
Have linkage with big/distant buyers/traders	80.9%
Had increase in the business turnover for MSMEs through linkage with LSP	90.1%

According to the opinion of the LSPs (100% of the project area and 82.2% of the control area), people in the community benefit through the LSP support. 88.8% of the project participants (none among the non-project participants) are confident that they could continue serving as LSP in absence of the project.

Table-39: Plan for Next Five Years	Project Area
Expansion of service territory	87.6%
Involve with input business (seed, pesticides, machinery etc.	59.6%
Strengthen linkage with private sectors	50.6%
Increase linkage with respective government departments	58.4%
Access to financial institutions	38.2%

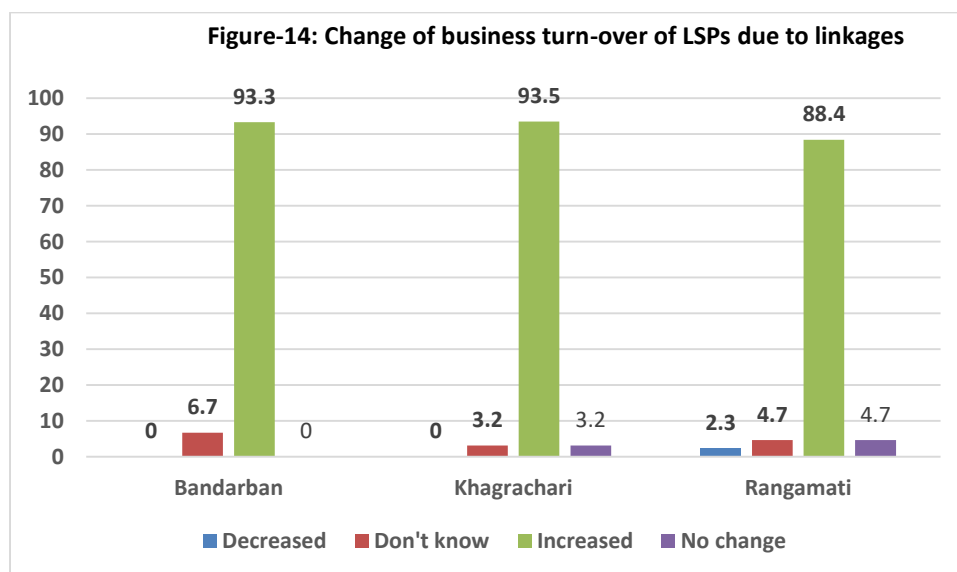
*Multiple responses

Most of the LSPs have plans to expand their service territory in the next five years. Many want to strengthen linkages with the private sector and respective government departments. Some also want to get involved with input business. Eighteen (18) Service Provider Associations (SPAs) have been established. The project distributed pump machines and sapling of different trees to the SPAs. The project also supported the LSP related business, such as training for the livestock vaccinator, training on climate smart technical support, such as, vermicomposting, drip irrigation, sex pheromone traps, nutrition-sensitive vegetables and fruits cultivation, etc. The project also assists to build business linkages, especially for the local sanitation producers.

Table-40: Service linkages of LSP

Indicator	% of LSP's opinion
Community benefited with the support of LSP	100%
Increase linkages with input suppliers	84.3%
Increase linkages with big/distant buyers	80.9%

All the LSPs opined that community people are benefited with their support and similarly more than 80% LSPs commented that their linkages with input suppliers and with big/distant buyers have been increased, which is highly remarkable.



Overall, the business turnover of more than 91% LSPs have been positively increased due to improved linkages with input and output actors. This happens for all the 03 project districts on a similar scale.

4.12 Women Business Center (WBC)

The Women's Business Centres (WBCs) is a tested model of United Purpose which is replicated in different projects for social and economic empowerment of women and ensures access to essential services especially health services. LEAN facilitated the establishment of 164 WBCs in three districts to raise awareness among pregnant and lactating women and adolescent girls on nutrition and health services and reduce early marriage. Each Women's Business Centre is designed as a "one-stop shop" that welds social marketing and outreach with local products.

Table-41: Commencement of Women Business Centers (WBC)

WBC started	Bandarban	Khagrachari	Rangamati	Total
Less than 1 year	10.0%	3.5%	9.1%	6.6%
1-3 years	40.0%	6.9%	22.7%	18.0%
4-5 years	50.0%	89.6%	68%	75.4%

Most of the WBCs (70.4%) were established within 4-5 years and as a result, the Centers have 4- 5 years' experiences of providing services to the women, children, and adolescent girls. 18% of the WBCs established within 1-3 years. Each WBC was established and managed by five women entrepreneurs. Before formation WBCs, the project selected the most-able women entrepreneurs

from the women beneficiaries and increased their capabilities to start business and providing services to the community people.

Table-42: Support (s)/ service (s) received for establishing Women Business Centre (WBC)

Type of supports received by WBC	Project Participants by Districts		
	Bandarban	Khagrachari	Rangamati
Basic Training	80.0%	62.1%	77.3%
Technical/ Hands on support	60.0%	55.2%	36.4%
Financial (working capital) support	30.0%	24.1%	22.7%
Linkage building support	20.0%	31.0%	36.4%
Telemedicine equipment with mobile set	0.0%	6.9%	18.2%
Mini projectors	0.0%	0.0%	4.5%
Incubators	0.0%	0.0%	4.5%
Solar panel	10.0%	6.9%	13.6%
Refrigerator	0.0%	0.0%	4.5%
Other	20.0%	27.6%	13.6%

*Multiple response

The project has been equipped by providing hardware support to the WBCs and built capacity of the women entrepreneurs (WBCs members) through software support during the project period. According to the project monitoring report, 100% WBC received a chair, multipurpose shelving unit, weight and height scale, and tablets. The project provided basic training (e.g., basic nutrition training, leadership training, Gender and community mobilization training) and other trainings such as training on solar operation, audio visual operation, IT training for input business, Telemedicine training, Reading Glass Improved Livelihood (RGIL) training, Agro ecological development training to the women entrepreneurs of the CBOs. A significant percentage of WBCs received financial (working capital) and linkage building support from the project. These supports enable them respectively to start a business and ensure access to private companies to buy their products in wholesale price. The project also provided them with telemedicine equipment with mobile set, solar panel, mini projector, Digital BP machine, Digital Glucometer, Food plate, GPM card etc. The support helped improve the level of skills and resources of WBCs for providing support to pregnant and lactating mothers, children, and adolescent girls. In comparison to the LEAN project's, the women entrepreneurs of non-project areas received some sorts of software (basic and hands-on training) and hardware support (mobile set and others) from different sources.

Table-43: Services and products/inputs sold in communities by the WBC

Service sale				Products/goods sale			
Services	Bandarban	Khagrachari	Rangamati	Type of Products Sold	Bandarban	Khagrachari	Rangamati
Mobile Banking	0.0%	44.8%	13.6%	Inputs selling (reading glass, agricultural inputs, water filters etc.)	60.0%	79.3%	59.1%
Internet service	0.0%	24.1%	9.1%	Electricity supply through solar panel	20.0%	27.6%	13.6%
Training/ Awareness Raising	80.0%	72.4%	59.1%	WASH products and satopan, etc.	30.0%	62.1%	50.0%
Tele medicine services	10.0%	62.1%	22.7%	Hygiene and menstrual products, soap menstrual pads etc.	70.0%	93.1%	72.7%
Counselling	40.0%	41.4%	36.4%	Other	10.0%	10.3%	4.5%
Other	0.0%	10.3%	13.6%				

*Multiple responses

WBCs were found to be selling various types of services among the respective communities. Among the services provided by the majority of Women Business Centers (WBCs) were training and awareness sessions, as well as counseling for women, children, and adolescents. These sessions focused particularly on topics such as diversified, safe, and nutritious food, prenatal and postnatal counseling, health hygiene, handwashing practices, and nutrition/vegetable gardening. It was found that a significant percentage of WBCs were providing mobile banking and internet services in Khagrachari and Rangamati districts.

WBCs were found to be mostly selling menstrual hygiene products, e.g. soap, Dettol, pad, etc. and agricultural inputs, reading glasses and water filter, etc. Furthermore, WASH products and Satopan selling is also significant.

All the services and products are particularly essential for the people in remote hill tract districts, where travelling from one place to another is very challenging and takes a long time.

Table-44: Awareness session on nutrition and WASH

Awareness Session	Project area participant			
	Bandarban	Khagrachari	Rangamati	Total
Yes	81.8%	89.7%	90.9%	88.7%
No	18.2%	10.3%	9.1%	11.3%
Total	100.0%	100.0%	100.0%	100.0%

WBCs organized courtyard sessions for pregnant and lactating mothers to increase their awareness on nutrition, water, sanitation and hygiene. In the FGDs with the pregnant and lactating mothers it was found that WBCs discussed improved nutrition practices (handwashing before food preparation and cooking process); nutrition garden, exclusive breast feeding; breast-feeding techniques and breastfeeding up to 2 years old children; complementary feeding; BMI and GMP tracking for under-five children; adolescents nutrition issues; minimizing micro-nutrient deficiency; water sanitation and hygiene practice; government and private health services, women empowerment and the negative impact of early marriage. WBCs used modules, posters, flip charts, food plate and ludu game, etc. materials during the courtyard sessions. In the FGD with PLW found that as a result of the sessions, they follow the instruction during preparing/ processing and cooking food, regularly wash hand and brush teeth, clean respective children, take vitamin tablet and vaccine regularly including health check-up, and ensure timely vaccination of their child. According to the adolescent girls, now their family tried to keep various types of food menu instead of 2 to 3 items in daily dishes. Now the community know about Satopan and using most of them. The use of taking direct nutrition input t (e.g. Moni Mix (for children under 5 and children above 5), folic acid, iron tablets, etc. increased.

It is apparent that WBCs are creating positive impacts in the life of pregnant and lactating mothers, their children and adolescent girls by increasing their capacity and altering behaviors. As a result, the availability and consumption of diversified, safe, and nutritious foods increased, contributing to the improvement of an enabling environment.

Table-45: Community people benefitted by the WBCs activities

Benefits	Bandarban	Khagrachari	Rangamati
Increased household income	63.6%	72.4%	68.2%
Strengthened women's position	72.7%	82.8%	77.3%
Increased access to affordable services	45.5%	65.5%	63.6%
Increased access to quality services	54.5%	82.8%	72.7%
Don't know	9.1%	3.4%	0.0%
Other	9.1%	0.0%	0.0%

*Multiple responses

WBCs services (informational and physical), products/ goods and awareness sessions helped community people especially pregnant and lactating mothers in a variety of ways. The study revealed that women's position in their family and society has become strengthened, with their access to quality and affordable services increased. Household incomes have also increased due to different income generating activities. Due to the participation in the courtyard discussion women gained knowledge and strength that help them to participate in the family decision making process, their access to community and upazila health clinics increased and also increasing their access to health and family planning, agriculture and livestock supports.

Table-46: WBCs' support to the adolescents

Supports provided to adolescent	Bandarban	Khagrachari	Rangamati
Organizing adolescent events-exposure visits	81.8%	71.4%	81.8%
Establish vegetable demo plot	18.2%	53.6%	31.8%
Organize demonstration event on various nutritious food	36.4%	75.0%	50.0%
Awareness raising events	72.7%	85.7%	77.3%
Foundation Training on Basic Nutrition and Adolescent Leadership	36.4%	67.9%	45.5%

*Multiple responses

In 3 CHT districts, Women Business Centers (WBCs) provided essential support to adolescent girls. The support included awareness raising events on health hygiene (use of hygienic pad, cleanliness, etc.), the establishment of nutrition garden/ vegetable demo plots, the organization of a demonstration event on various nutritious foods, exposure visits and organizing of foundation training on basic nutrition and adolescent leadership.

In the FGD, the members of adolescent clubs benefitted in several ways such as – knowledge of maintaining healthy hygiene during menstruation, knowledge of nutritious foods and fruits, the use of iron tablets and folic acid to protect anemia, knowledge for the establishment of nutrition/vegetable gardens/, the organization of a session with the support of WBCs for other adolescent girls and women.

As a result, adolescent girls are becoming mentally strong, self-reliant and have been able to access education regularly during times of menstruation. Some adolescent girls stated that the learning from the WBCs and participating in different events would also help after marriage and they have been able to disseminate useful information with neighboring pregnant and lactating women and adolescents.

Ishita Chakma: A Voice Against Early Marriage

Born into a marginalized family in Patachara Para, Ishita Chakma, a 15-year-old adolescent, faced the harsh reality of poverty, which forced her to halt her education. However, her meeting with the Choykuri Adolescent Club became a turning point, where she gained knowledge about various essential topics including menstrual hygiene, nutrition, women's rights, and the Child Marriage Restraint Act, 2017.

Ishita's life took a distressing turn when she learned of her parents' plan to marry her off without her consent. Determined to resist this fate, Ishita sought refuge in the Choykuri Club, where she tearfully recounted her plight. Despite multiple efforts by club members to reason with her parents and involve local leaders, Ishita's parents remained resolute in their decision.

In a bold move to influence public opinion, the Choykuri Club orchestrated a powerful street drama against child marriage, bolstered by the support of the LEAN project. The emotionally charged performance resonated deeply with the community, including Ishita's parents and local leaders. Witnessing the negative consequences of early marriage portrayed in the drama, Ishita's parents had a change of heart and vowed to abandon the marriage plans.

Thanks to the collective efforts of Ishita, her peers at the Choykuri Club, and supportive community members, Ishita is now back in school, pursuing her education with renewed determination. Her story serves as a testament to the power of education, advocacy, and community engagement in combating harmful practices like early marriage. The closing slogan of the street drama, "no marriage before eighteen; a girl never old in the age of twenty; stop early marriage and protect women from all forms of violence," encapsulates the unwavering resolve of individuals like Ishita to defy societal norms and safeguard the rights of young girls.

Table-47: Change of income of the WBC through their business

Changes	Project Area Participant			
	Bandarban	Khagrachari	Rangamati	Total
Increased	90.9%	96.6%	100.0%	96.8%
No Change	0.0%	0.0%	0.0%	0.0%
Don't know	9.1%	3.4%	0.0%	3.2%
Total	100.0%	100.0%	100.0%	100.0%

Regarding income through WBCs, the survey shows this has also increased from their business establishment when compared to non-project areas entrepreneurs. WBCs strategic business plan and acceptance of their services and products in the community are the causes for positive changes in income.

They also created business linkages with different private companies, such as Social Marketing Company (SMC), Pran/RFL and others who are producing essential products. Close linkages with the local service providers added a different dimension to WBCs business. The women entrepreneurs of the business proved their importance in the community. As a result, their income has increased during the project period.

Table-48: Comparison between initial and present capital

District	Initial Capital in Taka					Present Capital in Taka				
	Less than 1000	1,000 to 10,000	10,001 to 50,000	Above 50,000	Total	Less than 1000	1,000 to 10,000	10,001 to 50,000	Above 50,000	Total
Bandarban	18.2%	45.5%	27.3%	9.1%	100.0%	0.0%	27.3%	36.4%	36.4%	100.0%
Khagrachari	6.9%	58.6%	34.5%	0.0%	100.0%	3.4%	6.9%	55.2%	34.5%	100.0%
Rangamati	0.0%	77.3%	22.7%	0.0%	100.0%	0.0%	9.1%	36.4%	54.5%	100.0%
Total	6.5%	62.9%	29.0%	1.6%	100.0%	1.6%	11.3%	45.2%	41.9%	100.0%

WBCs' business capital has significantly increased as compared to their initial (starting) capital. Most of the WBCs' (averaging 62.9%) starting business capital was 1,000 taka to 10,000 taka. The second most common amount of starting business capital was Taka 10,001 to 50,000 (average of 29%).

At present, an average of 45.2% WBCs business capital has reached from Taka 10,001 to 50,000 and an average of 41.9% WBCs business capital has reached above Taka 50,000. While the remaining 1.6% average WBCs starting business capital was above Taka 50,000.

The positive changes in business capital signify the sustainability of WBCs as well as the success of LEAN's WBC model.

Table-49: WBCs' opinion about the closure of the project and their' action plan

Opinion about the closure of the project				Action plan for next 5 years			
District	Yes	No	Don't know	Plan	Bandarban	Khagrachari	Rangamati
Bandarban	72.7%	0.0%	27.3%	Expansion of the business	63.6%	89.7%	86%
Khagrachari	86.2%	0.0%	13.8%	Invest more capital	63.6%	82.8%	68%
Rangamati	77.3%	4.5%	18.2%	Increase engagement with more private sectors	27.3%	55.2%	32%
Total	80.6%	1.6%	17.8%	Increase linkage with relevant govt. departments	45.5%	55.2%	59%
				Access to financial institutions	27.3%	37.9%	45%

*Multiple response

Regarding views on the future of WBCs, most of the WBC members across all project districts are confident they could continue in the absence of the LEAN project. According to them LEAN facilitated the step-by-step development of WBCs throughout the project period and provided relevant equipment. Moreover, the WBCs were able to build up their respective reputations in providing services to their communities, especially services for the women, children and adolescent girls. While this is positive, it is also worth noting that a sizeable portion did not know whether they would be able to continue in the absence of the LEAN project.

WBCs plan to emphasize business expansion, further investment in capital and increased linkages with respective government departments and private sectors over the next 5 years. They also plan for access to financial financial institutions to enable the expansion of their business. WBCs' 5 years business plans are evidence of strong confidence and capability to grow their business even in the absence of the LEAN project.

"Nari Jhuri"/ "Women's Basket", district level outlets in 3 CHT districts, ensuring the women entrepreneurs with access to new forms of capital - including impact investment, revenue from product sales and service delivery – and harnesses the collective purchasing power of WBCs. The outlets are playing key role for providing access to market of the WBCs products (e.g. milk, ginger, turmeric, garlic, wicker baskets, molasses, etc.) within the WBCs and outside. The district level outlets also ensure private companies (e.g. RFL ad SMC) products (Satopan, Sanitary Pad, Moni Mix, etc.) in wholesale price for the WBCs.

4.13 Water supply, sanitation and hygiene management practice for households

The LEAN project work package promoted WASH and DNI markets in project intervention areas. The community-level WASH Social Behaviour Change Communications (SBCC) campaigns, school-based awareness campaigns, promoted entrepreneurship for WASH and DNI markets, etc. The support of the LEAN project activities enhanced the supply chains and social marketing of WASH and DNI products and services by taking advantage of the agricultural market structures and community organizations and of the consumer awareness and demand promoted. In collaboration with the suppliers, SPA/LSPs and public extension (e.g. agriculture, health) provided information and skills that enable them to raise awareness for the products and services. Based on demand and business viability, service providers, retailers, and business centers (e.g. WBCs) established supply chain mechanisms which make WASH and DNI products available at affordable prices.

The quantitative assessment in terms of knowledge on water, sanitation and hygiene management practice and in context of Social Behaviour Change Communications (SBCC) reveals that the project beneficiaries (98.5%) have remarkable knowledge on the importance of handwashing. The household survey findings also showed that the household members in the project intervention areas practiced hand washing before eating (99.3%) and also washed hands with soap after using defecation (98%). In comparison with the non-project areas people seem much more aware of maintaining personal health and hygiene issues which is a very good sign of project success.

Table-50: Status water supply, sanitation and hygiene management practice

Indicators	Project participants	Non-project participants
Knowledge of the importance of handwashing	98.5%	91.6%
Households practice adequate hygiene for food preparation	98.7%	86.6%
Family member wash hand before eating	99.3%	97.8%
Wash hand with soap after using latrine	98.0%	97.2%
Status of washing hand before feeding child	96.6%	93.9%
Access to menstrual pads increased within the community over the last 2 years	87.1%	78.2%

Review of Water, Sanitation and Hygiene Parameters

As a result of the work of the LEAN project, people in project intervention areas are more aware of the drinking water sources and treatment process. However, most people in the intervention areas do not treat the water before

Table-51: Source of drinking water

	Project participant	Non-Project participant
Supply water-inside and Outside the house	19.28%	12.31%
Well	7.24%	3.94%
Tubewell	66.79%	70.94%
Canal/pond	1.08%	0.98%
River/Lake	1.63%	1.97%
Rain water	0.90%	1.48%
Waterfalls	0.81%	0.49%
Stream water/ <i>Chhora</i>	2.26%	7.88%

*Multiple response

drinking. The evaluation has learned that this is because, in most cases, people use water from safe sources for drinking. Data Collection Study on Regional Development in Southeastern Bangladesh (JICA, March 2012), shows that the major proportion of population using an improved drinking water sources which shallow and deep tubewell are the most popular options. The BCR (CHT Baseline Census Report-2009) and DPHE (Department of Public Health and Engineering) also revealed the similar data. According to the data (Source: Key Findings of the Bangladesh Multiple Indicator Cluster Survey 2009, UNICEF), Khagrachhari Sadar Upazila has the highest proportion of population who were using improved water source (shallow/deep tubewell and Ring well) and it was 85.4%. In the circumstances of unsafe water or unprotected water sources, people (LEAN project beneficiaries) are aware of local availability of low-cost techniques for the purification of drinking water at household level. Generally, the most commonly used techniques are water boiling, filtering, chlorination etc., for the cooking purpose people also mostly depend on supply pipeline water and tubewell water. The household survey and the qualitative assessment also exposed that the dependency on tubewell water and supply water (survey revealed that 19.28% water users among the project beneficiary HHs are collecting water from underground sources with deep set water pump and connected to service points through pipelines which located at inside and outside of houses) for drinking purposes are still preferred by both project and non-project areas while reducing use of water from *chhora*/streams (un-protected sources). The most used techniques are water boiling, filtering, chlorination etc., For cooking purposes people also mostly depend on supply pipeline water and tubewell water.

Table-52: Access to latrine producers or toilet products

	Project Area	Non-Project Area
Access to latrine producers or toilet products over the last 2 years	79.6%	77.7%

The sanitation service in the three CHT districts remains marginal, (the term “sanitation services” shall mean water supply, sewage disposal, solid waste disposal and other services necessary to maintain generally accepted standards of personal hygiene and public health) although the rate for open defecation is very low. Sanitation is fundamental to human development, improved sanitation facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines; ventilated improved pit latrines, composting toilets or pit latrines with slabs. However, ensuring safe and hygienic latrines is still an ongoing challenge. During the project period, access to latrine producers or toilet products has improved due to the provision of Cash Grants, enabling skills to WBC and WASH /DNI entrepreneurs in the project intervention areas and bringing a positive change among the beneficiaries in terms of the sanitation service chain. Having said that the difference between control and project area is

approximately 2%, suggesting that the intervention of the project may have not had as much impact as the consortium would have hoped for. The main reason is that the activity was introduced very late in the programme and with minimum budget.

Table-53: Access to menstrual pads

	Project area	Non-project area
Access to menstrual pads use status within the community over the last 2 years	87.1%	78.2%

Elsewhere, menstrual Hygiene-related social behavior changes communications (SBCC) campaigns and school-based awareness campaigns raised awareness among adolescents of these issues. As a result, adolescents are now more aware of their personal and menstrual hygiene during menstruation, including the accessibility of hygienic pads and cleanliness which interlinked with overall adolescent health.

The realistic data produced from qualitative assessment reveals that the WASH practices among the communities across all three districts are remarkably improved. The above table represents that the mean numbers of women and adolescent girls found habituated with safe menstrual management with pads and hygiene practices were similar in all three districts in CHT. The data reveals a high number of adolescents particularly also reported the good practices being found among the people living in the project intervention areas (87.1%). The difference between non-project participants and project participants is approximately 9%.

Comparison between baseline and endline for the sources of drinking water

The baseline and endline comparison for the indicator source of water for drinking water shows that the use of supply water inside and outside of the house significantly increased, particularly in Khagrachari and Rangamati districts (1.7% and 0.7% to 22.9% and 18.7%, respectively). The result also illustrates that the people in the Chittagong Hill Tracts have increased access to safe drinking water, while their sanitation and hygiene practices were also improving. The survey findings reveal that safe water, sanitation and hygiene practices have positive impacts on people's health as they rarely suffer from diverse health issues such as diarrhea, scabies and dysentery. Moreover, the use of wells significantly decreased compared to the baseline data (e.g., Rangamati district from 53.8% to 8.8%), at the same time people are more frequently used on tubewell rather than the well, (28.8% to 80.3%). Altogether these suggest significant improvements in the access and use of safe drinking water. In spite of challenging geology, CHT also plays very crucial roles in the way of life of the communities of CHT. The LEAN project participants mentioned that due to difficult geology, installing tube-well is a very challenging task. Installation of tube-wells in the selected villages was found to be expensive compared to the mainstream areas. In this circumstance, hill communities to some extent depend on the water sources that are easily accessible to them such as spring water, surface water and occasionally rainwater.

4.14 Women Empowerment

Empowerment is a continuous journey, and granting decision-making authority is crucial for enhancing the health and nutrition status of women, children, and adolescents. In this regard, the LEAN project has organized various awareness sessions for its beneficiaries, enabling women to make decisions at different levels and enhancing their participation in decision-making processes within both the family and the community. By involving key stakeholders in discussions concerning pregnancy, the LEAN project has significantly contributed to improved health outcomes for mothers, infants, and families. Engaging decision-makers in conversations about family planning has also resulted in better decision-making, increased access to healthcare services, and ultimately, enhanced maternal and child health outcomes.

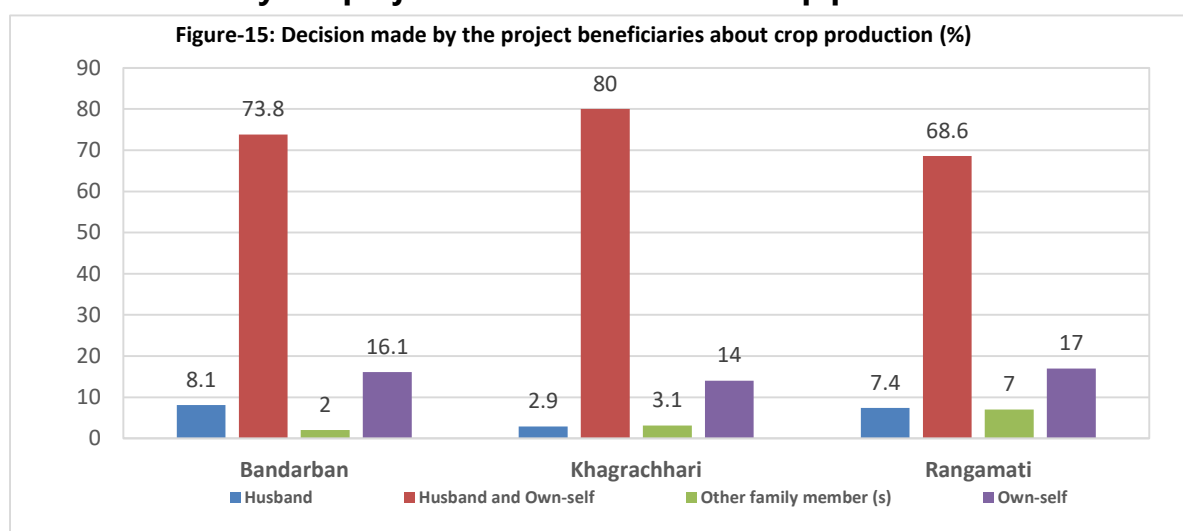
Table-53: Decision making about the pregnancy at family level

Response	Bandarban		Khagrachari		Rangamati		Total	
	Project Participant.	Non-Project Participant	Project Participants.	Non-Project Participants.	Project Participants	Non-Project Participants	Project Participants	Non-Project Participants.
Husband	7.4%	3.1%	2.3%	15.4%	5.3%	10.5%	4.5%	10.6%
Husband and Own self	77.2%	75.0%	89.7%	78.8%	79.4%	72.6%	82.8%	74.9%
Members of father in law's family	.7%	3.1%	.6%	3.8%	1.3%	1.1%	.9%	2.2%
Other	2.7%	6.3%	2.0%	0.0%	2.8%	3.2%	2.5%	2.8%
Own-self	12.1%	12.5%	5.4%	1.9%	11.3%	12.6%	9.3%	9.5%

On average, 82.8% women responded that they take decision jointly about the pregnancy. The project participants in Khagrachari have the highest percentage of joint decision-making during pregnancy by both the husband and wife themselves (89.7%). Meanwhile, this percentage is 79.4% and 77.2%, respectively, for Rangamati and Bandarban districts.

Among non-participants in Khagrachari district, the highest percentage of decisions is jointly made by the husband and wife themselves (78.8%). This suggests a 10%+ impact on this indicator as a result of the work of the LEAN project.

Decision made by the project beneficiaries about crop product



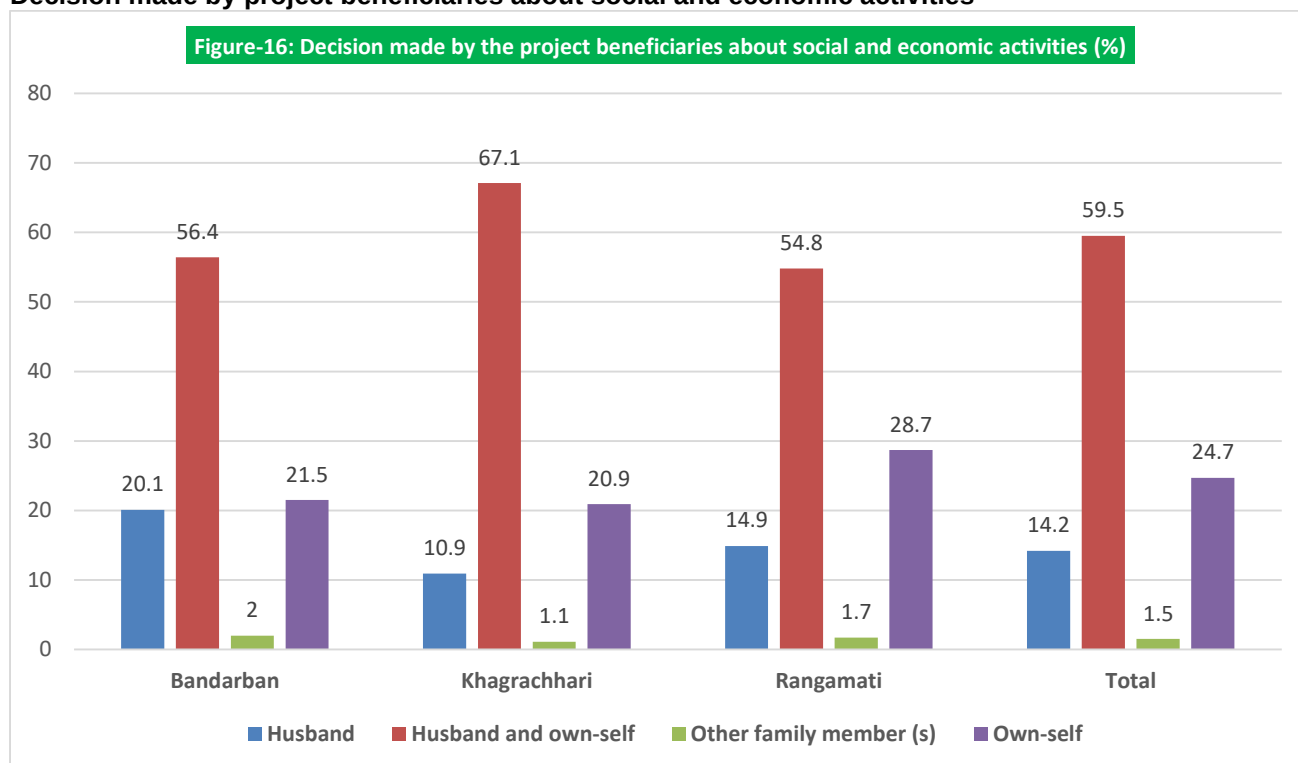
The decision-making patterns among LEAN project beneficiaries vary across districts. In Khagrachari, the majority of decisions (80%) are made jointly by the husband and wife, while in Khagrachari, joint decision-making between spouses are the most common observed (73.8%). Similarly, in Rangamati, joint decision-making between spouses prevails, although at a lower rate of 68.6%.

In Bandarban, only a small portion of decisions (2%) involve other family members, with 16.1% made exclusively by the wife. In Khagrachari, other family members contribute less to decision-making (3.1%), while a notable percentage (14%) is made solely by the wife. Conversely, in Rangamati, a significant proportion of decisions (7%) involve other family members, alongside a substantial role played by the wife (17%).

Overall, joint decision-making between spouses is prominent across all districts, with variations in the involvement of other family members and individual decision-making.

Khagrachari displays more diverse participation categories, particularly within project areas. This simplified version highlights the key differences in participation across districts.

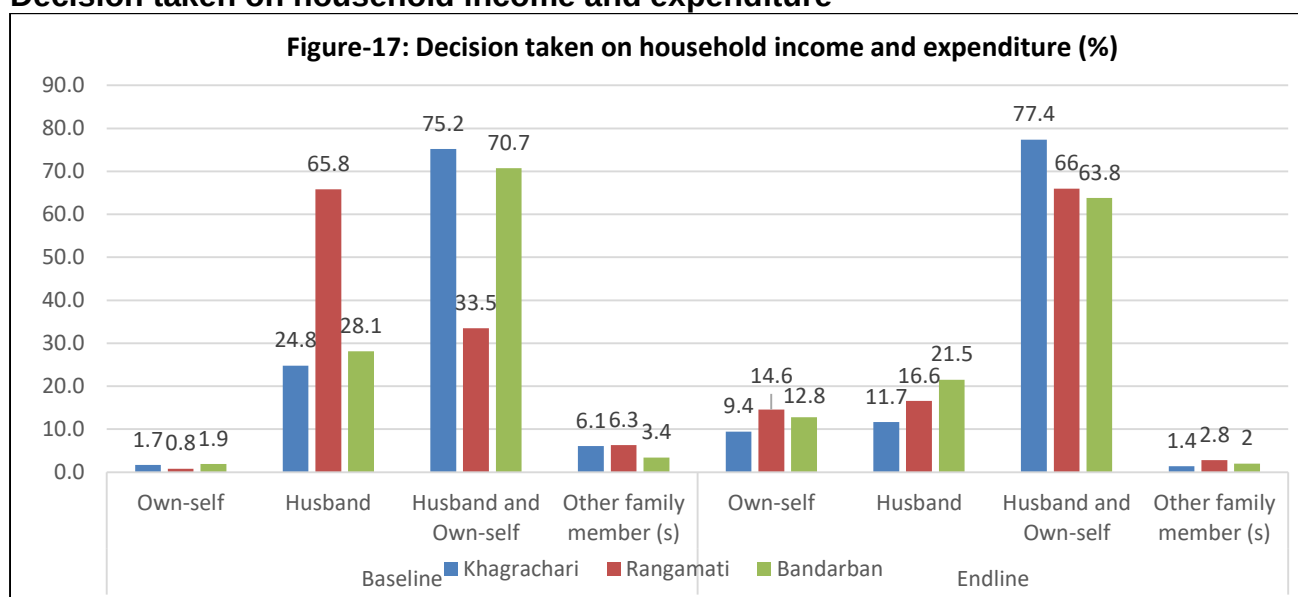
Decision made by project beneficiaries about social and economic activities



The endline evaluation data from the LEAN Project reveals that joint decision-making between husbands and wives is predominant when it comes to engaging in social and economic activities across the three districts. On average, 59.5% women responded that they take decision jointly for social and economic activity. While Bandarban (56.4%) and Rangamati (54.8%) exhibit similar distributions in decision-making patterns, Khagrachhari stands out with relatively higher (67.1%) involvement of other family members.

In Rangamati, there is a notable percentage of decisions exclusively made by the wife, suggesting a significant role in decision-making concerning social and economic activities. This indicates a diverse landscape of decision-making dynamics across the districts, with varying degrees of involvement from different family members.

Decision taken on household income and expenditure



Regarding decisions made by project beneficiaries about income and expenditure at the family level, the endline evaluation found a notable difference between baseline and endline data. On average, 69.8% respondents mentioned that they take decision jointly about income and expenditure. The survey reveals that 66% families in Rangamati district take decisions jointly, compared with only 33.5% during baseline. Furthermore, there has also been a significant change of decisions taken by people individually. At baseline the range was 0.8% to 1.9%, which has been increased to 9.4% to 14.6% in the surveyed three districts at the endline stage.

Table-54: Decision-making process in social institutions/platforms

District	Project participants		Non Project Participant	
	No	Yes	No	Yes
Bandarban	19.50%	80.50%	34.4%	65.6%
Khagrachhari	13.70%	86.30%	21.2%	78.8%
Rangamati	16.30%	83.70%	32.6%	67.4%

Among project participants, engagement in decision-making processes within social institutions/platforms varies across the three regions, but in each there are significant differences observed between project and non-project participants. In Bandarban, 80.50% of project participants stated that they actively participate in decision-making, while in Khagrachhari and Rangamati, the figures stand at 86.30% and 83.70%, respectively. Conversely, among non-project participants, the participation rates differ slightly. In Bandarban, 65.60% are involved in decision-making, while in Khagrachhari and Rangamati, the percentages are 78.80% and 67.40%, respectively. These findings highlight the varying levels of participation in decision-making processes among project and non-project participants across the regions, but with project participants consistently outperforming non-project participants.

This evaluation has also examined asset control within families across three districts: Bandarban, Khagrachhari, and Rangamati. The data is categorized between female, male, and both genders collectively.

In Rangamati and Bandarban, a significant majority of assets are still controlled by male members (66.9% and 61.1%). Similarly, in Khagrachhari, both project participants and non-participants exhibit a relatively similar trend, with a slight dominance of male members in asset control.

Table-55: Control over the family assets

District	Project Participant		
	Both (Male & Female)	Female member	Male member
Bandarban	34.9%	4.0%	61.1%
Khagrachhari	42.0%	4.9%	53.1%
Rangamati	28.0%	5.1%	66.9%

The control over assets within families varies across regions and between project participants and non-participants.

Table-56: Decision regarding purchase, sale and loan at family level

Response	Bandarban		Khagrachari		Rangamati	
	Project participants	Non-project participants	Project participants	Non-project participants	Project participants	Non-project participants
Husband	14.1%	15.6%	15.1%	28.8%	15.1%	24.2%
Husband and own self	74.5%	68.8%	74%	63.5%	66.9%	55.8%
Others family members	2.0%	6.3%	1.4%	1.9%	1.9%	0.0%
Own-self	8.7%	9.4%	8.9%	5.8%	15.5%	18.9%
Wife	7%	0.0%	6%	0.0%	.4%	1.1%

In Bandarban, project participants predominantly make decisions regarding selling, buying, and taking loans within their own families, with husbands and themselves exerting the highest level of control,

followed by husbands alone. Non-participants show a similar dominance by husbands and themselves, albeit with a slightly higher proportion of control by husbands alone.

In Khagrachari, both participants and non-participants primarily see husbands and themselves having the highest level of control, followed by husbands alone. However, among participants, husbands and themselves demonstrate a particularly higher proportion of control compared to non-participants, who have the highest proportion of husband only decision-making on this issue than any other sub-group in the study.

Meanwhile, in Rangamati, project participants noted that it was husbands and themselves who led on this, followed by husbands alone. Among non-participants, there is a similarly observed dominance by husbands and themselves, although with a higher proportion compared to participants.

Across all regions, husbands and themselves hold significant control over assets, regardless of participation status. Notably, non-participant husbands tend to have a higher proportion of control compared to participants, indicating a consistent trend across the regions. This analysis underscores the predominant control of assets by husbands across the board.

4.15 Household Income and Expenditure

Table-57: Household's monthly income

Income	Project Area Participant				Baseline			
	Bandarban	Khagrachari	Rangamati	Average	Bandarban	Khagrachari	Rangamati	Average
<Tk. 5,000	2.0%	.9%	.8%	1.0%	20.2%	13.3%	10.4%	13.2%
<Tk. 5,000 to 10,000	22.8%	14.9%	22.1%	19.6%	39.2%	57.0%	53.3%	52.2%
<Tk. 10,000 to 20,000	47.0%	56.3%	52.7%	53.1%	31.6%	26.5%	31.5%	29.8%
<Tk. 20,000 to 50,000	24.2%	25.7%	20.8%	23.1%	8.8%	3.0%	4.3%	4.6%
More than Tk. 50,000	4.0%	2.3%	3.6%	3.2%	0.4%	0.2%	0.1%	0.2%

Regarding household income and expenditure, this evaluation has found that project participant households' monthly income has increased compared to the project baseline. Endline household survey revealed that 53.1% of households' monthly income is between above 10,000 to 20,000 taka. While in the baseline, 29.8% households' income were in the same range. This is a substantial increase. Simultaneously, 23.6% households monthly reached between above 20,000 to above 50,000 taka, while in the baseline survey 4.8% households' income were in the same range. Most notably, the LEAN project participants' monthly average income is also more than the control area participants. According to Bangladesh Bureau of Statistics (BBS)³ households' average monthly income is 32,422 taka. With this in mind, large swathes of people of Chittagong Hill Tracts district remain below 32,422 taka. Therefore, this evaluation recommends that government and donor agencies should consider promoting various livelihood programmes as well as nutrition interventions in the 3 CHT districts. 56.3% project participating households' income increased in Khagrachari district and 52.7% in Rangamati from above 10,000 to 20,000 taka. 4.0% of households' income is more than 50,000 taka in Bandar district.

Table 58: Monthly income disaggregated by different types of project beneficiary households

Income	Project Participant				
	LSP	PLW	Producer	WBC	Total
<Tk. 5,000	0.0%	1.1%	.9%	3.2%	1.0%
<Tk. 5,000 to 10,000	23.6%	19.8%	18.4%	21.0%	19.6%
<Tk. 10,000 to 20,000	46.1%	52.3%	55.5%	50.0%	53.1%
<Tk. 20,000 to 50,000	25.8%	24.5%	21.5%	22.6%	23.1%

³ Household Income and Expenditure Survey 2022. BBS

More than Tk. 50,000	4.5%	2.2%	3.7%	3.2%	3.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Highest, 53.1% respondent households' monthly income are between <10,000 to 20,000 taka. In this income range, producer households' (55.5%) income are higher and PLW households' income are better than the LSP and WBC households. On the other side, LSP households' monthly income between <20,000 to <50,000 taka are highest than other beneficiary households. It is observed that the business turn over for the LSPs (90.1%) and income for WBC (96.8%) has significantly increased, which are described in the respective sections.

Table-59: Expenditure for food in last month by the household

Taka	Project area participants			
	Bandarban	Khagrachari	Rangamati	Total
Tk. 2,000 to 3,000	26.8%	15.4%	17.4%	18.1%
Tk. 3,000 to 5,000	27.5%	28.9%	28.7%	28.6%
Tk. 5,000 to 8,000	26.2%	34.6%	31.8%	32.0%
Tk. 8,000 to 10,000	10.1%	12.6%	10.2%	11.0%
Tk. > 10,000	9.4%	8.6%	11.9%	10.3%
Total	100.0%	100.0%	100.0%	100.0%

Regarding household spending, most of the project households (60.6%) spent above 3,000 to 8,000 taka/ month (36,000-96000 taka/year) for food consumption and 43.0% spent above 5,000 to 10,000 taka/ month (60,000-120,000 taka/year). The increase is slight when compared to the baseline survey. Most of the households are depend on agriculture and produce most of the food items. It is significant that 10.3% of the project participants spent above 10,000 taka/ month (more than 120,000 taka/year) for food consumption. During mid-term review it was found that average food expenditure 56,909 taka. It appears that the average food expenditure has been increased than during MTR.

Table-60: Expenditure for treatment of the family members in last 3 months

Range of expenditure	Pregnant Mothers				Child treatment				Other HH members			
	Bandarban	Khagrachari	Rangamati	Total	Bandarban	Khagrachari	Rangamati	Total	Bandarban	Khagrachari	Rangamati	Total
0	85.9%	90.0%	79.8%	84.4%	45.6%	90.0%	79.8%	84.4%	13.4%	14.6%	24.8%	19.4%
<1,000	2.7%	2.3%	3.2%	2.8%	16.1%	2.3%	3.2%	2.8%	23.5%	15.1%	10.2%	14.0%
Tk. 1,000 to 2,000	4.7%	3.4%	8.5%	6.1%	18.1%	3.4%	8.5%	6.1%	22.8%	25.4%	26.1%	25.4%
Tk. 2,000 to 3,000	2.7%	3.1%	4.5%	3.7%	10.1%	3.1%	4.5%	3.7%	16.1%	19.4%	18.5%	18.5%
Tk. 3,000 to 5,000	3.4%	.3%	1.7%	1.4%	7.4%	.3%	1.7%	1.4%	15.4%	18.3%	13.4%	15.5%
Tk. 5,000 to 8,000	.7%	.3%	2.1%	1.2%	2.7%	.3%	2.1%	1.2%	7.4%	5.1%	4.0%	4.9%
Tk. 8,000 to 10,000	0.0%	.3%	0.0%	.1%	0.0%	.3%	0.0%	.1%	.7%	.9%	1.5%	1.1%
Tk. > 10,000	0.0%	.3%	.2%	.2%	0.0%	.3%	.2%	.2%	.7%	1.1%	1.5%	1.2%

Most of the pregnant women (84.4%) in the project area haven't spent money for their treatment in the last 3 months, while 49.3% children haven't needed treatment. On the other hand, more than 80% of their family members have needed to spend money for their treatment (doctors fee, diagnosis, medicine, etc.). Meanwhile, 77.7% pregnant women and 45.3% children of Non-project participants also haven't spent money for the treatment. The majority of family members (57.9%) except child and

pregnant women spent on an average < 1,000 to < 5,000 taka for treatment in the project area in last 3 months. On the other hand, respectively 43% child and 12.6% pregnant women's treatment cost were <1,000 to < 5,000 taka in the project area. It is also found that a comparatively low number of project participants spent money for the treatment than the non-project participants. In the views of project participants' good practices of eating nutritious and balanced food groups, and food preparation and cooking, maintain health and hygiene, access to community level health clinics and upazila level hospital. According to the PLW participants in the FGD, in last 4-5 years they didn't face any disease in their area, except seasonal diseases e.g diarrhea and cold-ache. So, it could be said above good practices are the main contributors to the reduction of women and children's treatment cost.

5. Learning and Challenges

5.1 Lesson learned

- 1) The project strategy to recruit individuals from various ethnic groups seemed very effective for facilitating close collaboration with diverse ethnic communities. The project had engagement with various (over 12) Adibashi/ethnic groups, each with distinct languages, culture and traditions.
- 2) The priority and ability to recruit and retain competent (skilled, experienced) and field-oriented staff is crucial for successful project implementation.
- 3) Ensuring presence and active participation in trainings/workshops/events is a vital requirement to pursue a desired change in behavior and actions of the target group/people.
 - a. Among the Local Service Providers (LSPs), who actively participated in various types of training and workshops, demonstrated higher levels of engagement and performed exceptionally well in supporting community members.
 - b. Well-trained Women's Group Volunteers (WBCs) are exhibiting commendable performance as valuable community resources, particularly benefiting women, children, and adolescents.
- 4) Utilizing local languages for training, workshops, courtyard meetings, and preparing SBCC (Social and Behavior Change Communication) activities has been found beneficial for the successful implementation of LEAN.
- 5) Both LSPs and WBCs are integral models for sustaining LEAN interventions and achieving project goals and objectives effectively.
 - a. Local service providers play a vital role in executing activities of different government departments at the grassroots level. For instance, LSPs assist the Department of Livestock Services (DLS) in organizing vaccination campaigns in remote areas of CHT.
 - b. Adolescents and school-going children effectively disseminate information within their families and communities.
 - c. The ability of producers, local service providers and women entrepreneurs to establish effective linkages with market actors is crucially important to ensure sale of products.
- 6) The presence of various government agencies in UNCC meetings enhances the functionality of the UNCCs.
- 7) The existence and engagement/functioning of a well-organized multi-sector platform can coordinate collective efforts to protect communities from health hazards. For example, the District Nutrition Coordination Committee (DNCC) in Bandarban district collaborated to halt tobacco cultivation in a community.
- 8) The LEAN project interventions were effective to ensure functioning of FIAC (Fisheries, Agricultures, Livestock) at Union level.

- 9) Determining sample size and drawing samples for quantitative and qualitative surveys is dependent on the availability of an accurate and comprehensive list of project beneficiaries/participants.
- 10) Message disseminating through different innovative SBCC materials (food-plate, ludu, etc.) found effective for enhancing the knowledge of women and adolescent girls.

5.2 Challenges

- 1) Fragile road and river communications, coupled with insecurity along the way, often restrict staff movement in remote working areas, consequently hampering project implementation.
- 2) The scale of activities undertaken by the LEAN project outweighed the number of staff available, resulting in undue pressure on them and hindering project implementation.
- 3) Multi-Sector Platforms (such as DNCC, UNCC, etc.) might have other priorities of their respective departments such as meetings, workshops, and seminars.
- 4) Women's Business Centers (WBCs) represent a collective venture for women entrepreneurs. However, in some cases, it has been observed that dominant women entrepreneurs or leaders exerted control over the business center, leaving other women entrepreneurs feeling marginalized and leading to their inactivity.
- 5) The frequent transfer of district and upazila officials poses a barrier to the effective functioning of DNCC and UNCC, as new officials often lack familiarity with NPAN-2 and the role of the LEAN project.
- 6) The programme staff had to shoulder major responsibilities to conduct meetings.

6. Recommendations

- 1) In the CHT districts, government staff experience frequent transfers. Therefore, it is imperative for projects to incorporate planning and budgeting for need-based **(additional) training sessions** to familiarize newly appointed staff with the project in their working areas.
- 2) The government should appoint 'Nutrition Focal Point Persons' with educational backgrounds in nutrition at district and upazila levels.
- 3) In terms of further programme designing, *“Demonstration of ‘Ideal Nutrition Village/Para’ could be incorporated in future project design”*, commented from UNCC meeting at Panchhari upazila of Khagrachhari district.
- 4) Women's Business Centers (WBCs) represent a collective endeavor of women entrepreneurs. However, in some instances, it has been observed that advanced women entrepreneurs or leaders is taking overall control of the business center, leading to other women entrepreneurs feeling marginalized and becoming inactive. The project should adopt devise strategies to prevent such situations.
- 5) The engagement of boys and men needs to be strengthened in the implementation of various interventions at the community level.
- 6) Adolescents (particularly girls) should come under 'social safety-net' programmes to provided 'pushti-allowances'.
- 7) Projects should organize continuous refresher training sessions for Women's Business Centers (WBCs) and Local Service Providers (LSPs) on business planning and management.
- 8) A participatory monitoring system should be established at the community level to ensure the proper implementation of nutrition activities.
- 9) Providing support to Local Service Providers (LSPs) who own transportation (e.g., motorcycles) enables them to offer prompt services to producers and the community.
- 10) Projects should identify and incorporate sustainability mechanisms during the implementation phase and address issues that may hinder the sustainability aspects after the closure of the project.
- 11) Supporting Local Service Providers (LSPs) Associations through collaboration with other projects is essential. For example, LEAN can connect LSPs and WBCs with similar projects in CHT to ensure continuous support for the community.
- 12) All para/communities should be included in such projects to ensure that no one is left behind in adopting nutrition practices and receiving health hygiene messages.
- 13) To ensure the sustainability of adolescent clubs, a concrete mechanism for the inclusion of new adolescent members in the clubs should be established.
- 14) Sensitization of traditional institutions on nutrition related issues and coordination with LGIS and other relevant local structures is important.

- 15) Arrangement should be made to allocate khas lands for landless and or poor farmers to ensure effective utilization of land by bringing unproductive hill lands into cultivation.
- 16) Measures should be taken to halt de-forestation, and strengthen tree plantations in hill areas, and systems to restore surface water for cultivation in the dry season and address the fresh water crisis.



Suggestion from Project Participants

Implementing a project similar to LEAN in the Chittagong Hill Tracts (CHT) would greatly benefit local communities.
The new project aims to increase financial support, improve technology, and diversify agricultural production by introducing a variety of nutritious vegetables and seeds, as well as providing support for poultry and livestock farming to boost production.
Quality training and awareness-building sessions on improved seed varieties, technology, equipment, women's empowerment, and social development will be included.
The project will expand services for pregnant and lactating mothers and children, including awareness sessions and building linkages with government health facilities.
The project duration and coverage needs to be expanded to remote areas of the CHT.
Work will continue with adolescent boys and girls to promote education, including ICT education, hygiene awareness, and providing material support to reduce early marriage.
The number of Women Business Centers (WBC) in the new project needs to be increased to play a crucial role in raising awareness among households about nutrition and related issues

7. Annexes

List of Annexes:

1. Annex-1: Quantitative Data Collection Questionnaire
2. Annex-2: Anthropometric Survey Tool
3. Annex-3: FGD Checklist for PLW
4. Annex-4: FGD Checklist for Adolescents
5. Annex-5: FGD for Blue School Students
6. Annex-6: Checklist for KII for Blue School Teachers
7. Annex-7: Checklist for KII - DNCC & UNCC
8. Annex-8: Checklist for KII - Private Sector
9. Annex-9: Database of 'Quantitative Data (HH level data)'
10. Annex-10: Database of 'Anthropometric Survey (Under Five Children)'
11. Annex-11: Database of 'Anthropometric Survey (Pregnant and Lactating Women)'
12. Annex-12: Database of 'Anthropometric Survey (Adolescent Girls)'
13. Annex-13: Survey Report in Tabular Form (Quantitative Data Tabulation)
14. Annex-14: Report on Target and Achievement of Logframe Indicators