Final Report

Mid-Term Review of BMMDP-Livestock Surokkha Component Implemented by PKSF

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Acronym

ADB	Asian Development Bank
BADIP	Bangladesh Agricultural and Disaster Insurance Program
BDT	Bangadesh Taka
BMMDP	Bangladesh Microinsurance Market Development Program
CCDA	Center for Community Development Assistance
CHF	Swiss Franc
CODEC	Community Development Center
DAC	Development Assistance Committee
DANIDA	Danish International Development Agency
DIISP	Developing Inclusive Insurance Sector Project
DL	Department of Livestock
DLO	District Livestock Officer
DLS	Department of Livestock Services
DUS	Dwip Unnayan Sangstha
DVM	Doctor of Veterinary Medicine
DYD	Department for Youth Development
ERD	Economic Relations Division
ESDO	Eco Social Development Organization
FID	Financial Institutions Division
FLRM	Financial Livestock Risk Mitigation
FMD	Foot-and-mouth Disease
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GJUS	Grameen Jano Unnayan Sangstha
IDI	In-depth Interview
IFAD	International Fund for Agricultural Development
JFPR	Japan Fund for Poverty Reduction
KII	Key-informant Interview
LDDP	Livestock and Dairy Development Project
LI	Livestock Insurance
LSD	Lumpy Skin Diseases
LSP	Local Service Provider
MFI	Microfinance Institution
MFMSFP	Microfinance for Marginal and Small Farmers Project
MTR	Mid-Term Review
NATP	National Agricultural Technology Program Phase
NDP	National Development Program
NGF	Nowabenki Gonomukhi Foundation
NGO	Non-governmental Organization
OECD	Organization for Economic Cooperation and Development
PKSF	Palli Karma-Sahayak Foundation
PO	Partner Organizations
PPDP	Public-Private Development Partnership
SDC	Swiss Agency for Development and Cooperation
TMSS	Thengamara Mahila Sabuj Sangha
ULO	Upazila Livestock Officer
UMB	Urea Molasses Block

Executive Summary

Background

This Mid Term Review was commissioned by SDC Bangladesh with the objective to compare and assess the effectiveness of three strategic models that Bangladesh Micro Insurance Market Development Programme (BMMDP) is promoting under the Livestock Surokkha component. This component is being implemented to strengthen resilience of the livestock micro-credit borrowers through the Palli Karma Shahayak Foundation (PKSF) as the implementing agency and to propose strategic and operational recommendations for the remainder of Phase 1.

The MTR also provides a scenario analysis for potential next phase and proposes possile set-up and partner engagement strategies. The evaluation was undertaken in line with the OECD DAC criteria. The consultant undertook in-depth interviews with staffs representing SDC, PKSF and the patner organizations (POs) of PKSF. The consultant also undertook in-depth interviews and focus group discussions with the participants/ beneficiaries of the Livestock Surokkha ccomponent.

Bangladesh Microinsurance Market Development Program (BMMDP) Livestock Surokkha is a four-year (June 2020-May 2024) long project aiming to increase livestock farmers' resilience through risk-reducing services. The Swiss Agency for Development and Cooperation (SDC) is funding the project, Swisscontact is managing the financial resources on behalf of SDC, and Palli Karma-Sahayak Foundation (PKSF) is the implementing agency. The programme has three components; Component 1 – Crop Surokkha (implemented by Syngenta Foundation Bangladesh); Component 2 – Livestock Surokkha (implemented by PKSF); and Component 3 – Sector capacity development in agricultural microinsurance (implemented by Swisscontact). This MTR focused on component 2.

Context and Overview of the Project

Livestock Surokkha project is implemented by the Palli Karma-Shahayak Foundation (PKSF), the micro-credit wholesale lending agency and also an apex development organization of the Goverrnment of Bangladesh. PKSF is engaged in directly implementing large scale development projects for multilateral and bi-lateral development agencies that includes The World Bank, Foreign and Commondwealth Development Organization (FCDO), European Union (EU), International Fund for Agricultural Development (IFAD). PKSF wholesales micro-credit and implements development interventions through 221 Partner Organizations (POs) which are providing various credit and non-credit services to 15.4 million low-income households of which 91% are female. During FY2020-2021 PKSF lent BDT 48.32 billion to the POs. PKSF is implementing Livestock Surokkha under cost-sharing arrangement with SDC through 15 POs in 325 branch offices in 10 districts in Northern and Southern Bangladesh. As per published accounts, there are 18.7 million small holder cattle owners in Bangladesh and most of these small holders depend on micro-credit to purchase cattle. According to PKSF 40% of the micro-credit borrowers invest the credit in livestock. As per MRA policy a 1% risk shield is levied against the credit from the borrowers. Given this, the micro-credit lending system of PKSF provides an excellent opportunity to reach large number of livestock smallholders in Bangladesh with insurance and livestock risk reduction services. Besides PKSF already has been testing various models for livestock insurance since 2005. This meant that Livestock Surokkha could build on the previous interventions of PKSF and could help PKSF develop an institutional and sustainable approach for livestock insurance bundled with risk reduction services. The rationale for livestock insurance and livestock risk reduction services arises from the fact that death of livestock can lead to debt burden for the small holders. Also, there is high risk of mortality arising from diseases and climate induced natural calamities. For example, the number of dead, lost or affected cows in the recent flood in June 2022 in Sylhet and Sunamganj districts was estimated at 671,145 and the overall loss was estimated to be 12.55 million CHF.

In Livestock Surokkha, the 1.00% risk shield premium that is levied against livestock micro-credit is split into two parts- 0.3% for death of the borrower and 0.7% for death of the livestock. The POs provide risk mitigation services through three different models- (i) the PO led model where the POs directly organizes training and provides extension services through Doctor of Veterinary Medicines (DVMs) and extension workers who are hired under cost sharing mechanism with SDC (ii) the Department of Livestock Services (DLS) led model where it is expected that the DLS will provide the training and extension services while the POs will organize the training and (iii) a private sector led model where it is expected that private sector input and output companies will provide the training and extension services to the micro-credit borrowers while the POs will organize the training sessions. The extension support covers vaccination and de-worming services to the borrowers through vaccination and de-worming camps. In case of death of the cattle the remaining amount of the loan is waved and the beneficiaries also receive compensation for rearing cost through the co-variant fund that is created exclusively by the Livestock Surokkha project. In case of death of the borrowers, TK 5000 is provided for funeral cost in addition to waiver of the outstanding loan amount.

Evaluation Findings

Effectiveness of the three models of FLRM services: The findings show that the three models have been implemented with varying degrees of effectiveness. Also there is difference between the planned and the implemented models. The POs have successfully implemented model 1 and have reached their target coverage under model 1. POs have struggled to engage DLS in model 2 and the private sector input and output companies in model 3. Correspondingly, they are lagging behind in achieving their target coverage for model 2 and model 3. Some POs have been able to engage DLS to undertake the training sessions under the Livestock and Dairy Development Project (LDDP) (World Bank IDA Credit USD 500 million targeting 2 million small holder farmers) and National Agri-Technology Project (NATP-2) (World Bank IDA credit USD 176 million, total project cost USD 214 million). Most POs were able to influence the local Upazila Livestock Officer (ULO) to take a session in the training. However, none of the POs were able to strategically engage DLS because of lack of an MoU between DLS and PKSF. Even though an MoU was drafted, it was not signed and put in effect as PKSF did not agree to terms of DLS. These terms were however not made clear to the MTR.

The POs were also not able to engage private sector strategically because of lack of an agreement between PKSF or the POs and the input companies at the national level. The POs engaged local private sector who lacked the financial and technical resources to undertake the activities. PKSF expressed that they are not able to sign any agreement with private sector as this potentially lead to the issue of moral hazard- the agency will be seen as favoring 1 or 2 private sector at the cost of the rest. The POs also did not explore the potential of signing MoU and undertaking the FLRM services under model 3 in a structured manner as they did not receive such direction from PKSF. Additionally, PKSF reported that the POs do not usually engage with national level agencies as they work primarily at local level. Generally, it is evident that PKSF and the POs neither have the intent or the capacity to work with DLS and the private sector as envisioned under model 2 and model 3. The lack of ownership coupled with the lack of intent means that the two models have not been effectively implemented. The three models thus eventually converged to one model where the POs are leading the FLRM services and the private sector and DLS are participating in local capacity to provide additional resources for training. As there is lack of buy-in of PKSF and

POs, this engagement might also not continue once the SDC funding is withdrawn.

Review against Development Assistance Committee (DAC) evaluation criteria: The MTR undertook a review of the project against the DAC criteria of relevance and coherence, effectiveness, efficiency and sustainability.

Relevance and coherence: The findings show that livestock insurance as a tool to increase resilience of the smallholder livestock borrowers is relevant if we consider not only mortality rate but also the added benefit of the FLRM services on improved business performance of the borrowers. The intervention is particularly relevant for PKSF as large percentage of micro-credit borrowers take credit for livestock and they pay 1% risk shield as default. The addition of the FLRM service made this risk shield premium useful as the farmers are receiving benefits even when they are not affected by death of their cattle. Model 1 was more effective as this was relevant to the capacity and incentive of the POs. However, the POs see model 2 and model 3 as externally pushed project agenda and did not invest on building their capacity to implement model 2 and model 3. Besides, as explained, PKSF too does not see itself engaging in long term strategic partnership with the DLS or the private sector. Model 2 and model 3 thus do not fit with the organizational vision of PKSF and its POs. These two models could fit more with bank led insurance models and with insuretech and fintech companies providing livestock credit and insurance services.

Green Delta, a private non-life insurance company is currently providing livestock insurance to the borrowers of BRAC Bank. Currently they provide insurane mostly to large scale farmers (borrowing TK 3 lacs per cattle from BRAC Bank). Their cost of premium (TK 1600/1700) for loan size below TK 50,000 is almost three times of that levied by the POs (TK 500). Green Delta does not have grassroot capacity to target small holders and to provide FLRM services. They will benefit from engaging DLS or the private input and output companies. The findings show that there is demand for insurance against disease risk which is being addressed by Swisscontact through their partnership with I-farmer, an agricultural fintech and Shadharon Bima Corporation (SBC), a state-owned non-life insurance company. The private insurance companies reported need for technology for cattle identification as an important element for scaling livestock micro-insurance. PKSF and the POs however did not report of such requirement. The private sector led model is expected to push forward technological advancement for cattle identification or for documentation for claim settlement as has been explained by the leading private sector insurance and insuretech companies.

Effectiveness: Given the high control of the POs on field activities, they were able to quickly scale up the livestock Surokkha coverage. By mid 2022, the 8 POs that were interviewed were able to bring 79,851 borrowers under livestock Surokkha coverage between 2020-2022 despite significant set-back from COVID 19 pandemic. Even though the three models were not implemented as planned, the impact of the FLRM services can be observed on the business performance of the borrowers owing to strong field administration throough the DVMs and the extension worrkers who ar hired by the POs to manage the training and extension services under livestock Surokkha coverage, specially under model 1. Changes observed includes – improved animal husbandry practices including feed and shed management practices, better breed selection, shortened fattening perod and sales cycle. The FLRM services have also improved vaccination and de-worming coverage even though some farmers are still opting out as they do not prefer to take the cattle to camps fearing that it would get injured on the way. The 8 POs that were interviewed for this evaluation reported mortality of 0.263% which is lower than the baseline of 1.69% in 2016 reported in the feasibility study report. The mortality rate reported by these POs is also low if we compare with the mortality rates reported by bank led insurance companies (3.5%) and fintech providing livestock credit (~1%). Generally, the mortality rate is small and according to key experts and the beneficiaries, reducing mortality itself is not an incentive to avail insurance. The FLRM services thus offered more incentive to the livestock farmers beyond mortality rate.

One of the key mandates of livestock Surokkha was to support PKSF to shift from a project led approach to an institutional approach. If institutional capacity is assessed through partnerships with DLS and the private sector then this has not materialized. However, if institutional capacity is assessed through the changes in operational capacity of PKSF and the POs then we can observe several changes. As stipulated in the ProDoc, PKSF has set-up a risk mitigation unit to oversee the operations of livestock Surokkha coverage. The risk mitigation unit has also been approved by the board of PKSF. Surprisingly, PKSF did not communicate this to SDC which shows a gap in communication and reporting from PKSF to SDC. The POs have also invested on building their capacity to provide FLRM services by recruiting and training the DVMs and extension workers. PKSF envisions to scale the coverage to include all the branches of the participating 15 POs under livestock Surokkha coverage and all livestock micro-credit borrowers under the participating branches. It is likely that PKSF will continue model 1 even if SDC funding is withdrawn.

Efficiency: The POs placed the borrowers on first come first served basis. First the quota for model 1 was fulfilled and then model 2 and finally model 3 quota was fulfilled. This meant that there has been no strategic direction in terms of placement of the borrowers. Those who joined first benefitted from the organized training and extension services under model 1 while those who joined later received less organized training and extension support. Data provided by the POs show that at least 35% of the borrowers under livestock Surokkha coverage availed multiple credits since the inception of the programme. These borrowers do not need repeated training. But they can benefit from improved extension support that can be provided by the private sector and the DLS. Also, commercial farmers do not need extensive training but can benefit from extension support, vaccination and de-worming camps. As such, the findings show that it could have been more efficient to enroll small holder farmers under model 1 and commercial farmers and repeat borrrowers under model 2 and model 3.

Local paravets are not engaged and the capacity and resources of local players like input retailers are not leveraged. More importantly, the field findings suggest that the POs might have discouraged the borrowers to take services from local paravets as this might account for negligence in treatment in case of death of the insured cattle. Efficiency could also be achieved by systematically promoting role model farmers who have advanced knowledge and skills. The MTR findings also show that in the branches where the Surokkha project is being implemented, there are both insured and non-insured borrowers. The project could potentially achieve even bigger results if all borrrowers within the same branch were brought under livestock Surokkha coverage.

Sustainability: An AAER (Adapt, adopt, expand, respond) review shows that therer are early signs of systemic changes:

- The POs have already invested in building resources and promoting livestock Surokkha in specific branches. They are likely to continue the FLRM services as per model 1. However, they might reduce certain activities like training while continuing the insurance coverage and the extension services.
- Some of the POs have reported that they are on the process of making the Doctor of Veterinary Medicines (DVMs) and extension service officers position permanent
- As explained earlier, PKSF has expressed that they intend to bring all the branches of the 15 POs under Livestock Surokkha coverage
- PKSF has set-up a risk mitigation unit to manage the activities of livestock Surokkha

It is unlikely that PKSF and the POs will continue with model 2 and model 3 if not for SDC mandate. In general there are still no signs of expanded coverage by PKSF or POs and there is no evidence of crowding in by private sector or DLS. In absence of the national partnership, it is unlikely that BMMDP will achieve any crowding in from private sector or the government.

Scenario Analysis for Potential Second Phase

As PKSF is unlikely to institutionalize model 2 and model 3 and as SDC sees these two models as foundational to the value added by livestock Surokkha, a second phase with PKSF might not be a rational choice. The value added of further SDC funding to PKSF could be in terms of (i) demonstrating the use case of model 2 and model 3 for commercial farmers and for repeat borrowers who do not need further training (ii) expediting the scale-up of the current Surokkha scheme in more branches covering more borrowers (iii) establishing the evidence that clearly explains the contribution of Livestock Surokkha in reducing mortality rate and (iv) technology adaptation in line with recent developments for cattle identification and documentation for claims settlement. As can be observed, these activities do not call for large scale financial and technical resource engagement and can be initiated in the current pilot. Both PKSF and the POs are likely to continue with model 1 even if SDC funding is withdrawn. If SDC opts for second phase then the scope lies on engaging the bank led livestock insurance service providers, fintech and insuretech companies the process for which has already been initiated by Swissconotact under the current mandate of BMMDP. In this case potential value added would be to support the insurance companies to build their distribution network through for instance the input companies or output trading companies or even through MFIs that are not Partner Organizations (POs) of PKSF. Another value added would be to support insurance companies and InsureTech ccompanies to build the market for technologies for insurance (cattle identification, documentation of claims etc.). Insurance against disease risk has a good market prospect. Swisscontact has already started this in partnership with I-Farmer and Shadharan Bima Corporation under BMMDP. This can be taken up to scale in the potential second phase beyond phase 2.

Recommendations

In the remaining period of phase 1, PKSF should complete the targeted and planned FLRM services under model 1, 2 and 3 as the FLRM services have proved to be effective and relevant to the need of the livestock farmers. PKSF and SDC should undertake a review of the institutional changes that have been achieved due to Livestock Surokkha projet. The MTR findings show that PKSF did not report on all the changes to SDC which includes the set-up of the risk mitigation unit. Also, PKSF did not report on their engagement with DS and the private sector companies at national level and the reasons for not continuing the engagement as planned. The Co-variant fund has been set-up but there has not been any discussion on the follow up especially if there is no second phase with PKSF. The primay goal of the remaining of the second phase would be to consolidate the activities and work towards an exit strategy that helps both SDC and PKSF to leverage on the impacts achieved in the pilot of Livestock Surokkha.

Activities under the exit strategy may include review of the risk shield premium to adjust it to the decline in mortality rate of cattle, to allow for differential rates depending on climate risks and also to incorporate disease riks. PKSF is interested to undertake this assessment even though the 1% risk shield premium will not change and the only change feasible is the split of the 1% risk shield premium into different risk categories. The POs should be tasked to conclude on model 2 and model 3 acctivities and this can eventually be leveraged to embed model 2 and model 3 to model 1 which the POs are more comfortable with. In this case, the POs will continue to be the lead in organizing and delivering the FLRM services while the DLS and private sector could be engaged in light touch approach to undertake a session or a demonstration activity. This would allow PKSF and the POs to engage market actors without strategic partnership or MoU which PKSF is not comfortable with. Even though in this context the engagement of DLS and the private sector might be ad-hoc, it would not be seen as externally pushed and a project mandate. Rather, this might help the POs to see the benefit of using DLS and private sector actors in the FLRM services which may eventually lead to more strategic engagement in the future and thus lead to a systemic change. A quasi-experimental study might allow SDC to understand the differential impact of FLRM services depending on location, capacity of the POs, the type of the borrower (small holder vs commercial). The results from this can help design more targeted FLRM services in phase 2 together with private sector insurance companies. Finally, within the remaining period, if PKSF agrees to complete the task of expanding coverage to all branches of the participating 15 POs then it would provide an excellent case as an exit strategy.

For a potential phase 2. SDC has to assess the existing bank led insurance model and define the viability. Currently the scale of this is too low and there are only few providers in the market. As such, it might be more efficient to task Swisscontact under the current BMMDP mandate to intervene on the bank led insurance model while building a distribution network to target small holder livestock farmers and to provide FLRM services through collaboration between the insurance companies and the DLS and the private sector input and output companies. Making the premium rate of private sector livestock insurance more affordable to the smallholders could be another potential area of interest of SDC in phase 2.

Table of Content

Chapter 1: Introduction

6.2 Background

The Swiss Agency for Development and Cooperation (SDC) is funding the four-year (June 2020-May 2024) Bangladesh Microinsurance Market Development Program (BMMDP) Livestock Surokkha project in Bangladesh with the aim to increase the resilience of livestock farmers through risk-reducing services. Swisscontact, an international NGO, manages the project by channeling the financial resources on behalf of SDC, and Palli Karma-Sahayak Foundation (PKSF) is the implementing agency. The interventions are designed as such farmers can transfer the livestock rearing risks through microinsurance services and other non-financial services like veterinary services, capacity building, and awareness-building programs. SDC has commissioned this external Mid-Term Review (MTR) to measure the project's performance against its mandates, define the direction it should take for the rest of the programme period, and propose possible scenarios for the next phase of the project.

1.2 Objectives

As per the Terms of Reference (Annex 1), the review was conducted with the following objectives-

Objective 1: To compare and assess the effectiveness of the three strategic models:

(a) Partner organizations (PO)-led model where PO will offer both field extension services, financial literacy trainings, and financial product;
(b) PO and public sector delivery model where PO will offer trainings and financial product and Department of Livestock (DL) will conduct field extension services;
(c) PO and private sector model where input or output private actors will offer awareness and training activities and PO will offer the financial product for livestock risk transfer to be delivered according to the objectives specified in the Project Document (ProDoc) for this component.

Objective 2: Strategic and operational recommendations for the remainder of Phase 1.

Objective 3: To propose and assess scenarios for the next phase of Livestock Surokkha, including possible set-up and partner engagement.

Also, as per the pre-review meeting the evaluators were asked to identify any adaptations/changes in the microinsurance ecosystem in terms of partnership/ implementing agency for the project's next phase.

1.3 Methodology

The consultant virtually interviewed the 8 (from 15) POs who were implementing the project at the field level, and among them, we purposively selected two POs and visited the project areas. The qualitative and in-depth investigation was conducted in June 2022 with support from PKSF's POs, DESHA Shechsashebi Artho-Samajik Unnayan O Manobik Kallyan Sangstha (DESHA) in Kushita and Eco Social Development Organization (ESDO) in Nilphamari. The evaluation involved In-depth Interviews (IDIs) with project beneficiaries and Key-informant Interviews (KIIs) with intervention partners and the project management team.

1.3.1 Qualitative Sampling: IDIs/KIIs

The evaluator conducted 27 IDIs of the beneficiary farm households involving only female respondents. The respondents were selected from Kushtia and Nilphamari clusters, where the project interventions have been undertaken since the project's inception in 2020. The respondents were selected by the project staffs conforming to the methodology of selecting three farmers from each model (PO-led model, PO and public sector-led model, and PO and private sector-led model) and three farmers who were outside of the interventions.

Table 1: Qualitative Sample Distribution

	Respondent Description	No. of Interviews
IDIs	PO-led Model Livestock Farmers	8
	PO and Public-led Model Livestock Farmers	8
	PO and Private-led Model Livestock Farmers	8
	Respondents Who Did Not Receive Any Trainings	3
	Implementing POs	8
	Total	35
KIIs	Upazila Livestock Officer (ULO)	2
	Livestock Service Providers (LSP)	2
	Private Companies (Pharmaceutical Companies Officials)	6
	Key Sector Expert	1
	Project Officials -SDC, Swisscontacct and PKSF	5
	Total	16

In total, 17 KIIs were conducted with the relevant stakeholders of the project. Respondents included operational and management staff of the partners such as ULO, LSPs, pharmaceutical companies, government officials, and project-specific officials.

Apart from the in-depth investigation, the evaluators also reviewed the background documents shared by the project and SDC. This included the intervention results chains, annual operational report, Theory of Change (ToC), project log-frame, internal assessment of intervention impacts, and external assessment of the project's strategies and implementation approach.

We used the abductive reasoning method in treating the data, a combo approach of both inductive and deductive reasoning. Abductive reasoning gives the best explanation from a set of incomplete observations. Therefore, we could reach a probable conclusion from the evident information. Our inductive reasoning started with identifying similar patterns in particular instances. After finding out the pattern, we drew a general conclusion, and following the general conclusion, we started our deductive reasoning. Deductive reasoning begins with a general statement and then ends with a specific conclusion which is always true.

The evaluation was conducted using the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) criteria of relevance, coherence, effectiveness, efficiency, impact, and sustainability. The evaluator contextualized the framework to reduce any overlaps between the six evaluation criteria. We started with analyzing the project's overall strategy, interventions, management of the different models, and review of results till dates against the target. We then evaluated these findings against the six evaluation criteria. The questions helped us extract the project's strengths and weaknesses that were used to formulate the recommendation for the next phase of the project.

Table 2: Analysis 14wareness

Overview		
Three strategic models of the project, interventions, and key results as of June 2022		
Relevance	**Coherence**	**Effectiveness**
Evidence that the project is harmonious with the risk-taking capacity, weather and disease shocks, cattle mortality and morbidity faced by the livestock farmers, and scope for addressing the issues through financial products, extension services, literacy trainings	Evaluate the compatibility of the project in the livestock sector and how the interventions are adding benefits to the project beneficiaries and market actors	Review the project's output and outcome targets, and inspect the indicators; to what degree are different stakeholders' roles and contributions aligned with the risk-mitigating services?
Efficiency	**Impact**	**Sustainability**
The change of economic condition of the beneficiaries within the planned timeline; to what degree the interventions deliver to the project?	Evaluating if the project can bring any systemic change in the livestock microinsurance society by collaborating with other public sectors and private actors, and reviewing the existing risk management framework to identify any potential risks that hamper the interventions	The degree to which Public-Private Development Partnership (PPDP) will be able to continue without the project's assistance; and given the current status, whether the interventions can increase the livestock farmers' resiliencies through risk reduction services
Recommendations for the next phase of the Livestock Surokkha Project including possible set-up and partner engagement		
Moving forward, what are the strengths on which the project should build, and what are the weaknesses that should be addressed		

Chapter 2: Review of the Context

2.1 Livestock Microinsurance Market in Bangladesh

Around 41% of the 168.22 million people in Bangladesh are employed in the agricultural sector.[1] The livestock sub-sector is an integral subsector of Bangladesh agriculture, contributing to 2.1-3.6% of the national GDP.[2] About 20% of the population earns their direct livelihood from the livestock sector.[3] The estimated number of smallholder cattle owners in Bangladesh is 18.7 million (1.52 cows per household).[4] The poor and marginalized farmers engaged in livestock rearing depend on microcredit to purchase the cattle. As per PKSF, 40% of Microfinance Institutions (MFIs) borrowers invest the money in livestock rearing, which shows the reliance of livestock farmers on microcredit. In addition, a trend in increased demand for MFI financing of cow fattening and goal rearing can be seen during the Eid-ul Adha.

Bangladesh is the seventh most climate change-vulnerable country in the world and ranked fifth in terms of economic losses due to climate change which in the past 20 years (2000-2019) totalled US$ 3.72 billion.[5]

More recently, in the flood in Sylhet and Sunamganj in June 2022, the number of lost, dead or affected cows were estimated at 671,145 and the overall esimtated loss in the livestock sector has been reported to be TK 120 crores (12.55 million CHF)[6]. Besides livestock diseases such as Lumpy Skin Diseases (LSD) cause crucial economic loss in commercial livestock production.[7] Micro-insurance in this context can potentially strengthen shock absorption capacity of the livestock farmers. Study in Kenya shows insured households are 50% less likely to sell off livestock to cope with severe drought, 36% less likely to forego food as a coping strategy and 50% are less dependent on food aid and external support.[8] However, livestock micro-insurance is still a nascent sector in Bangladesh. As per BMMDP Micro-insurance Market Systems Analysis, livestock microinsurance constitutes only 6.9% of the total micro-insurance market in Bangladesh.

In this context, this MTR provides analysis that can be used not only to evaluate the performance of the current Livestock Surokkha project but also the importance and prospect for investing in developing the livestock micro-insurance market systems in Bangladesh.

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[7] Hasib, F. M. Y., Islam, M. S., Das, T., Rana, E. A., Uddin, M. H., Bayzid, M., ... & Alim, M. A. (2021). Lumpy skin disease outbreak in cattle population of Chattogram, Bangladesh. Veterinary Medicine and Science, 7(5), 1616-1624.

[8] International Labour Organization. 2013. The impact of microinsurance on asset accumulation and human capital investments: Evidence from a drought in Kenya. ILO Microinsurance Innovation Facility Research Paper No. 31, Geneva.

2.2 Context of SDC and Targets

BMMDP, launched by SDC, envisions to increase farmers' resilience to shocks and foster an inclusive growth in the agricultural and livestock sector in Bangladesh. BMMDP has three strategic components; Component 1 – Crop Surokkha (implemented by Syngenta Foundation Bangladesh); Component 2 – Livestock Surokkha (implemented by PKSF); and Component 3 – Sector capacity development in agricultural microinsurance (implemented by Swisscontact). The initial project duration was from October 2017 to December 2022; however, due to the administrative procedure and unique nature of the project, it started in June 2020 and is now extended to May 2024. It is envisioned that by the end of phase 1 the Livestock Surokkha pilot will demonstrate commercial viability of the livestock insurance model with risk mitigation and risk transfer mechanism. Under the Livestock Surokkha Component, SDC expects that by the end of phase 1 PKSF will insure around 200,000 cattle; livestock farmers will receive risk mitigation (field extension) services and around 100,000 farmers will purchase livestock insurance products promoted by BMMDP partners.

2.3 Engagement of PKSF – the Public-Private Apex Body of MFIs in Bangladesh

PKSF is responsible for the direct field implementation of Livestock Surokkha component. PKSF is a nonprofit financial institution established by the Government of Bangladesh (GoB) in May 1990 for sustainable poverty reduction through employment generation. PKSF has been shaping the inclusive financial sector of Bangladesh through its MFIs, also known as POs. As of 30th June 2021, the total number of POs of PKSF stands at 221. The POs are providing various credit and non-credit services to 15.40 million low-income household members, of which most are small and marginal farmers. Out of the total members, the number of female members is 14.00 million, which is 91% of the total members. Out of the 11.70 million borrowers, the number of female borrowers is 10.70 million, which is 91% of the total. During the FY2020-2021, the amount of loan disbursement from PKSF to POs was BDT 48.32 billion, which is 24.95% higher than the previous year. The amount of loan disbursement of POs to the borrower was BDT 570.12 billion, which is 20.88% higher than the last year.[9]

PKSF, along with its 15 POs (325 branches), has been providing a Livestock Insurance Scheme (LIS) bundled with a cattle purchase loan, cattle death insurance, cattle health services, and insurance in case of the death of the borrower/primary earning member of the family. PKSF has been piloting and testing different risk mitigation methods for livestock with the help of their POs. On the PKSF side, the component is named "Strengthening Resilience of Livestock Farmers Through Risk Reducing Services." There is a formal Memorandum of Understanding (MoU) of this component between the Embassy of Switzerland in Bangladesh and the Economic Relations Division (ERD). The Financial Institutions Division (FID) of the Ministry of Finance is the GoB counterpart host agency.

BMMDP intends to support PKSF transform the project-based LIS approach into an institutionalized insurance unit. PKSF and POs are expected to scale up the beef fattening mortality insurance operations by diversifying into dairy, cows, goats, and poultry.

[9] Palli Karma-Sahayak Foundation (PKSF). (2021). *PKSF Annual Report (2021)*. Retrieved from https://pksf-bd.org/web/wp-content/uploads/2014/05/PKSF-Annaul-Report_2021.pdf

2.4 PKSF's Historical Engagement in the Microinsurance Industry in Bangladesh

In 2005, PKSF was implementing a project titled "Microfinance for Marginal and Small Farmers Project (MFMSFP)," which was supported by International Fund for Agricultural Development (IFAD). While conducting the project, PKSF found that the mortality and morbidity rates in the livestock sector were high, creating a problem for the borrowers. This was the foreground of introducing LIS products in micro-credit.

PKSF then piloted a project with Sojag, an NGO located in Dhamrai Upazila. The area had comparative advantage for crop cultivation and livestock rearing and was observing growth of farms which propelled Sojag to provide large number of livestock loans. During that time Sojag used to take a fixed fee as risk mitigation for beef fattening. However, the mortality and morbidity rates were still high and PKSF advised Sojag to hire livestock experts, diploma graduates, and paravets (Govt.) to teach good animal husbandry practices to the farmers. PKSF piggy backed on the agricultural experts of the IFAD funded Micro-Finance and Technical Support Project (MFTS) and ADB funded Participatory Livestock Development Project (PLDP). After several years of intervention, PKSF found that the risk mitigation services were successful, the mortality and morbidity rate decreased, and cattle gained extra weight. This made the farmers enthusiastic about the livestock services and PKSF invited few more organizations to replicate the model. The model was expanded to Joypurhat through Jakas Foundation.

The detailed policy of the livestock insurance scheme was developed in September 2009; it tied cattle death insurance and cattle health insurance with cattle purchase loans. Then in 2010, the insurance was piloted through Developing Inclusive Insurance Sector Project (DIISP). This project was supported by Asian Development Bank (ADB) and financed by Japan Fund for Poverty Reduction (JFPR). It focused on both health and agricultural insurances. During that time, to meet the need for actuarial based data, PKSF hired an international actuary who had proxy data and based on that recommended that livestock insurance could be continued alongside health insurance for members. The actuary also suggested not to drop crop insurance as it had infrastructural challenges.

During that consultancy (2012-2013), it was found that the mortality rate was 4.7%. The actuary recommended to enhance the risk mitigation services. Later in 2015, PKSF found that the mortality rate reduced gradually to 0.472%, 0.3% and then to 0.26%. Also, they found that above 0.7% mortality rate, the accumulated premium becomes negative. This led PKSF to push further the risk mitigation services. Based on assessment of risk premium at 1.00%, the actuary recommended to reduce the premium to 0.70% to reduce fund accumulation. During that period, PKSF had 40 POs which were engaged for health insurance under the DIISP programme. Of these 40 POs, 20 were shifted to livestock insurance. As the POs used to take 1.00% risk shield for general micro-insurance, they did not want to reduce the risk shield. As such, the risk shield was eventually revised to incorporate 0.7% for cattle insurance and 0.3% for life insurance for the borrower/ primary earning member of the family. Studies during this period showed that even though mortality reduced, morbidity was still high. As such, the correlation between mortality and morbidity was compared.

Also in this period, PKSF started discussion with SDC and the scope for sustainable livestock insurance was explored. The international actuary recommended that for livestock micro-insurance to be successful, at least 500 borrowers from each branch should be brought under coverage for 1.00% risk mitigation fee. However, PKSF was unable to find 80 branches of 40 POs with that number of borrrowers per branch. As such, the coverage was reduced to 15 POs. To achieve the target of 100,000 borrowers, PKSF extended the number of branches to 325 (307 borrrowers on average per branch).

2.5 Overview of Livestock Surokkha Project

2.5.1 Project Summary

BMMDP Livestock Surokkha is a four-year (2020–2024) year project mandated to increase the farmers' resilience by introducing Financial Livestock Risk Mitigation (FLRM) products. BMMDP Livestock Surokkha has three strategic models. In all the models, POs sell the FLRM products to the livestock farmers, and the awareness and extension services are provided by POs/DLS/private livestock healthcare service providers. In terms of indirect farmers (non-loan recipients), they receive awareness trainings, and vaccination campaigns support delivered by the POs and other various stakeholders. However, in model 1, the POs are the primary provider of the FLRM products while in model 2 the DLS is expected to be the primary provider for the training and extension support and in model 3, private sector partners are expected to offer the same while the primary responsibility of the POs is to sell micro-credit with the risk premium.

Figure 1: BMMDP Livestock Surokkha Strategic Models

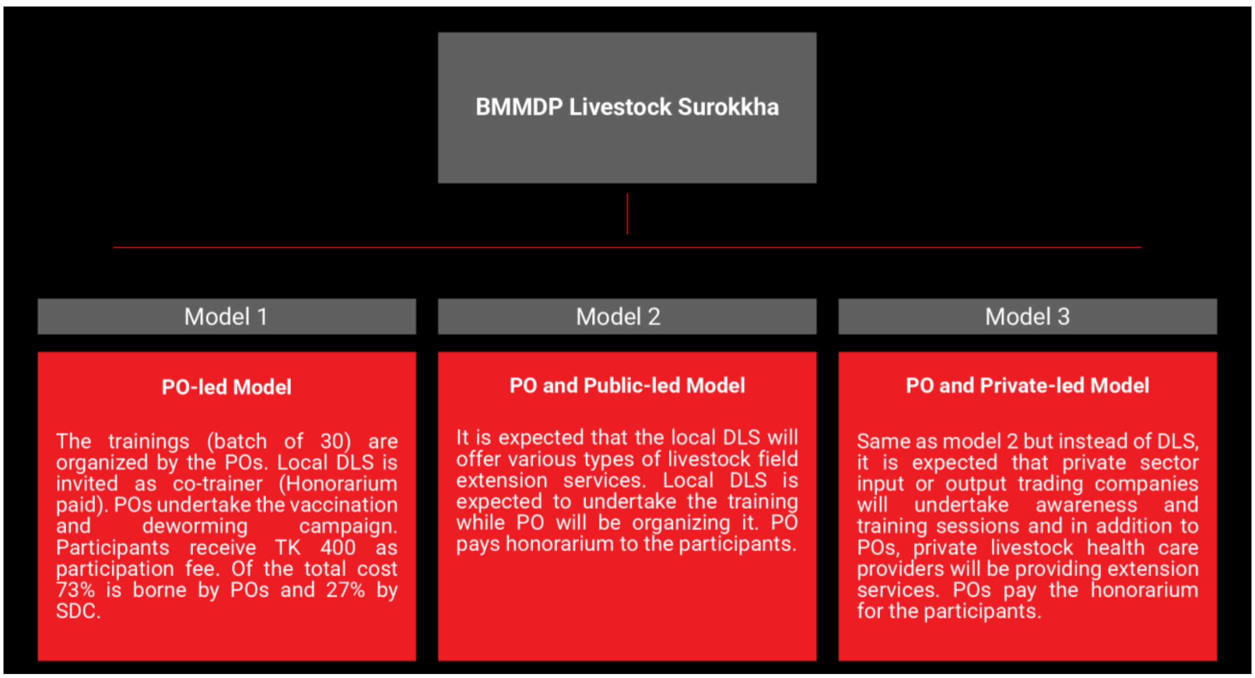


Table 3: Coverage Under Livestock Surokkha

Humans (0.30% of the credit as risk shield)	Livestock (0.70% of the credit as the risk shield
- Waiver of the outstanding loan amount - Allowance of BDT 5000 for funeral	- Waiver of the outstanding loan amount - Livestock rearing cost coverage
- Training on livestock rearing (feeding, good animal husbandry practices, breed selection, etc.) - Vaccination and de-worming - Follow-up medical visits by DVMs - Emergency on call treatment support	

Currently, only targeted number of livestock micro-credit borrowers under 325 branches of 15 POs are brought under coverage. Generally, when a farmer takes microcredit bundled with FLRM services, the farmer falls under the Livestock Surokkha project. In Livestock Surokkha, a farmer needs to pay a 1.00% risk mitigation fee against the credit amount. This 1% risk shield is split into two parts – 0.70% for cattle and 0.30% for humans.

When cattle die, the farmer receives a full waiver of the outstanding loan amount. If the borrower or main earning member dies, the insurance covers the funeral cost of the deceased. PO provides BDT 5000 to the nominee/family members of the insured to cover the funeral arrangements. The settlement of claims starts when the insured notifies the death news to the respective branch. The PO confirms the death and settles the claim within five working days.

Livestock Surokkha project offers other ancillary support to the beneficiaries. The support includes providing trainings to the livestock farmers. This training is given after a farmer has taken the loan. In the livestock rearing training, farmers learn about ideal cattle feed plans, good animal husbandry practices, and vaccination. POs arrange vaccination and deworming campaigns for the farmers in adjacent school areas. Whenever a cow falls sick, the Doctor of Veterinary Medicines (DVMs) of POs do a medical visit to the farmer's house and provide health care. In addition, DVMs also provide emergency on-call treatment support to the farmers. In specific areas, POs invite the best farmers from the project and provide onsite training on their farms.

Within the branch that are participating in the Livestock Surokkha project, therer are also borrowers who are not part of the Livestock Surokkha scheme as the branch has already achieved its target under the programme. Borrowers who are not part of the Livestock Surokkha project but take microcredit from the POs receive only the death coverage of the borrower/main earning member. PKSF provides an additional co-payment (BDT 500 per month) fund for monthly basis rearing compensation to the livestock farmers in case of the death of the livestock. PKSF has created a co-variant fund with the reinsurer. Reinsurers are expected to chip in during catastrophic events to mitigate the fund's risk. It is a contingency plan for transferring the liabilities to the insurance companies.

Livestock Microcredit without Surokkha

The risk shield (1.00%) for non-Surokkha borrowers is used to provide coverage in case of death of the borrower/main earning member.

2.5.2 Geographic Focus and Coverage

The project currently operates in 10 districts covering the northern and southern parts of Bangladesh. The Northern districts include Dinajpur, Pabna, Nilphamari, Rangpur, and Sirajganj. The districts in the south are Chattogram, Noakhali, Satkhira, Bhola, and Kushtia. Within these districts, the project strategically reaches out to farmers and provides FLRM and extension services. Fifteen (15) POs are providing insurance, livestock extension, and other risk reduction services in their 325 branches in the Surokkha project (Table 4).

Figure 2: Geographic Focus of Surokkha Project

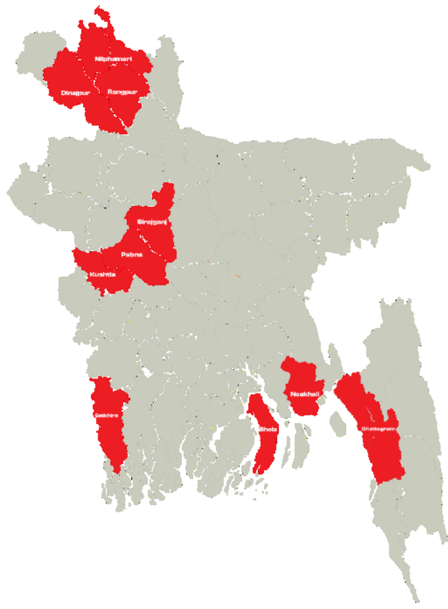


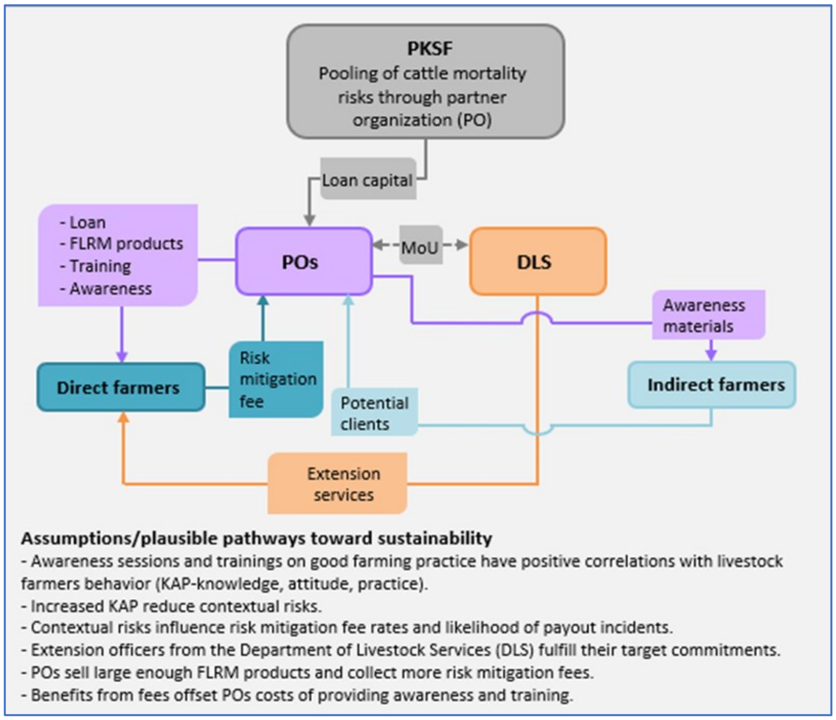
Table 4: Implementing POs List

Serial	Name	Number of Branches
1.	Thengamara Mahila Sabuj Sangha (TMSS)	33
2.	Center for Community Development Assistance (CCDA)	8
3.	Eco Social Development Organization (ESDO)	50
4.	WAVE Foundation	52
5.	Society Development Committee (SDC)	22
6.	Dwip Unnayan Sangstha (DUS)	12
7.	Nowabenki Gonomukhi Foundation (NGF)	10
8.	Unnayan Prochesta	10
9.	JAKAS Foundation	10
10.	Shataphool Bangladesh	24
11.	DABI Moulik Unnayan Sanstha	26
12.	National Development Program (NDP)	29
13.	DESHA Shechsashebi Artho-Samajik Unnayan O Manobik Kallyan Sangstha	10
14.	Community Development Center (CODEC)	14
15.	Grameen Jano Unnayan Sangstha (GJUS)	15
Total	**-**	**325**

2.5.4 Department of Livestock Services (DLS)

In Surokkha project, DLS is expected to engage as an important stakeholder. DLS officials such as ULO or District Livestock Officer (DLO) is expected to engage in the Surokkha project as trainers. DLS is also expected to provide the extension services in the specific Surokkha project model. However, it is not clear from the project documents whether DLS is expected to bear the costs of the training or how DLS would engage resources. Also, it is not clear how the POs would engage in a partnership model with the DLS (whether the partnership will be at district level and whether PKSF will facilitate the partnership) and what will be the roles of the POs and the ULO in the partnership.

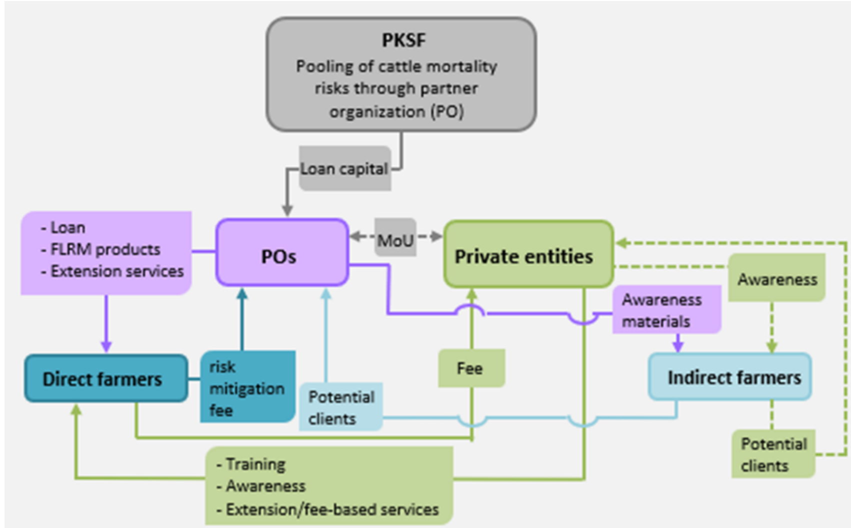
Figure 3: Engagement of DLS in Model 2 (Source: ProDoc)



2.5.5 Private Companies

Private companies in context of BMMDP include input companies that are engaged in cattle feed processing or pharmaceutical companies and output companies like meat processing companies. Private input and output companies are to provide training sessions to the livestock farmers. They are expected to promote a standardized practice among the farmers through Good Agricultural Practices (GAP). It is expected that Livestock Surokkha will incentivize the private companies by providing them opportunity to promote their products and expand their market by targeting the insurers under Livestock Surokkha. The model envisions hat the field extension services will be offered by the Partner Organizations (POs) or private livestock healthcare service providers such as, private veterinarians, community livestock service providers, other local entities (such as pharmaceuticals companies) having interests to expand market amongst livestock farmers. Incentives for these private companies would be that in exchange for extension services they would get privileged access to 21obilized pool of livestock farmers and thereby receive payments for their services. As such the assumption is that it may not be necessary to recruit a full time Doctor of Veterinary Medicine (DVM) by POs. We reviewed these assumptions further based on field findings.

Figure 4: Engagement of private sector in Model 3

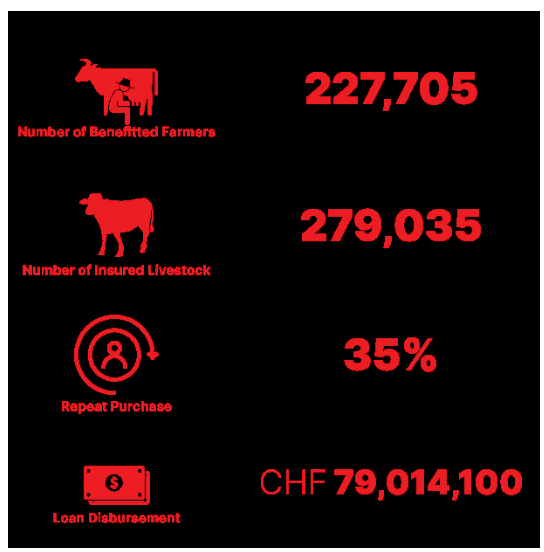


Assumptions/plausible pathways toward sustainability
- Private input/output companies either jointly work with POs or work alone.
- Awareness sessions and trainings on good farming practice have positive correlations with livestock farmers behavior (KAP-knowledge, attitude, practice).
- Increased KAP reduce contextual risks.
- Contextual risks influence risk mitigation fee rates and likelihood of payout incidents.
- Private livestock healthcare service providers may work for input/output companies or practice alone.
- POs sell large enough FLRM products and collect more risk mitigation fee.
- Benefits (increased sales) associated with awareness and training sessions offset costs of promotion/marketing.
- Fees collected are large enough to cover costs of awareness, training, extension services.

2.5.6 Reported Achievements of Result till Date

As per the annual operational report (2021),

- the project has benefitted about 227,705 farmers with livestock risk mitigation products and services; the number of insured livestock is 279,035.[10]
- The project has provided training to 317 staff members of the 15 POs related to livestock insurance products and their different attributes.
- The project reports a high customer retention rate, with 35% of total farmers purchasing the FLRM services at least twice.
- Since the project's inception, CHF 79,014,100 has been provided as micro credit to the livestock farmers as micro-credit under Crop Surokkha project.



[10] Swisscontact. (2021). *Bangladesh Microinsurance Market Development Program (BMMDP) Annual Operational Report (2021).*

Chapter 3: Review of Effectiveness of the three Models

Livestock Surokkha envisions introducing the FLRM services so that the farmers can increase the risk-taking capacity and fight economic shocks in cattle mortality and morbidity. The models' effectiveness is measured by the degree to which they are being implemented in the field and the benefits they are adding to the farmers. In our field study we found some differences in the implemented model if we compare it with the paln. These differences along with relevant field observations are explained in subsequent sections.

3.1 Planned Delivery Mechanism of the Three Models

PO led Model (Model 1): As explained in the earlier section, In the PO-led model, FLRM products, awareness and trainings, and livestock extension services are provided by the POs. Livestock farmers purchase the livestock loans bundled with FLRM services. POs arrange awareness meetings (30 farmers each) and provide training. Participants receive BDT 400 as a participation fee. POs also bear BDT 250 per participant as an ancillary cost. POs have hired Doctor of Veterinary Medicine (DVM) and livestock extension workers to provide the extension services.

PO-Public Sector Partnership Model (Model 2): In the PO and Public-led model, the FLRM products are sold by the POs as in model 1, but the DLS provide the extension services. POs and DLS are expected to enter a possible contract to provide the services together.

PO-Private Sector Partnership Model (Model 3): In the PO and Private-led model, the FLRM products are provided by the POs, and the awareness and training sessions are expected to be provided by the private input companies and output companies. In this model, private extension service providers or POs are expected to provide the extension services. The private extension service providers consist of private veterinarians, community livestock providers, and other local entities. POs and private companies are expected to enter into possible contracts for offering the extension services.

Table 5: Envisioned Model Structures

	FLRM Products	Awareness and Training	Extension Services	Vaccination and Deworming	Cost of Training (Venue, Refreshment, Logistics)	Honorarium of Trainers	Honorarium of Participants
Model 1	PO	PO	PO	PO	PO	PO	PO
Model 2	PO	PO	DLS	PO	DLS	Borne in kind by DLS	PO
Model 3	PO	Private input and output companies	PO/Private livestock healthcare services provider	PO	Private input and output companies	Borne in kind by private input and output companies	PO

3.2 Implemented Delivery Mechanism of the Three Models

The implemented models differ from the envisioned model structures. In model 1, the POs lead the trainings but also invite officials from the local Department of Livestock Services (DLS). The rest of the activities are undertaken as envisioned. In model 2, the DLS is expected to take lead. However, here too the POs take the lead in organizing and delivering the training while DLS participate as an invited co-trainer. POs alson cover the training cost (venue, refreshment, logistics) and other ancillary costs like in model 1. In some areas, DLS embeds Surokkha project's beneficiaries with other DLS projects such as the Livestock and Dairy Development Project (LDDP) (World Bank IDA Credit USD 500 million targeting 2 million small holder farmers) and National Agricultural Technology Program Phase 2 (NATP 2) (World Bank IDA credit USD 176 million, total project cost USD 214 million).

In model 3, the POs invite private sector companies to take a session during the training where the private sector also gets the opportunity to promote their own product. The POs so far have not engaged any private sector output companies in providing the training. Our field study shows that the vaccination and deworming services arer undertaken by the POs and they generally discourage farmers from going to the paravets even though it is anticipated that the model will promote local private veterinary service providers. Representatives from the private input companies who have participated in the trainings have reported that they do not have instruction from their head office and therefore also do not have any budget allocated to undertake these trainings. As such, they cannot share training costs with the POs even though they see the benefit. In some cases, they allocate some fund from their local budget for market promotion.

Table 6: Implemented Model Structures

	FLRM Products	Awareness and Training	Extension Services	Vaccination and Deworming	Cost of Training (Venue, Refreshment, Logistics)	Honorarium of Trainers	Honorarium of Participants
Model 1	PO	PO + DLS (As guest)	PO	PO	PO	PO	PO
Model 2	PO	PO + DLS (As guest)	PO	PO	Gnerally the POs, in some cases ULO embedded it with DLS projects like LDDP, NATP 2	Borne in kind by DLS	PO
Model 3	PO	PO + Private input companies	PO	PO	Generally the POs with some exceptions where local sales office of 24wareness24ical companies bore the cost.	Borne in kind by private input companies	PO

3.4 Results Achieved

Based on the findings from the interviews with the beneficiary households and the staffs and stakeholders of the POs, we can define the following achievements of Livestock Surokkha project. These results are not specific to any one of the three models; these are common achievements of all the three models:

Better Vaccination Coverage and Deworming: Generally, vaccination coverage has improved. The findings show that farmers who are under the coverage of Livestock Surokkha, are more likely to vaccinate their cattle if compared to those who are not part of livestock Surokkha. However, coverage is not hundred percent as some farmers opt out voluntarily. *It would be relevant and important for BMMDP to analyse what percentage of the borrowers under Livestock Surokkha project are vaccinating their cow.* The primary reason that the farmers have cited for not vaccinating their cow is the risk in handling the cow while transporting it to the vaccination camp. According to the POs, it is not feasible to undertake vaccination at the doorstep and they need a large number of farmers to come to the camp within a given time and date. Some of the farmers engaged in bull fattening also reported that they do not vaccinate their cow as they rear it for a small period of time (4-6 months) and they do not see any risk within this window. This shows that despite training there is still some behavioural challenges that restrict optimum use of the vaccination service under Livestock Surokkha. The MTR found almost all farmers to be availing deworming services from the project.

"Before receiving the training, I have never vaccinated my cows, but now I know the importance of vaccination in livestock farming. I always get the cows vaccinated by the DVM officials."

BMMDP is contributing to improving animal husbandry practices of the borrowers who are under the livestock Surokkha coverage. The sheds are generally clean, the floor is constructed with brick and the farmers are using feeding bowel to feed the cattle.

Dairy and Bull Fattening: Farmers have reported of being able to select better breed as a result of their participation in the training. Also, the PO staffs are providing support in this regard. faster and higher weight gain for the fattened cow and improved dairy milk yield. Again, it was not possible for the MTR to exactly assess the number of farmers who might have benefitted from better breed selection as there is no such record or M&E data.

Improved Shed Management: All the farmers who were interviewed have reported of better shed construction and management. The floor is constructed with brick and cement and they are using a feeding bowl to feed the cows.

Improved Feeding Techniques: Farmers now feed granular feed for the beef fattening project and high-producing dairy cows, whereas in the past, they used locally available cattle feed resources. They are moving away from the indigenous methods and introducing Napier Grass, Urea Molasses Block (UMB) for protein supplements, brans, cattle feed pellets, etc. These improved feeding techniques have resulted in faster weight gain and increased milk production. Our investigation suggests that before the trainings farmers had a misconception that cattle feed pellets lead to stroke. The training led to addressing such misconceptions on feeding and farming practices. It is noteworthy that farmers have stated that improved feeding 26wareness es have reduced cattle feeding costs.

Shorter Sales Cycle: Earlier, a farmer used to purchase cattle, rear them for the whole year, and then sell them during Eid-ul-Azha (Muslim festival); this practice included higher costs and minimal profit. This practice has changed due to the Surokka training. Now farmers rear the cattle for only 3-4 months and sell them as quickly as possible.

"Previously, I used to rear a cow for a year, but now I purchase the cattle and rear it for 3-4 months. In this method, I can gain more profit within a short time."

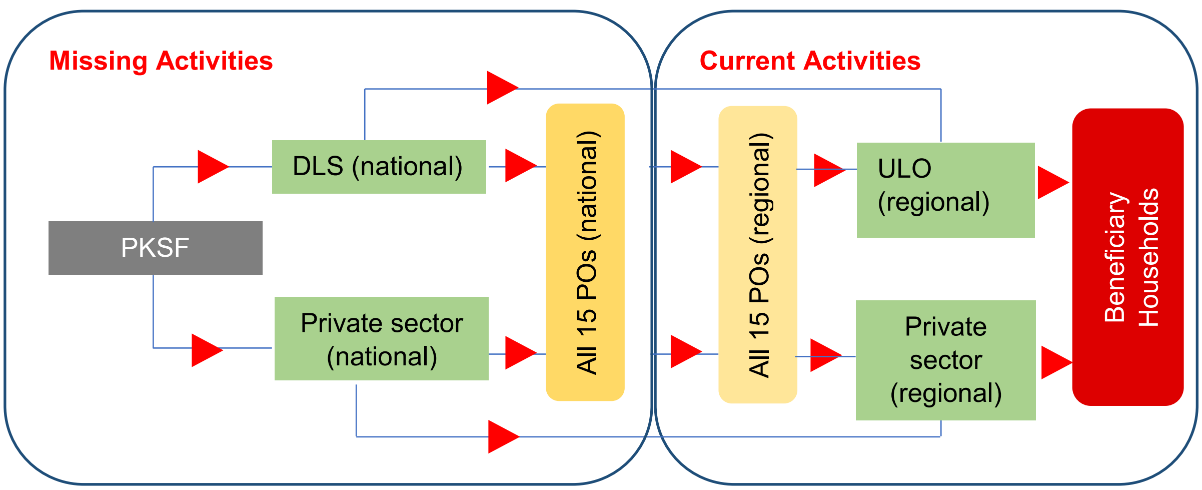
- Arfannesa (Livestock Farmer, Kushtia)

3.5 Comparative Effectiveness of the Three Models

While there are signs of improved performance of the borrowers due to the Livestock Surokkha project, there are several issues that the MTR has identified which are restricting the optimum performance.

Firstly, Model 1 is being more effectively implemented if compared to model 2 and model 3. In model 1, the POs have full control over the operations of the activities and are able to manage it given their existing resources. Performance of model 2 and model 3 are effected as the POs are dependent on willing government and private sector partners for implementation. As we have explained in earlier section, the POs are not able to strike partnerships with the DLS or the private sector input and output companies. The MTR shows that the POs do not have the experience of managing such partnerships. Also the interview with the local representatives of the private sector that POs have so far engaged with shows that the local offices of the private sector do not have the capacity or resource to have a partnership. Such partnerships need to be dealt with at the head office while the project is operating at branch level and individual branch offices are tasked to manage the partnerships at local level. This means that the performance of model 2 and model 3 has become constrained by the capacity and leadership at the grassroot level. There should have been a national coordinated effort by PKSF involving all the POs to broker partneships between the POs and the private input companies. The following illustration explains the difference between the partnership enagegement process that BMMDP should have followed vs the partnership model that BMMDP is following:

Figure 4: Partnership modality for model 2 and model 3: Missing activities vs current activities



Secondly, it is not clear from the Theory of Change of BMMDP whether all three models are expected to be adapted by PKSF simultaneously or SDC intends to identify the most effective model that can be scaled up by PKSF. The findings suggest that PKSF is more comfortable with model 1 as they are able to manage the activities on their own and are not reliant on external agents like DLS or private sector input companies. If PKSF is not required to implement all three models, they are most likely to move forward with only model 1. As such, if SDC also intends to assess whether DLS or private input companies can be alternative channels to FLRM services for livestock insurance, then this outcome is affected as PKSF is not working as a market systems facilitator but as a market systems actor which intends to be the scale and sustainability agent of the FLRM services along with livestock insurance.

Thirdly, the current operational strategy does not explain how the borrowers of the POs should be fitted to the three models. From our field findings we can observe that the POs first filled the quota for model 1 and then model 2 and then moved to model 3. These random categorization meant that (i) some borrrowers benefitted from participation in more organized training under model 1 while some participated in less coordinated and weakly managed training under model 2 and model 3 and (ii) potential efficiency gains from the three models could not be achieved. The interviews in the field shows that commercial farmers with more than 3 cows had better engagegement and interaction with the private sector when they participated in model 3 while relatively poorer farmers benefitted from participating in model 1 as it allowed more intensive engagement with the technical officers like Doctor of Veterinary Medicines (DVMs). These results provide some important insights to assess the relevance of the three models. In a PKSF led model, it can prove to be more impactful if model 1 is targeted towards small scale farmers with 1 or 2 cows while model 3 is dedicated for more commercial farmers. The DLS can be engaged both in model 1 and model 3 to provide extension support.

Finally, even though the ProDoc envisions that in model 3 the local private sector service providers like paravets will be engaged, generally we have observed that the engagement of paravets is limited to vaccination and deworming and in cases where medical attention is needed, the POs have discouraged the borrrowers to access services from local paravets even though we have found strong relationship between local paravets and the borrowers in all locations. Generally, it can be observed that the potential of engaging local paravets has not been fully explored.

3.6 Implications for the remaining period

The MTR findings show that the FLRM services result improved business performance for the borrowers. But we could not retrieve data from PKSF or the POs that explains the causal relationship between improved performance of the borrowers and the FLRM services provided by Livestock Surokkha. We also do not have data that can be used to establish the correlation between each of the three models and improved performance of the borrowers. Econometric analysis on these causalities could provide useful insights for the programme to move forward. Feasibility study undertaken by PKSF provides data to assess mortality and morbidity rates among the borrowers. While these data (further discussed on subsequent section) provides some foundation to report impacts, we do not have periodic impact data that can be used to report on first signs of impacts being achieved due to the FLRM services. Livestock Surokkha was expected to cover dairy, goat and sheep loans. However, the MTR mostly have found the project's scope till date has been limited to beef/ bull fattening. It would be relevant to expand the scope to cover different types of livestock loans. As explained, model 1 could be more meaningful for small scale farmers while model 3 could be more meaningful for large scale commercial farmers. Model 2 could be integrated in both model 1 and model 3 as the DLS can participate in the training and FLRM service provision through their existing projects. Engagement of local paravets has been limited thus far. In model 3, the project can explore more engagement of local paravets as the borrrowers are28wareney engaging with them.

Chapter 4: DAC Review

4.1 Relevance

The Livestock Surokkha project adapts different activities and models to achieve its goal of supporting livestock farmers to be more resilient to shocks arising from climate change or death of the livestock. In this context, the MTR asked the following questions: (i) Is the project scope relevant to the need of the livestock farmers in Bangladesh? (ii) Are the project interventions relevant to its scope? (iii) Are the activities relevant to the stakeholders and their roles and capacities in the market system.

Relelvance of the scope to the need of the farmers: Livestock Surokkha aims to strengthen livestock micro-insurance so that the livestock farmers can be more resilient to shocks. The shock can arise from death of the cattle due to disease or natural calamities like flood or cyclone, The shock can also arise from the death of the borrower or primary earning member of the household. PKSF conducted a feasibility study for SDC on livestock mortality and morbidity. It shows that in 2016, mortality of cattle and buffalo was 1.69%. According to key informants, mortality rate of cattle in Bangladesh has come down in recent years due to widespread access to veterinary services through paravets, improved husbandry practices as a result of increased market coverage of the private sector. During the field interviews, local paravets, ULOs, representative of private sector reported that the farmers also tend to sell their cow if it is found to be terminally ill so that they can still recover some cost. However, we do not have data to explain the magnitude of this practice. Even if this practice is widespread, then this should mean that insurance is relevant as the farmers will not have to resort to distress sell if the cow is found to be terminally ill.

The 8 POs that we interviewed brought under coverage 79,851 borrowers under Livestock Surokkha project. Some of the borrowers have taken several loans since enlistment with the project. These 8 POs reported death of only 210 cattle (Table 6). For simplicity, if we assume one cattle with one loan, the mortality rate stands at 0.263%. If we compare this with the mortality rate reported under feasibility study (1.69%) then it would mean that the livestock mortality rate has come down further between 2016-2022. To attribute the change as an impact to Livestock Surokkha we need results from a control group or result from other comparable groups. I-farrmer, a start-up working on agricucltural and livestock peer to peer lending reported to this MTR that they have mortality rate of 1% among their borrowers. Green Delta Insurance which is providing insurance service to the SMEs borrowing from BRAC Bank to purchase livestock reported they are observing about 3% mortality. According to experts mortality rate is lower for cross breed and higher for foreign breed. Cattles under I-farmer are mostly cross breed while that under Green Delta are mostly foreign. The PKSF borrowers are also mostly rearing cross breed cattle. Green Delta reported that the interest for insurance is more prominent for foreign breed cattle as these are more susceptible to the local climatic conditions. Green Delta Insurance reported that the SME loan is collateral free but the SMEs 29wareneed to insure for fire or such hazards. As these are not applicable for the borrowers using the credit to set-up a cattle farm, cattle insurance is being used as a proxy. According to Green Delta the demand for such insurance is on the rise and between June-July 2022 they insured around 200+ cattle.

The data from I-farmer and Green Delta also shows that there are emerging and alternative use cases for cattle insurance in Bangladesh but their reach has so far remained limited if compared to the outreach that PKSF has been able to deliver within a short period as they leveraged their micro-credit for cattle insurance.

Generally, it can be observed that even though building farmer's resilience against livestock death might be one incentive for livestock micro-insurance it might not be the only or the most important incentive. I-Farmer reported that disease is a major risk and they have worked with Swisscontact under BMMDP to influence Shadharon Bima Corporation (SBC) to provide insurance for disease occurance. This scheme is expected to be launched soon.

Table 7: Reported Cattle Deaths (by 8 POs)

PO Name	Number of Reported Cattle Death
National Development Program	90
JAKAS Foundation	40
Dwip Unnayan Sangstha (DUS)	1
Thengamara Mahila Sabuj Sangha (TMSS)	3
Unnayan Prochesta	63
Grameen Jano Unnayan Sangstha (GUJS)	0
Eco Social Development Organization (ESDO)	2
DESHA Shechsashebi Artho-Samajik Unnayan O Manobik Kallyan Sangstha	11
Total	**210**

"I have been rearing cows for more than 25 years. I have never vaccinated my cows before the Surokkha project. However, none of my cows died during the past years. My cows are always healthy."

- Sona Banu (Livestock Farmer, Kushtia)

"The livestock mortality rate in my area is very low. Since my joining, I have not found any cattle death report. The reason is that all zoonotic diseases such as anthrax, Foot-and-mouth Disease (FMD) are treatable nowadays. Therefore, even if any cow catches any diseases, it does not die."

- Dr. Md. Siddiqur Rahman (DLO, Kushtia)

Relevance of the activities and interventions to the scope of the project: Of the 1.00% risk shield premium that the POs levy on credit, 0.30% is taken as life insurance for the borrower or the primary earning member of the household. All the 8 POs that we interviewed reported cases of death of the borrower or the primary earning member; however 6 of the 8 POs were able to provide the data. According to their report, there were 152 cases of death of the 30warenes. This means the reported number of death of the borrower or the primary earning member is 0.19% of the total number of borrowers. If we compare the mortality rate of cattle (0.26%) and the percentage of death of borrowers (0.19%) within BMMDP, it can be shown that 0.30% risk shield on humans is exhausted more than the 0.70% risk shield on the livestock. Key informants reported that the 0.70% risk shield needs to be reviewed. However, as per SDC this is not within the scope of BMMDP to review the risk shield premium.

It should be noted that some of the POs argued in favor of the 0.70% risk shield premium for livestock citing historical aacounts of natural disasters. As per DLS, in 2007, Cyclone Sidr hit 17 districts in Bangladesh and killed 107,923 cattle.11 The damage was devasting for individual farmers, and many of those farmers could not face such economic shocks. The operational area under livestock Surokkha

[11] Star Business Report. (2008, January 7). Cyclone Sidr causes Tk130cr livestock loss. *The Daily Star.* Retrieved from https://www.thedailystar.net/news-detail-18176

project did not come under such threats. Mitigating climate risks could be a strong use case for livestock micro-insurance. It is stipulated in the pro-doc that PKSF will create a co-variant fund to cover the initial risk with a threshold which is to be developed at the beginning of the implementation phase and part of the implementation agreement. The co-variant fund is identified as one of the key-building blocks for an effective livestock insurance 31wareness for the MFI clients as per the pro-doc.

Relevance and coherence of the activities to the capacity of the partners: Model 1 is relevant to the current capacity and activities of the POs as it builds on the PO's existing training and service provision capacity for the MFI borrowers. The POs have direct financial contribution on building further capacities to manage model 1 while also supporting the activities under model 2 and model 3. POs have been able to successfully reach their coverage target under model 1 for all the programme areas.

In model 2, it is envisioned that instead of the POs, the DLS would lead the training for the livestock insurers. The findings show that DLS is not able to undertake such training on their own even though they can participate in training activities as trainers for a remuneration. In case of BMMDP the POs were able to influence DLS to organize training as part of their existing programmes like LDDP or NATP 2 as we explained earlier. But the POs were not able to influence the DLS to lead the training. As such, the coverage against the target remained low.

Also, it has been observed that DLS with its existing resources cannot always providing extension services to farmers in remote areas or areas that are far from the DLS office. The farmers thus rely on local paravets for extension services.

Model 3 is relevant to the need of the private sector input companies to expand their market through training and promotional activities. In this context, we asked the professional service officers and other pharmaceutical company officials how they benefited from the Surokkha project. All of them said they saw an increase in sales after the Surokkha project. Surokkha trainings have enabled the pharmaceutical companies to engage the local farmers directly. Officials from pharmaceutical companies are invited to the awareness training session, where they train the farmers alongside other stakeholders. They use the training camps as their branding marketing strategy. Professional service officers introduce different cattle drugs and medicines in the trainings. Other than the branding/promotion, pharmaceutical companies also visit the farmers in their household. Some arrange monthly trainings for the local paravets who provide extension services to the farmers. Model 3 activities thus sit well as embedded service from the private sector for livestock insurers.

> ***"My sales have increased because of the Surokkha project. Last year, I could sell 1,268 metric tons of cattle pellets, this year, the sales have increased to 5,288 metric tons. Surokkha trainings are encouraging farmers to provide cattle pellets to the cows."***
>
> **- Dr. Abdul Momin (ACI Godrej Agrovet Private Limited, Kushtia)**

Coherence with private sector led livestock insurance and other emerging developments: The MTR undertook interviews with private sector insurance companies, insurance technology service providers and fintech companies that are working on livestock. Green Delta Insurance which is one of the leading insurance companies in Bangladesh is providing livestock insurance to borrowers of SME loan from BRAC Bank. The insurer here is BRAC Bank and in case of death of the livestock, Green Delta settles the outstanding loan payment to BRAC Bank. According to Green Delta the demand has been rising post COVID 19. The average credit amount under this scheme (TK 300,000 per cattle) is much higher if compared to that under PKSF (TK 50000 per cattle). Green Delta also reported that they are providing insurance for small holders including goat rearers. However, their premium increases significantly (fixed at TK 2200 for small loan below TK 50000 while it is around TK 1600-1700 for loan size above TK 100,000). Green Delta reported that cattle identification is a major challenge and to address this issue they are offering tagging service. InsureTech, a technology start-up is also offering such identification services. Their unique products includes Printomatry which costs only 70% of the traditional tagging methods (TK 450 as reported by Green Delta). Also, Printomatry does not require engagement of experts. A farmer with a smartphone can also use the technology. InsureTech is also offering a technology that allows to track an insurance claim and it makes documentation easier. According to InsureTech, there is a market prospect of TK 700 crores for livestock insurance which can be accessed if the challenges related to identification, claims settlement etc. can be addressed through technology. The use of technology is not reported under the Livestock Surokkha project. PKSF did not identify the issue of cattle identification as a challenge. It is probable that the grassroot level capacity of the POs allows them to have more control on the issues related to cattle identification. As reported earlier, I-farmer is on the process of launching disease insurance. Even though PKSF reported morbidity to be a bigger challenge than mortality, they did not report the need for insuring against diseases.

4.2 Effectiveness

The core of this mid-term evaluation is to assess the effectiveness of the three models which is done separately as a full chapter (Chapter 3). As such, the scope of this section is limited to other operational issues that are not covered in the previous chapter.

Coverage

In the Surokkha project, POs could quickly scale up the project. Though the project started in 2020 and the operations were affected due to Covid-19 pandemic, all POs have achieved their target for beneficiary coverage by mid 2022 (Table 7). As explained in the previous section, the POs were able to quickly roll out the insurance scheme as they built on their existing micro-finance 32ortfolio. Also, as the POs have training facilities and have previous experience in managing livestock extension services they could effectively and efficiently roll out the planned activities under model 1. However, this was not the case for model 2 and model 3 as has been explained earlier.

Table 8: Insurance Coverage Provided by 8 POs

PO Name	No of the Farmers Received Insurance Coverage
National Development Program (NDP)	12,350
JAKAS Foundation	6,702
Dwip Unnayan Sangstha	3,700
Thengamara Mahila Sabuj Sangha (TMSS)	15,000
Unnnayan Prochesta	3,000
Grameen Jano Unnayan Sangstha (GUJS)	11,000
Eco Social Development Organisation (ESDO)	26,370
DESHA Shechsashebi Artho-Samajik Unnayan O Manobik Kallyan Sangstha	1,729
Total	**79,851**

Resilience and Empowerment of the Farmers

One of the key mandate of Livestock Surokkha is to make the livestock farmers more resilient. The FLRM services have been largely effective in this context. The training program includes three sessions. The DLO/ULO takes two sessions, and the DVM takes one. Upon arrival, beneficiaries register their names on the entry book. The program attendees receive books, brochures, and safety masks from the PO. PO provides BDT 200 for travel fee and BDT 200 for lunch, a total of BDT 400 per beneficiary. This money is an incentive for the farmers to join the training program. As explained earlier, the field findings show that the training programs have improved the livestock farmers' yield, productivity, and return. Farmers have moved away from the indigenous cattle feeding methods and now provide pellets to the cows. The trainings addressed several misbeliefs of the farmers, such as commercial feeding may cause the cattle to have stroke. The borrowers are building improved sheds for the cattle, which has significantly improved the cattle's health. All of these have increased the beef fattening and dairy yield. Therefore, farmers' productivity has increased, and they are earn more profit from beef fattening and dairy. This along with the fact that the mortality rate within Surokkha is low (explained earlier) indicates at resilience of the borrowers under livestock Surokkha. Futhermore, as the primary wareness of the training are women, the trainings also have impact on the empowerment of women.

"When I started giving cattle feeds/pellets to the cows and maintaining good animal husbandry practices, their milk production rate increased. Now my cows are giving 3 liters of milk each day; the milk production has increased by 1.50 liters. I can sell more milk and earn more."

- Bulbuli Begum (Livestock Farmer from Nilphamari)

"My husband helps me in cattle rearing when he is not working in the field. He did not receive formal training, but I have told him the good animal husbandry practices, cattle feeding, and other information that I learrnt from Surokkha training."

- Sokhina Begum (Livestock Farmer, Nilphamari)

Supporting PKSF to shift from Project led Approach towards and Institutionalized Structure

The key mandate of BMMDP livestock Surokkha is to support PKSF to shift from project led approach to institutional approach. As per the pro-doc, SDC also envisions to build capacity of ‘PKSF and its POs in scaling up the beef fattening mortality insurance operations and diversifying into dairy cows, goats and (or) poultry.’ In this regard some important milestones are identified as indicators for institutional capacity. This includes establishment of a dedicated risk management unit. PKSF has already set-up a risk mitigation unit and it has been approved by the PKSF board.

Several indicators are identified in relation to the capacity of the POs and there has been good progress in this regard. The POs have recruited Doctor of Veterinary Medicines (DVMs) as planned and they are rolling out the FLRM services. The vaccination and de-worming services are reaching out to non-direct farmers (non-loan recipients/ farmers who are not under livestock Surokkha coverage). Even though it is envisioned that Livestock Surokkha would go beyond beef fattening to dairy, goat and poultry rearing in practice only a few branches are currently covering dairy farmers under livestock Surokkha. PKSF reported that they dropped poultry as they found it to be highly sensitive and volatile to market and disease shocks.

As per the Pro-Doc, the three models were promoted to *‘test models that would make provision for commercially viable and sustainable livestock extension services.’* The Pro-Doc also states- *‘At this stage of planning, it is not possible to foresee the optimal model due to differing interests and capabilities of POs, poverty profile of target group, types of livestock to be insured, and local variations in the availability of animal healthcare services (both public and private). It is, therefore, necessary to identify and test models to determine which mix of models has the highest potential and to further evolve the successful one(s).’* As the Pro-Doc states about defining mix of models that has the highest potential to evolve and be successful, at the mid-term it is important to assess which model has the potential to evolve. The findings show that PKSF and the POs are keen to move forward with model 1. PKSF stated that ‘the market forces do not have the capacity to undertake the activities under model 2 and model 3 as planned. According to PKSF DLS does not have resources that they can allocate for the training services and a DLS led model is not sustainable. The MTR understands that PKSF had discussion with DLS about an MoU but it was not signed as PKSF did not agree to the terms of DLS. PKSF however did not provide any document that explains the terms that PKSF did not agree with.

In the interview, PKSF also stated that the quality of training services of DLS is poor and the bureaucratic channels do not function. PKSF mentioned that there is some coherence to model 2 if the LDDP and NATP-2 projets are considered. However, any training services provided under these two projects would be project led and would not lead to the sustainable capacity development as envisioned by SDC. With regards to private sector, PKSF reported that the private sector has profit seeking motif and do not want to deal with farmers but with the input retailers. Also, according to private sector does not have trained livestock experts that can serve the upazila level. PKSF pointed out that the POs are sharing most of the salary of the DVMs and the extension workers who are managing not only model 1 but are also supporting activities under model 2 and model 3. According to PKSF, the DVMs are being paid TK 45000 per month as salary of which TK 27000 is borne by the POs. The extension workers are paid TK 25, 000 per month of which TK 15000 is borne by PKSF. The interview with PKSF and their explanations clearly show that they do not see relevance of model 2 and model 3 and would prefer to continue with model 1 for which they have already built some institutional capacity. In the field assessment, the MTR has found that the engagement of DLS is ad-hoc and non-strategic. DLOs or ULOs do not heavily engage in the training sessions and provide only 2 hours of training in the programs. DLO or ULO share their contact details in the sessions, but our interviews show that many of the borrowers do not have their contact details and do not seek help from DLS. A moderate informal partnership has been found in places where POs have a good relationship with DLS; officials of such DLS offices are more interested in participating in the activities.

6.2 Efficiency

Beneficiary Selection and Placement under the Three Models

As was explained in earlier chapter, the POs do not have any criteria for selection and placement of the beneficiaries in the three models. They allocated the beneficiaries on first come first served basis. Once the quota for model 1 was fulfilled, the new batch of borrowers were placed under model 2 and once the quota for model 2 was filled, the new batches were placed under model 3. Our findings show that it would have been more efficient if the three models were targeted towards three different types of farmers. Model 1 is more resource intensive and is better suited for small holders who need more rigorous training while model 2 and model 3 can be light touch and targeted for commercial farmers. This will allow the project to ensure better allocation of resources and better value for money with more impact.

Coverage per Branch

The livestock Surokkha Project is implemented in 325 branches of the 15 POs. In a branch that is participating in the project there are micro-credit borrowers who are under the Surokkha project (direct participants) while there are also borrowers that are not part of the project (non-direct participants). Those that are not part of the project do not receive training and their cow is also not insured. These borrowers however have to provide the risk shield premium of 1% as it is levied as default. This has created a dual system in the same branch which has created confusion among the staffs of the POs as well as the borrowers. Most importantly, it has made the Livestock Surokkha activities ‘project driven’ while the project itself was designed to address the issue of project PKSF being constrained by project driven approach. A more efficient approach would have been to bring all borrowers of a branch under Livestock Surokkha. PKSF reported that they are planning to bring all the branches under Surokkha under full coverage. In other word, all the borrowers of these branches will be brought under livestock Surokkha coverage. However, no timeline was provided in this regard.

Service provision tailored to the borrower needs

The FLRM services could be more efficient and cost effective if these were tailored to the borrower’s needs rather than being generic. Some of the borrowers take two- three credits every year. These borrowers do not need to go through the same day-long extensive training again. As such, the training loses its relevance after the first iteration for a borrower. There should be a gradual process for shifting a borrower from being training and FLRM service recipient to recipient of only FLRM services to being a model farmer who could support other farmers.

Leveraging Local Market and Local Private Sector Capacities

The project poorly engages LSPs. There is a large number of LSPs who are working in government projects such as LDDP and NATP 2. Each year, many LSPs are trained by the Department for Youth Development (DYD). Surokkha should effectively hire the LSPs and include them in the Surokkha model. LSPs advise the livestock farmers on various cattle diseases and provide vaccinations and deworming services. In a study, it is found that LSPs advocate the services from DLS to the dairy producers. One of their key roles is to provide support for dairy management and treatment. LSPs provide assistance to access market information at the dairy group. They often broker relationships between private sectors (pharmaceutical companies and cattle feed dealers) to ensure quality services. LSPs are most vital in places lacking primary treatment services and DLS support.[12]

> ***"I have worked in the LDDP project for the last three years but have not once been employed by Surokkha. Recently, the number of cattle has been increasing significantly; I think by working with Surokkha, I can provide a better service to the farmers."***
>
> **- Soumnath Kumar (LSP, Kushtia)**

Another study shows that local health services providers substantially impact livestock morbidity and mortality rates by treating or preventing limited-range health problems. LSPs curate services such as internal and external parasites, respiratory diseases, FMD, and mastitis. They vaccinate animals and ensure good livestock management practices.[13] These evidences show that Surokkha can reduce cost of its services by selectively promoting and engaging the local paravets. The interview with the farmers show that they are already well informed about local paravets and consult them regularly on issues related to disease of a cattle. Instead of replacing this with more expensive model managed by the POs the local paravets could be engaged on contract and with targets to achieve the same result.

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[12] Mojumdar, A. K., Rahman, M. A., Goswami, P., & Huda, S. (2021). Participation of local service providers in systemic market approaches in the dairy sector of Rangpur district. Research in Agriculture Livestock and Fisheries, 8(2), 211–221. https://doi.org/10.3329/ralf.v8i2.55491

[13] Catley, A., Leyland, T., Mariner, J. C., Akabwai, D. M. O., Admassu, B., Asfaw, W., ... & Hassan, H. S. (2004). Para-veterinary professionals and the development of quality, self-sustaining community-based services. Revue Scientifique et Technique-Office international des épizooties, 23(1), 225-252.

4.4 Sustainability

4.4.1 AAER Review

The prospect for the sustainability of the Surokkha project without the SDC funding is measured by the POs investment, demand for livestock insurance among the farmers, and whether PKSF and market actors are adapting the activities promoted by the Livestock Surokkha Project. The MTR considered PKSF and the POs as the scale and sustainability agent. Sustainability here refers to the ability of the core agency (PKSF and POs) to continue to adapt and adopt to changing situations, and evolving opportunities to respond to the need of the borrrowers while building on the foundation of the three models that are being piloted under BMMDP. Sustainabiliity and scale is also measured based on other market actors expanding their service provision and the system responding to the opportunities that BMMDP has brought to light. In this context, a review of the systemic change framework – AAER (Adapt, adopt, expand, respond) was done.

Adopt: This refers to internalization of the project supported activities. PKSF has already set-up a risk mitigation unit as envisioned under the Pro-Doc and this unit has been approved by the board of PKSF. The participating POs have hired DVMs, extension works and built their internal capacity to undertake FLRM services. These POs are also engaging DLS and private sector in training service provision for the borrrowers. The analysis shows that PKSF and participating POs have adopted several of the features (piloting split of 1% risk fund to 0.7% for livestock shield and 0.3% for human shield, working with private sector and DLS, providing FLRM services through model 1, 2 and 3).

Adapt: The POs are likely to engage DLS and private sector in a loose agreement but not under a permanent agreement or strategic collaboration.POs have made certain adaptations to the model (scope of partnership with DLS and private sector varies between the POs) and are on the process of making some adaptations to the model (like covering all borrowers in one branch under livestock Surokkha, regularizing the employment of DVMs).

Expand: Currently PKSF is considering to expand the coverage within the existing 15 POs. However, they are also considering to cover all the branches under these POs which would ensure expansion from the original scope. Coverage of dairy, goat and sheep has not flourished and poultry has been dropped. Private sector output companies are not engaged even though it is anticipated under the Pro-Doc.

Respond: DLS or the private sector so far did not adapt any policy or activity in response to Livestock Surokkha activities implemented by the POs. Generally, there has not been any sign that shows that the actors from interconnected market systems like animal feed, medicine, vaccine, meat processing companies, and insuretechs are responding to the opportunity that Livestock Surokkha offers to work with large number of livestock borrowers. There are alternative channels for livestock insurance that have started to emerge in parallel. It is likely that these channels will grow outside the jurisdiction of micro-credit led livestock insurance which also have more demand for insuretech services on issues related to cattle identification or documentation and claim settlement as these agencies do not have localized capacities like PKSF and its POs.

Figure 5: AAER Review

Adapt	Respond
The POs have adapted model 2 and model 3 based on their own capacities and resources. They have lose and opportunistic engagement with private sector and DLS. If the project support is withdrawn, they are unlikely to continue model 2 and model 3. However, if they are given the choice of adapting model 2 and model 3 to model 1 they might see an incentive. But this has not been explored as there appears to be a bias towards model 2 and model 3 being morer systemic than model 1.	Private sector engagement remained local. The head office has not been sensitivized to engage more strategically. It is the same for DLS. Generally, there has not been any sign that shows that the actors from interconnected market systems like animal feed, medicine, vaccine, meat processing companies, and insuretechs are responding to the opportunity that Livestock Surokkha offers to work with large number of livestock borrowers.
Adopt	**Expand**
Risk shield premium has been split to 0.30% for human and 0.70% for livestock The participating POs have built training and FLRM service provision capacity; PKSF has set-up a risk mitigation unit POs are are likely to engage DLS and private sector on ad-hoc basis but not under strategic and structured collaboration. Beneficiaries are getting results; but the training model is relevant only for new entrants to micro-credit; repeat borrrowers should be moved to FLRM only service	PKSF is considering to expand the coverage in each of the 325 participating branch to ensure that all livestock credit borrowers in the branch are covered under Livestock Surokkha. However, this has not been operationalized yet. PKSF is also considering to bring under coverage all the branded under the participating POs. The POs did not expand the livestock Surokkha to new branch and new regions. The scope is seen as limited to the project as there has not been strategic discussion between PKSF and POs that allows the POs to strategize their investment for expansion

4.4.2 Early Signs of Systemic Change

There is demand for the FLRM service and farmers are interested with the bundled insurance product: We have found evidence that the demand for livestock insurance increased after the Surokkha project's initiation. The 8 POs we interviewed confirmed that they are seeing an increased demand for livestock insurance in the project implemented areas. GJUS officials say the demand for livestock i'surance has risen by around 25%, and it has been ascribed to the Surokkha project. Surokkha's livestock insurance ensures that a beneficiary will be waived from the entire/outstanding loan amount if the cattle die. A beneficiary also receives 38warenesss training sessions on good animal husbandry practices and cattle feeding; non-Surokkha farmers do not get such sessions. Considering the facts, farmers who used to take general loans to rear cattle are now more interested in purchasing livestock credit that comes with the Surokkha package. This goes along the sustainability strategy that was envisioned in the Pro-Doc. The Pro-Doc states that with the reduction of cattle mortality through use of livestock insurance, the farmer's ability to take risk will increase and the MFIs will be able to expand their clientele and experience greater credit growth. The current evidence suggests that this is largely being achieved.

Investment from the POs in sustaining capacities: POs have been investing in the Surokkha project to bolster the project management capacity and are hiring DVMs as full-time permanent staff. POs hire the DVM to provide the extension services and oversee and direct day-to-day health regarding cattle issues. Alongside DVMs, there are also extension officers whom the POs hire. POs follow a cost-sharing strategy in hiring DVMs and extension officers. A branch where the Surokkha project is implemented has one DVM and four extension officers. As explained earlier, the salary of the DVMs in the Surokkha project is around BDT 45,000, and for the extension officers, it is around BDT 25,000. POs pay 60% (BDT 27,000 to DVMs and BDT 15,000 to extension officers) of the officials' salary; the rest is paid from the project. POs have opined that they will be able to provide the project officials' salaries by themselves. POs will charge nominal fees from the beneficiaries, which will be used to disburse the salaries.

Policies to expand coverage: PKSF plans to expand the livestock microinsurance project within and beyond the 325 branches, it is implementing. PKSF stated that they plan to include all the livestock farmers of the implemented branches under the Surokkha project. Right now, a single branch consists of Surokkha and Non-Surokkha livestock farmers. PKSF, therefore, is planning to change the provision and expand the beneficiaries pool. There is enough evidence that this decision will be sustainable. Treating all livestock farmers as Surokkha beneficiaries will not cost the project any extra costs as the POs have an existing workforce and personnel on the field. Hence this expansion policy will be sustainable for the project. However, further planning and provisions from PKSF have not yet started to go live with the expansion policy.

Participation of market actors: The local offices of private sector has been sensitized and they are working in local capacity with the POs. They have expressed interest to continue the collaboration but mostly in kind and not in cash investment for training and FLRM services. Livestock Surokkha might be directly contributing to increase in demand for feed concentrate but the impact has not been systematically recorded. The farmers are observing improved business performance and this means that more farmers would want to take up commercial farming which would further incentivize private sector to engage with the POs.

Chapter 5: Scenario Analysis for Potential Phase 2

5.1 Second Phase vs No Second Phase

Based on the evaluation findings, the MTR compared the scenarios between a potential second phase vs a no second phase. There is significant sunk cost for SDC, PKSF and POs that has gone into the project till date. PKSF's engagement dates back even before the Livestock Surokkha project as has been explained in the historical context. A potential no second phase would have been justified if the MTR found no relevance of the intervention to the current context of livestock sector and livestock micro-credit in Bangladesh. There are several factors that should be considered here:

- The 1% risk shield will continue without livestock Surokkha; in a no second phase scenario, it is probable for PKSF to adapt a policy to make the 0.30% human shield and 0.70% livestock shield universal for all POs and for the whole livestock micro-credit portfolio. However, this will require the remaining part of the second phase to be directed towards making this policy change. In the event that there is no second phase, PKSF might delay this adaptation as a potential bait during the remaining period. If there is a potential second phase, SDC can use this as a bait to significantly leverage the current intervention and funding stream.
- There is no sunk cost involved in the engagement of the private sector and the DLS. In the potential no second phase scenario, the POs are unlikely to stretch their resources to engage DLS or private sector. Model 1 and model 2 will be discontinued.
- Discontinuation of model 1 would mean that farmers who once benefitted are no longer getting the benefit even though they want it. Also, farmers who have crowded in by seeing current borrowers, will be deprived of the same benefit. This would be considered as a damage to the PO's portfolio and a market distortion. They are thus more likely to continue model 1 with limited capacity; potentially they would eliminate the training which accounts for the largest portion of the cost and continue the livestock coverage, vaccination and de-worming camps.
- There is sunk cost involved for SDC. A no second phase would mean that the seed funding from phase 1 has not been leveraged for optimum results.
- The results on mortality rate shows that this has improved from the baseline reported under the feasibility study. This is likely to sustain even without a second phase given that the mortality rate has generally come down due to improved service provision through private sector and local paravets.
- PKSF stated that the value of this project can only be assessed in a scenario of a natural calamity taking a heavy toll on the livestock. Review of livestock loss from recent flooding in the Sylhet and Sunamganj district shows that the damage on livestock is severe. But we are not able to assess the impact of livestock insurance in this context as the Livestock Surokkha project is not being implemented in the region. According to insurance companies, InsureTech companies and FinTech companies that are working on livestock, the value added of livestock insurance is higher if we consider disease risk in addition to mortality risk. Livestock Surokkha is currently not designed to address this issue. A no second phase would mean that such developments are not tested within the scope of Livestock Surokkha.
- Even though the value added of FLRM services under Livestock Surokkha might be low on reducing mortality, the evidence

clearly shows that the farmers are benefitting from improved business performance which is contributing to their resilience. Even without a second phase this should continue. PKSF intends to scale it to cover all borrowers within the existing branches and also to expand the branch coverage to include all branches of the participating 15 POs. This is likely to happen without a second phase specially given that PKSF now has a dedicated risk mitigation unit which is managing the livestock insurance intervention.

- The findings show that model 2 and model 3 would have been relevant for borrowers who have received training and extension support under model 2 but have taken follow-up credits in next business cycles. Also, model 2 and model 3 are more beneficial for larger and commercial farmers. A potential no second phase would mean that these prospects of model 2 and model 3 are not fully explored as PKSF is likely to discontinue model 2 and model 3.

SDC expressed to the MTR that there is no value of SDC funding if model 2 and model 3 are not included in the core model of Livestock Surokkha. The MTR however sees value of SDC in model 1 as clearly it has resulted improved business performance of the borrowers and incentivized the POs to offer livestock micro-insurance with FLRM as they reported increase in demand for micro-credit. SDC in this case expressed that increased demand for livestock micro-credit as a result of improved resilience due to livestock micro- insurance is not of funding interest. It would be relevant for SDC here to refer to the ProDoc which states that (i) Livestock Surokkha intends to test three models to find the mix that would yield the best result[14] and (ii) sustainability of livestock micro-insurance would stem from increased demand for micro-credit[15]. If SDC currently does not see value in these two scopes, then there is no further rationale for funding PKSF for a second phase.

5.2 Choice of Implementing Agency and Scale Agent: PKSF vs DLS or PKSF vs Other Micro-Insurance Providers

PKSF vs DLS: In a livestock insurance market, the role of DLS will be to provide the FLRM service including vaccination and deworming. DLS does not need to be engaged as a scale agent to provide these services; an MoU between insurance service provider and DLS should suffice. DLS currently implements very large projects like LDDP and NATP 2 and they will not be interested to allocate or engage resource for a smaller project. Also DLS will not be able to sustain the services through revenue generation schemes if they are to be engaged as scale

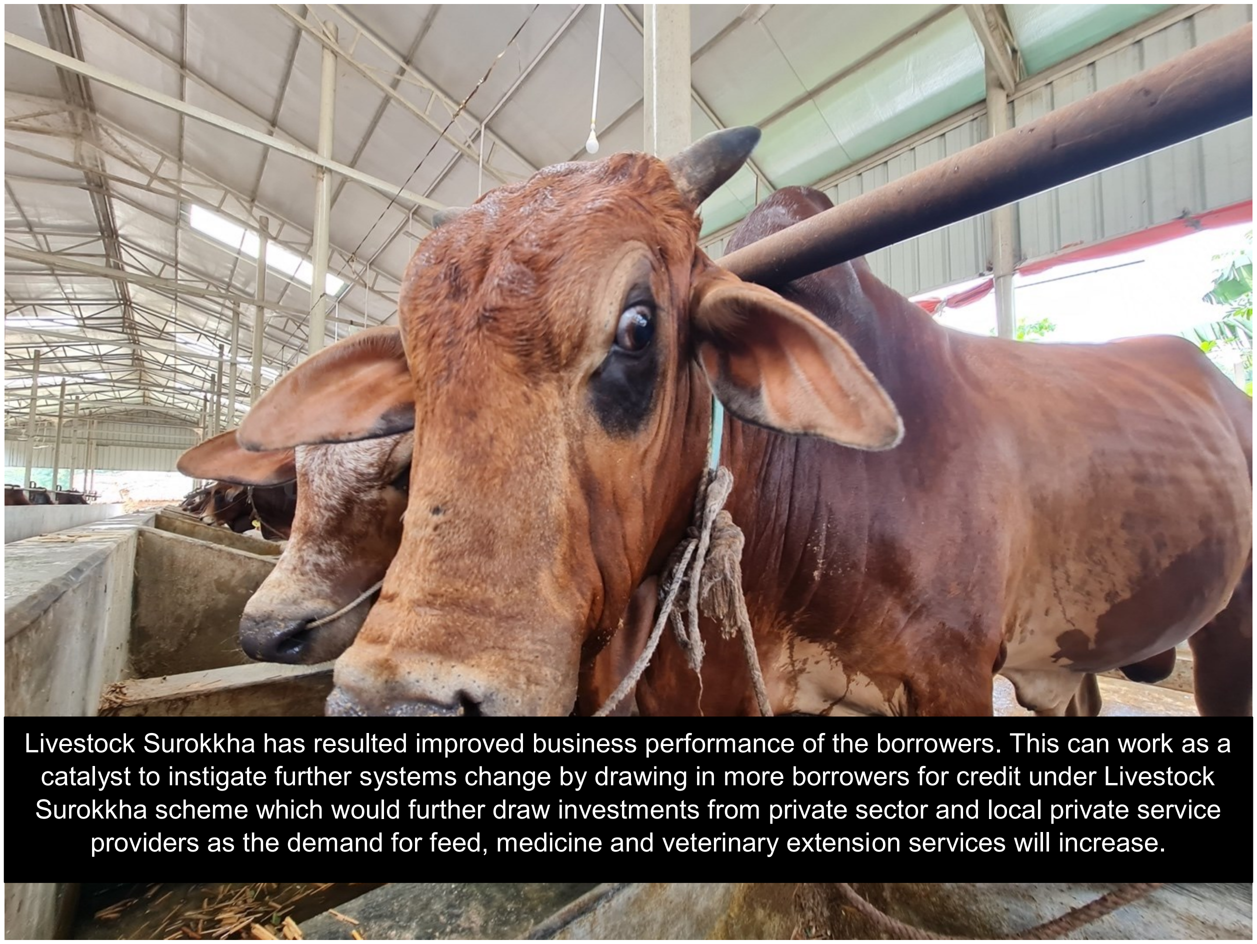
[14] *Revised ProDoc (Page 43/199): This component will focus on testing models that would make provision for commercially viable and sustainable livestock extension services. At this stage of planning, it is not possible to foresee the optimal model due to differing interests and capabilities of POs, poverty profile of target group, types of livestock to be insured, and local variations in the availability of animal healthcare services (both public and private). It is, therefore, necessary to identify and test models to determine which mix of models has the highest potential and to further evolve the successful one(s)*

[15] *Revised ProDoc (Page 41/99): As the farmers' risk of cattle mortality reduces through use of livestock insurance, their ability to take risk increases, MFIs can expand their clientele base and experience greater credit growth. With livestock insurance uptake, PKSF's wholesale financing operation of MFIs can expand and becomes less risky. However, materialising these gains, in current Bangladesh context would need some upfront investment in livestock insurance product development, capacity building of MFIs and PKSF and overall demonstrating the benefits of livestock insurance on the ground among smallholder farmers.*

agent. As DLS will not be providing the insurance, they will have to rely on the insurance service provider for the revenue to continue the services. PKSF in contrast is able to scale both insurance and FLRM service through their POs and by leveraging on the credit shield that is raised on micro-credit and through increased revenue generated from expanded coverage of micro-credit as a result of Livestock Surokkha. Currently, under Livestock Surokkha, the service fee for FLRM is embedded in the credit risk shield which is levied by the POs. POs are unlikely to engage DLS to share part of the credit shield if DLS is to provide the FLRM support. Also, the POs opined that they are not allowed to use the credit shield for any service provision as per the policy of Micro-Credit Regulatory Authority.

PKSF vs Other Micro-Insurance Service Providers: As livestock Surokkha is centered around the credit shield raised as part of the micro-credit lending instrument, PKSF and POs have the control on the primary instrument and will not allow external agency to have access to it. In this case, the other option is to assess whether a different micro-insurance provider can be engaged. If a different micro-insurance service provider like Green Delta is engaged, then their engagement would be with livestock farrmers who are not part of the livestock insurance coverage under the micro-credit llending system. According to Green Delta, there is large number of farmers who currently do not purchase cow through micro-credit and this segment can be targeted through a viable insurance distribution agent; they identified input companies as a potential distribution agent. Both model 2 and model 3 will be relevant in this option as to provide the FLRM services insurance companies will have to rely on other agencies as they do not have grass root capacities like the POs of PKSF. The insurance service provider will also have greater interest in promoting technologies for cattle identification and also for upgrading the knowledge of the farmers on animal husbandry practices. The challenge with this model will be that the scale will be quite low if compared to the current PKSF led model. As was explained in earlier section, Green Delta was able to sell around 200 schemes between June-July 2022 and this has been their best result in their partnership with BRAC Bank.

In short, the PKSF and PO led model for livestock Surokkha might not change beyond what has been achieved till date. Model 1 can be scaled and sustained by PKSF and the POs given their existing capacity. The value added of further SDC funding to PKSF could be in terms of (i) demonstrating the use case of model 2 and model 3 for commercial farmers and for repeat borrowers who do not need further training (ii) expediting the scale-up of the current Surokkha scheme in more branches covering more borrowers (iii) establishing the evidence that clearly explains the contribution of Livestock Surokkha in reducing mortality rate and (iv) technology adaptation in line with recent developments for cattle identification and documentation for claims settlement. Otherwise SDC should explore the possibility of working with private sector micro-insurance service providers. In this case potential value added would be to support the insurance companies to build their distribution network through for instance the input companies or output trading companies or even through MFIs that are not Partner Organizations (POs) of PKSF. Another value added would be to support insurance companies and InsureTech ccompanies to build the market for technologies for insurance (cattle identification, documentation of claims etc.). Insurance against disease risk has a good market prospect. Swisscontact has already started this in partnership with I-Farmer and Shadharan Bima Corporation under BMMDP. This can be taken up to scale in the potential second phase beyond phase 2.



Livestock Surokkha has resulted improved business performance of the borrowers. This can work as a catalyst to instigate further systems change by drawing in more borrowers for credit under Livestock Surokkha scheme which would further draw investments from private sector and local private service providers as the demand for feed, medicine and veterinary extension services will increase.

Chapter 6: Recommendations and Conclusions

SDC along with PKSF and the POs have made considerable progress despite challenges posed by COVID 19. There are evidences that the overall project has positive impact on the livestock credit market system. There are some early signs of systemic change but the major works related to streamlining expectations of the various agencies, capacities of the agencies are yet to be done. Most importantly adaptive interventions to leverage on evolving opportunities have mostly remained undone or unexplored. In this context the MTR recommends the following strategic interventions for the remaining of phase 1 and also for a potential phase 2.

6.1 For remainder of Phase 1

If SDC decides to withdraw funding from PKSF then the rest of the pilot phase should be utilized on consolidating the activities to ensure a smooth exit and transition. In this context the following activities should be considered:

Continue the FLRM services as planned: The impact of the FLRM services including the vaccination and de-worming camps are clear. These have improved business performance of the livestock smallholders and have contributed to their increase in income. The comparative analysis of mortality rate achieved among the smallholders under livestock Surokkha (0.26%) is lower than the baseline as per the feasibility study report (1.6%). The mortality rate is also low if we compare with data provided by private sector insurance companies and fintech companies engaged in livestock credit market. These data confirm the relevant and effectiveness of the FLRM services. The FLRM services should be continued and completed as planned.

Review the institutional changes that has happened with PKSF and the POs to define the impact of Livestock Surokkha and to conclude on pending activities like set-up of the Co-Variant fund: PKSF has set-up a risk mitigation unit which was anticipated in the ProDoc. However, PKSF reported that they did not share this with SDC as they were not asked to report. The MoU with PKSF identified the co-variant fund for coverage of rearing costs as an innovative feature of Livestock Surokkha. PKSF explained that they have so far not been able to create the full fund as they did not receive funding from SDC. They have transferred partial amount to the accounts of the POs. The POs received maximum TK 10 lacs and minimum TK 3 lacs depending on their beneficiary coverage. The POs also have contributed 10% on top of the fund that they received. They have started to use this fund and PKSF is currently reimbursing the amount spent by the POs from the co-variant fund. PKSF also reported that they are waiting for approval from their board to institutionalize the co-variant fund. They have however received assurance that this will be approved. In brief, the MTR concludes that PKSF has not reported on all the institutional changes to SDC. They appear to be reactive in their response to SDC and this has led to gap in documentation of major developments within the Livestock Surokkha project. This MTR recommends that these changes are discussed and documented to report on the impact of Livestock Surokkha.

Commission a study to undertake econometric analysis on results to define efficacy of the project and the three business models: The MTR findings suggest that there has been varying degrees of effectiveness of the three models depending on the type of beneficiary, region, capacity of the POs. An econometric analysis can help establish the correlation between improved business performance of the borrowers and their participation in the three business models, between mortality rate and participation in

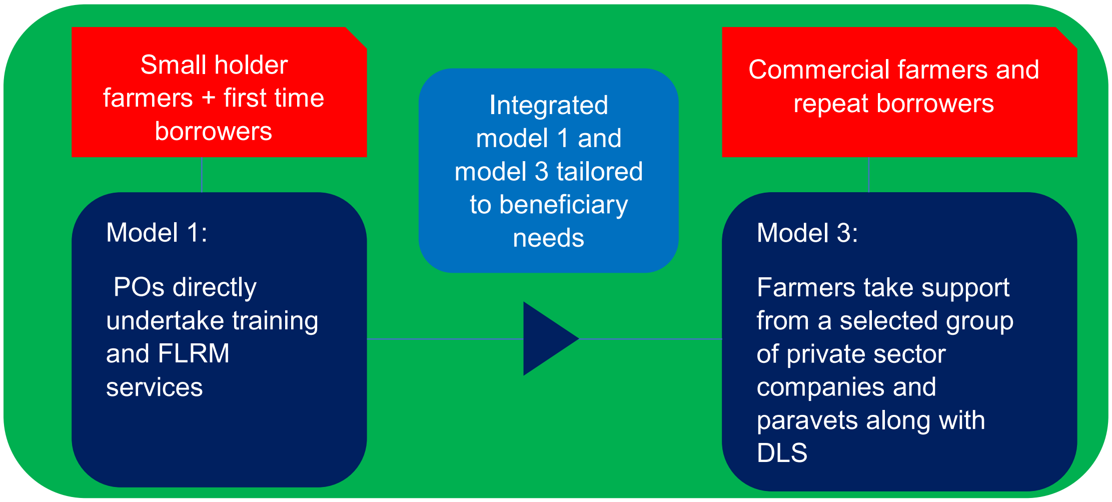
Livestock Surokkha. In this context SDC can commission a quasi-experimental study to analyse the difference in business performance between livestock micro-credit borrowers who are participating in Livestock Surokkha project as opposed to those who are not participating in the Livestock Surokkha project but have active livestock credit with the same branches of the POs. In general, an econometric analysis should be undertaken to assess the contribution of the three models to business performance of the borrowers while controlling for other socio-economic and demographic variables of the borrowers.

Review the risk shield premium to adjust to the decline in mortality rate and also to adjust to the varying degree of climate risks of the locations and to incorporate disease risk: The 1.00% risk shield premium that is taken on the credit is guided by MRA policy and will not change. Besides, PKSF also stated that the POs will be aversive to the reduction of the 1.00% risk shield as the use the risk shield as revolving fund for micro-credit. However, PKSF stated that it would be possible to revise the mix: 0.3% for human and 0.70% for livestock. In this case if the premium allocation for livestock is reduced then the premium allocation for human will increase as the 1.00% risk shield premium will remain unchanged. The findings show that climate risk and vulnerability of the households to climate risks vary between regions. Besides, they also are exposed to disease risk. Even though the FLRM services have diret impact on reducing the disease risk, this is not much reflected as an impact as the risk shield focuses on mortality. An actuarial can be appointed to define the optimum risk shield for livestock mortality, disease risk and for death of the borrower. The actuarial can also recommend the differential rate that can be applied to the regions based on their climate risks. In this case however additional burden might be created for management of the differential rate based on climate risks and PKSF explained that this might eventually work as a demotivator. They are however open to review the distribution of the 1.00% risk shield premium.

Support the POs to conclude on model 2 and model 3 activities as per target: The POs are currently lagging behind their target coverage for model 2 and model 3. PKSF expressed that as an agency they will not be able to select one or two private sector as potential partners or make any recommendation to the POs in favor of selected private sector partners. PKSF considers it to be a moral hazard issue as they have to select a few at the expense of the rest. PKSF and Swisscontact held a meeting with the top management of 10 private sector companies along with the heads of the 15 POs. However, no follow-up activity was undertaken. PKSF explained that the POs are free to make their own decision to partner with private sector but also has expressed that the POs lack the capacity as they primarily deal with local level and they do not have experience of managing such partnerships. It is evident that PKSF as an agency will not be able to continue with model 2 and model 3 in a partnership model. The POs would need support to understand the partnership modalities in a market systems project. PKSF expects Swisscontact to assist in this regard.

Undertake a pilot to tailor model 1 and model 3 to different types of borrowers: The MTR shows that BMMDP could achieve results more efficiently if model 1 was targeted for new and smallholder borrowers who never received such training and FLRM services while model 3 could be more useful for those who are commercial farmers. This would also mean that those who have received services under model 1 can be pushed to model 3 once they have passed through the first stage of training under model 1. This would reduce the cost of the overall service provision and incentivize POs to work with the private sector who would have more incentive to work with commercial farmers. In this process, both model 1 and model 3 can co-exist. This will have chain effect and would create a more systemic relationship between private sector and the POs. Prospectively a pilot can be done to introduce Livestock Surokkha Card under which different private sector companies, local paravets and DLS can provide targeted support to the borrowers for free and for deep discounts. Model 2 in this case can be embedded in both model 1 and model 3. Also, this will not require any partnership agreement between PKSF/ POs and the private sector or the DLS. The current model of engagement of DLS and partnership can work. PKSF and the POs nevertheless will have to adapt a structured approach to this model and make sure that this is not ad-hoc and project led. SDC in this case can ask PKSF to develop an internal policy to integrate model 3 to model 1 in a phased approach as explained in figure 6.

Figure 6: Integrated model 1 and model 3



Expand the coverage of Livestock Surokkha: As PKSF has expressed their interest to expand the coverage of Livestock Surokkha to all branches of the existing 15 POs and all the borrowers within the same branch, this can be taken up as an exit strategy. PKSF can be asked to provide a roadmap explaining this expansion and the expansion can begin before the pilot phase is concluded. This will also show a strong institutional impact that SDC originally envisioned while funding PKSF for Livestock Surokkha.

6.2 For Phase 2

To assess viability of phase 2, SDC has to review the existing bank led insurance model and Insuretech services as explained under section 5.2 of this report. As there are few service providers, SDC does not have enough options to select a potential implementing agency from the insurance companies. As such, SDC should assess the feasibility to build on the existing BMMDP contract with Swisscontact. As Swisscontact has already started engaging with insurance companies and insuretech companies, this option appears to be more viable and coherent with the existing programme. The target for phase 2 would be to support the private sector insurance companies to build their distribution network to scale their coverage, to promote insuretecch services and to extend the coverage beyond livestock mortality to also include disease risk. The premium size might be of concern as the current premium rate of the private sector is prohibisive for smallholders. Making the premium rate of private sector livestock insurance more affordable to the smallholders could be another potential area of interest of SDC in phase 2. The FLRM services should be continued If the second phase is implemented through insurance and fintech ccompanies providing micro-credit. Model 2 and model 3 that were piloted in phase 1 through PKSF might be more relevant for insurance companies as they do not have the grassroot capacity like PKSF and the POs to undertake the FLRM services. In this case, SDC should mandate the implementing agency to have partnership with DLS and private sector at the national level which can then make the provision for financial and technical resources at the grassroot level for the management of the FLRM services.