



FINAL PERFORMANCE EVALUATION OF THE LIVESTOCK FOR GROWTH (L4G) ACTIVITY IN MALI

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ABSTRACT

The Livestock for Growth (L4G) activity aimed to promote inclusive competitive economic growth of the livestock value chain in Mali, defined as small ruminants and cattle, by strengthening support services and improving access to information and technology. The L4G performance evaluation sought to assess activity progress and to inform the design of future activities under the Global Food Security Strategy country plan.

L4G successfully installed the Private Proximity Veterinary Service (SVPP) program in Koro and Bankass circles of Mopti region but was unable to install it in other circles of Mopti. The network of SVPP veterinarians and veterinarian auxiliaries (VAs) offered an accessible, rapid, and affordable range of veterinary services, including vaccination, deworming, and disease treatment. High attrition rates, low VA capacity, and the failure to involve local stakeholders, however, hindered the SVPP's operations.

Fattening techniques taught in farmer field schools (FFSs) effectively increased farmers' knowledge and practice in fattening techniques and in increasing their productivity, sales, and income from animal raising. The cascade training model used for the FFSs, however, did not achieve the outreach envisioned and was hampered by the lack of financial resources and local participation. While beneficiaries could cite theoretical and practical benefits of co-locating the SVPP and FFSs, none could identify actual examples in practice.

L4G water point interventions improved water access and decreased wait times and transaction costs for residents in villages served by these water points. Overall, water point governance works well, and water point committees continue to function in their designated roles.

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ACRONYMS

Acronym	Description
AEG	Agriculture and Economic Growth Office (USAID/Mali)
APIFIMA	Association of Professionals in Financial Intermediation of Mali
CFAF	Confédération Financière Africaine Francs
DRPIA	Regional Directorate for Animal Production and Industries
EQ	Evaluation Question
FFS	Farmer Field School
FGD	Focus Group Discussion
FTF	Feed the Future
FY	Fiscal Year
GFSS	Global Food Security Strategy
GOM	Government of Mali
IFP	Institute for Professional Training
ILRI	International Livestock Research Institute
IP	Implementing Partner
IR	Intermediate Result
KII	Key Informant Interview
L4G	Livestock for Growth
LCV	Laboratoire Central Vétérinaire
LSMS	Living Standards Measurements Study
MLNB	Multi-Nutritional Licking Blocks
NAIP	National Agricultural Investment Plan
NGO	Non-Governmental Organization
PEEL	Program Evaluation for Effectiveness and Learning
PO	Producer Organization
RFS	Bureau for Resilience and Food Security
SLPIA	Local Service for Animal Production and Industries
SVPP	Private Proximity Veterinary Service
TOT	Training of Trainers
U.S.	United States
USAID	United States Agency for International Development
VA	Veterinary Auxiliary
ZOI	Zone of Influence

EXECUTIVE SUMMARY

EVALUATION PURPOSE

This evaluation represents the final performance evaluation of the Livestock for Growth (L4G) activity, one of two flagship activities (L4G and Cereal Value Chain) of the United States Agency for International Development Mali (USAID/Mali) Agriculture and Economic Growth (AEG) Office. The purpose of the evaluation is to assess activity progress in the livestock sector and inform the design of future activities under the Global Food Security Strategy (GFSS) country plan.

ACTIVITY BACKGROUND

L4G's goal is to promote inclusive competitive economic growth of the livestock value chain in Mali, defined as small ruminants and cattle. L4G was designed to increase the output of the livestock value chain by strengthening support services and improving access to information and technology. L4G also sought to build the resilience of poorer livestock households through developing the skills necessary to participate in commercial activities, livestock production, and sales, or in related service industries (e.g., fodder). L4G worked in the Mopti and Timbuktu regions within the Feed the Future Zone of Influence (ZOI). At end of activity, the activity was located in three circles (districts) of the Timbuktu region (Diré, Niafunké, and Goundam) and five of the Mopti circles (Bankass, Koro, Mopti, Bandiagara, and Djenné).

EVALUATION METHODS

This evaluation employed primarily qualitative data collection and analysis methods. Primary data collection consisted of 18 focus group discussions (FGDs) and 18 key informant interviews (KIIs) implemented over a four-week period during October-November 2019 with members of farmer producer organizations (POs), private veterinarians, veterinary auxiliaries (VAs), local government officials, and former L4G field staff in the Koro, Bankass, Bandiagara, Mopti, and Djenné circles in the Mopti region and in the Diré, Goundam, and Niafunké circles in the Timbuktu region. Both FGDs and KIIs were recorded, after which full transcriptions were made for use in analysis using the qualitative data analysis program NVivo. Evaluators also extracted summary quantitative data from reports, primarily for background and descriptive purposes.

KEY FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Evaluation Question (EQ) 1: To what extent do the trained auxiliaries continue to engage in activities that improve animal health in their villages? Are vaccines available in the villages of auxiliaries trained by SVPPs?

FINDINGS

The SVPP Program

Vaccination rates in the L4G implementation area are low due in large part to a lack of human resources and material resources (vaccines, vehicles, cold storage) to conduct annual vaccination campaigns. In 2015, livestock and small ruminant owners in Bankass and Koro circles vaccinated only 21 percent of their 953,512 cattle and 2 percent of their 2,385,376 small ruminants. In response, L4G launched the *Services Vétérinaires Privés de Proximité* (Private Proximity Veterinary Services, or SVPP) program in September 2015. Under SVPP, L4G trained six private vets and 76 VAs (L4G Final Report count) to improve their technical and service delivery skills. SVPPs and VAs vaccinated cattle and small ruminants against local diseases, launched deworming efforts, and treated other diseases. L4G reinforced SVPP skills in the use of vaccines, proper disposal of needles and glass vaccine containers, and procedures to ensure compliance with maintaining the cold chain for live vaccines. L4G also supplied SVPP vets with vaccines on credit during campaigns, as well as veterinarian starter kits consisting of furniture, refrigerators, freezers, air stabilizers, syringe guns, thermometers, needles, stethoscopes, stoves, and surgical gloves. In Fiscal Year

(FY) 2017, SVPPs reported vaccinating 459,452 cattle, sheep, and goats, for a combined profit of over 43 million CFAF (\$86,162), a large increase over FY 2016. In FY 2018, the three SVPPs reported vaccinating 171,591 cattle and 115,734 sheep and goats for a combined total of 287,325 animals representing a drop of 37.5 percent due to the growing insecurity. Between 2016 and 2018, an average of 22 percent of animals were vaccinated, compared to 8 percent in 2014. During FY 2017, L4G expanded the SVPP model into four new zones: one in Bandiagara circle, one in Mopti circle, and two in Djenné circle.

During L4G's last two years, vaccination campaigns were severely hampered by insecurity in Mopti and Timbuktu, which prevented SVPPs and VAs from conducting their vaccination and deworming activities. In FY 2019, the number of animals vaccinated was only 63,294, a drop of 78 percent from FY 2018. (The FY 2019 Annual Report did not distinguish vaccinations by animal type.) According to L4G, 98 percent of the animals actually vaccinated by L4G were vaccinated during the first half of FY 2019 (through March 31, 2019), and by June none of the SVPP vets or VAs operated outside the main city centers. In its last implementation year (FY 2019), the three SVPP private veterinarians (one in Koro circle and two in Bankass circle) and 76 VAs (49 in Bankass and 27 in Koro) remained functional. From five to 15 VAs supported each SVPP vet.

Continued SVPP Vet and VA Presence in Villages and Their Roles

FGD participants in the Bankass and Koro circles acknowledged the continued presence of SVPP vets and VAs in their village or in nearby villages. The SVPP vets come to their villages once or twice a year during vaccination campaigns. Outside of these campaigns, vaccinations and treatment of sick animals in the villages fall to the VAs. VAs also provide other treatments for sick animals, including deworming, and advisory services, often going door-to-door to dispense advice or raise awareness.

PO members have overwhelmingly positive perceptions of VAs. Nonetheless, it was widely noted in both FGDs and KII that the VAs never functioned at full strength, and there was a significant attrition rate among VAs. VAs and SVPP veterinarians interviewed reported only 23 active VAs of 76 originally trained by L4G operating in the Bankass and Koro activity intervention areas. According to multiple key informants, this attrition rate was due in large part to a non-participatory VA selection process that did not involve the SVPP vets or the state veterinary service.

The development of the SVPP program in Timbuktu lagged significantly behind Mopti. FGD participants in the Niafunké, Goundam, and Diré circles reported that there are no private vets or VAs operating there. While state vets exist in the Niafunké and Goundam circle villages of Tonka and Sibonne, there are no vets of any kind operating in the Diré villages of Tindirma and Bourem Sidi Amar.

SVPP and VA Vaccination and Treatment Activities

As reported by FGD participants, annual or biannual vaccination campaigns normally occur in all villages visited in the Mopti region and in two of the three circles visited in Timbuktu (with the apparent exception of Diré). The most frequent vaccinations are for peri-pneumonia and for livestock with diarrhea symptoms, but farmers also vaccinate commonly for foot-and-mouth disease, colds, and pasteurollosis. FGD and KII participants claimed that vaccination rates have risen notably in recent years, and there has been a corresponding decrease in livestock morbidity and mortality, although they did not provide quantitative estimates for these claims. (All claims of improved animal health provided by FGD and KII participants were self-reported and not verified by independent sources.) Key informants cited the L4G SVPP program as an important contributor to these outcomes.

POs indicated that L4G incentivized their members to take vaccinations more seriously. In the past, PO members vaccinated at most one-half of their animals, both to keep down the cost and avoid paying taxes, but now claim to be vaccinating close to 100 percent. Public officials believe the SVPP program can be sustained; however, they say the number of trained and active VAs is too low and there are not enough SVPP vets or state agents to supervise them or provide them needed ongoing training.

Availability and Cost of Vaccines

No POs or other activity stakeholders indicated problems with the vaccine availability. While vaccines are always available for purchase in the cities, the main impediment to their use is their cost (cash and transportation). Because of the cost barrier, in some cases, animals are not vaccinated until they appear sick. During vaccination campaigns, the state subsidizes the vaccine cost, and key informants cite vaccination prices ranging from 125 to 225 CFAF for cattle, approximately 100 CFAF for small ruminants and poultry, and 200 CFAF for sheep. Outside of the vaccination campaigns, the prices range from 200 to 1,000 CFAF for cattle and from 100 to 200 CFAF for small ruminants. In addition to the cost of the vaccines, farmers pay the VA a labor charge. Labor charges are negotiated between the VA and the farmer.

Positive Impressions of SVPP/VA Activities

The SVPP activity was favorably perceived by all stakeholders. POs indicated that the VAs respond rapidly when called, if they are able to. Before the VAs, farmers' only options were to call private vets or state technical agents, which were often unavailable or otherwise unable to provide prompt service. State veterinary agents are not numerous enough to cover the entire circle, thus the addition of SVPP vets and VAs has materially increased vet resources in the villages.

PO members claimed to be more aware of the need for vaccination, in part due to the influence of L4G. PO members and other activity stakeholders have all observed an improvement in animal health, due in part to L4G. Although they were unable to offer precise estimates of improved animal health, they indicated that the losses experienced in the past were significantly reduced. During 2019, however, FGD participants indicated that vaccination rates and herd health declined with the disruption in the SVPP program and vaccination campaigns due to worsening insecurity in the regions.

Challenges to Achieving Full Vaccination

The primary challenge to achieving full vaccination rates is the insecurity from violent extremism and inter-community conflict in Mopti and Timbuktu. Farmers are afraid of grouping their animals in vaccination parks for vaccination campaigns. Many villages are now inaccessible to vets or VAs because of insecurity. Insecurity has also helped give rise to suspicion and lack of trust between farmers and vaccinators making private and state vaccinators' access to farmers difficult. Some herders have sold their animals to avoid being robbed. A second barrier to full vaccination is cost. For example, one dose alone for foot-and-mouth disease can cost as much as 1,000 CFAF. To avoid paying these costs, stock raisers may vaccinate only a portion (for example, 60 percent) of their animals, believing that this will be sufficient to protect the rest of the herd. Because people are not vaccinating completely, other diseases have sprung up that were rare before.

The lack of access to credit for SVPP vets is another challenge. The SVPP vets reported that L4G never followed up on its plans to link the vets to sources of credit to finance vaccination campaigns. L4G did, however, organize two days of "Café-Finance" meetings in November 2018 in which banks and microfinance institutions (MFIs) met with POs and presented their financial products. There also remains a lack of awareness of the value of vaccinations and vaccination practices, in part a function of the lack of transportation and social isolation experienced by many farming households. As a result, farmers may not follow the correct order of vaccination or may only vaccinate part of their herd to avoid paying taxes. The availability and conservation of veterinary products and equipment among VAs is another challenge. The lack of cold chain equipment for vaccine storage and solar panels to power this equipment is particularly notable given that VAs must travel long distances (up to 160 kilometers) to obtain vaccines.

Another challenge is the continuing lack of resources to maintain the SVPP program. The number of SVPP vets and VAs remains low and needs to be increased. At L4G's end, there were three L4G-trained SVPP vets and 23 VAs working in the Koro and Bankass circles in Mopti. The limited number of SVPP vets restricts the coverage of the SVPP program, and the degree to which they can supervise the services delivered by VAs, a problem made more relevant by the lack of capacity to carry out vaccinations and

treat animals among many of the VAs. This was noted by the SVPP veterinarians from the beginning. While state veterinary agents continue to work in the field, they are inadequate to address the needs in the system and what the L4G SVPP program sought to supplement in the first place.

A final challenge to full vaccination was that L4G failed to implement a participatory process to select VAs and, as a result, put unqualified VAs in the field. The lack of qualifications of many VAs was attested to by the two SVPP veterinarians and multiple local government officials interviewed. (This was never indicated as an issue by DT Global, nor did it provide any explanation for this practice.) Selection of VAs was determined in many cases based on local political considerations, not training or technical capacity, and without consulting government officials with responsibility over veterinarian services or the SVPP vets. Key informants further noted that the tripartite partnership (ostensibly put in place by L4G to oversee the SVPP in a participatory manner by L4G, local officials, and SVPP vets) never functioned as intended. Government officials and veterinary service officers, moreover, claimed that L4G neglected to coordinate with them during activity implementation.

CONCLUSIONS

- The L4G activity successfully installed the SVPP program in the Koro and Bankass circles of the Mopti region that involved three accredited private veterinarians and 76 VAs. Despite intentions to expand the activity to other circles of Mopti region, L4G was unable to do so by activity end.
- The network of VAs was greatly appreciated, easy to access, rapid in response, and affordable. VAs provided all vet services, including vaccination, deworming, disease treatment, and advisory services.
- L4G allowed local politicians to select their favored and, according to SVPPs and local government officials interviewed, at times unqualified VA candidates, some of which never functioned. SVPPs and VAs interviewed further claimed that by the activity's end, only 23 of the 76 VAs trained by L4G remained active.
- The low number of SVPP vets and qualified VAs, together with the lack of expansion to other areas, limit the overall vaccination and animal care coverage of the SVPP program and was an impediment to the long-term sustainability of the considerable improvements in veterinary care and coverage achieved by L4G.
- Despite equipping the SVPP vets with veterinary starter kits and financing for the first two vaccination campaigns, L4G was not able to link the vets with bank credit lines for succeeding campaigns. The cessation of most bank lending in the Mopti region due to insecurity is probably the major reason for this, but L4G failed to come up with an alternative credit mechanism.
- There is no shortage of vaccines, and the SVPP vets have cold storage in their offices; however, the VAs' ability to store vaccines is limited. There are ongoing challenges to ensuring that SVPP vets and VAs have the cold storage equipment necessary to provide quality services and prevent vaccine spoilage.
- The biggest challenge to full vaccination coverage is the insecurity in Mopti and Timbuktu. SVPP vets and VAs are hampered in their ability to reach insecure or isolated villages, herders are afraid to mass their animals at vaccination parks, and many herders sold off animals or took them south to more secure areas.
- L4G failed to collaborate closely with state regional and circle veterinary officials. While these stakeholders acknowledge the value of L4G, they feel L4G should have involved them more in activity interventions and coordination on the ground. Moreover, they have serious concerns about supervision of the SVPP vets and VAs and quality control of vaccines and disease treatment.
- The L4G SVPP model is viable and appreciated by beneficiaries, but it requires financial resources to continue at its current level, let alone expand into new areas. This implies further donor funding.

RECOMMENDATIONS

- USAID should consider household stock raising and animal fattening as important components of any future livestock production activities, particularly in Mopti and Timbuktu.
- Future livestock activities should support private vets and VAs by equipping new nearby supply points with refrigerators, freezers, medicines, and thermo-tolerant vaccines. Maintaining the cold chain is essential to sustaining private and public veterinary care and vaccination campaigns in Mali.
- USAID should consider prioritizing credit linkages between vets and banks in future livestock activities. Private vets need finance for their vaccination campaigns and under normal conditions can repay bank loans. Given declining security conditions, alternative credit sources should be explored, particularly non-governmental organizations (NGOs).
- With its experience in financial intermediation, the Association of Professionals in Financial Intermediation of Mali (APIFIMA) could be called upon to develop loan applications for private vets and provide advice in reimbursement.
- VAs should be assisted with start-up funds to acquire their first stock of supplies and transportation.
- Future livestock activities should increase the involvement of state veterinary services. Closer collaboration with state services and a less-abrupt phase-out of USAID funded activities could improve sustainability of the system. The state veterinary services should be involved in the selection of VAs to avoid favoritism and political interference in their selection and to respect essential qualifications for these positions.

EQ 2: From the beneficiaries' perspective, did their access to the co-located introduction of new fattening technologies and vaccination programming improve beneficiary productivity, access to markets, and incomes? How did the co-location contribute to the improvements?

FINDINGS

L4G sought to improve fodder and feed for livestock by identifying the best practices already in place in Mali and then introducing them in the activity intervention areas of the Koro and Bankass circles. One approach L4G took was helping animal fatteners cut costs by producing their own forage and feed, enriching hay with urea, and learning farm silage production. In the L4G animal fattening training, participants learned the basic norms and standards for market delivery, buyer preferences and exigencies, and innovative marketing plans to sell their animals at peak price periods. One goal was to ensure that improved fattening activities were co-located with increased access to veterinary services, through the SVPP activities. In April 2016, L4G expanded into seven communes in the Mopti region and six communes in the Timbuktu region. While this expansion included improving animal fattening activities, it does not appear that expanded veterinary services through the SVPP model were successfully implanted in these new areas in either region.

In the third year of L4G activity (FY 2017), L4G established Farmer Field Schools (FFS), which used community-based lead farmers as trainers of neighboring farmers. The FY 2017 Annual Report indicates that L4G established 37 FFS demonstration sites, with each L4G field agent responsible for mentoring and monitoring the activities of two to three sites. There were 18 FFS sites for demonstrating forage production and 19 FFS sites for demonstrating best practices for animal fattening. In FY 2018, L4G reported collaboration with 529 POs to establish 45 new FFS animal fattening demonstration sites in Mopti circles and 10 in Timbuktu circles. This same year L4G reported training 650 lead farmers at these 45 FFS animal fattening demonstrations who in turn taught the techniques learned to 590 POs with 31,912 member farmers (20,987 women and 11,065 men).

Finally, during FY 2019 L4G reported creating an additional 69 FFS sites, including 28 sites for cattle fattening in Mopti region, five sites for cattle fattening in Timbuktu region, 28 sites for sheep fattening in Mopti, and eight sites for sheep fattening in Timbuktu. In addition, L4G conducted information campaigns by radio and mobile phone and continued to promote the cultivation of dual-use fodder crops such as

cowpea, groundnut, sorghum, millet, and moringa. In theory, each lead farmer was to train at least 25 others who would in turn train another 25 animal fatteners. Because of insecurity and resulting governmental restrictions on motorcycle movement, however, the actual number of participants decreased to about 32,000 from the original target of 101,000.

Animal Fattening Training in Farmer Field Schools

All PO members included in the 18 FGDs, both in co-located and non-co-located circles, had participated in the FFSs. All POs had practiced fattening before L4G but claimed to have learned new techniques from the FFSs; and the basic fattening techniques taught in the FFSs were recalled by the members of all 18 POs. Normally, a few members of each PO (usually two) attended the FFS and were then expected to pass on the training to their PO members and others in their own and surrounding villages. Formal extension of this training to at least a first group of 25 more persons was the objective, but this cascade training appears to have fallen short of expectations for lack of per diems and difficulty of travel. It was probably known to these leaders that no per diem was forthcoming, but they hoped for better turnout in any case. Nevertheless, extension of these teachings seems to have occurred among PO members, since all FGD participants revealed solid knowledge of the full set of new techniques. PO members in non-co-located POs demonstrated a similar recall and understanding of the concepts taught in the FFSs as those in Koro and Bankass.

Responses indicated a high degree of satisfaction with the business knowledge gained from the training, in addition to the specific new fattening techniques acquired. PO members recognized that they had not been doing fattening efficiently in the past. Nor did they previously have a method for tracking and calculating costs and gross profit margin for their animals. Other stakeholders—including local government officials, SVPP vets, VAs, and former L4G field agents—universally expressed positive perceptions of the FFSs and the value of the fattening techniques taught there.

Issues with the Cascade Training Model

PO members identified several ways in which FFSs might be improved, including offering more training of the same type closer to more villages, involving more people in the training, and extending the length of the training in each case. These recommendations do not account for L4G's cascading strategy, which would presumably extend the geographic coverage of training. At the same time, involving more people in FFS training addresses the risk of knowledge loss if those people trained at FFSs either do not fulfill their cascading role or are unable to grasp the fattening techniques well enough to communicate them to others. In other words, the number initially trained would be much greater with better retention and the need for subsequent cascade training reduced. Another issue raised across FGDs and KIs was that the per diem for the FFS training and the lack of a per diem for the cascading of training were regarded as "entirely inadequate." This issue clearly limited the educational reach of the planned cascade training. According to PO members, the plan for cascading training fell well short of its intended reach, although they could not provide specific numbers. PO members attending the FFS training all claimed to have informed other PO members, but not much beyond that.

A final concern with the L4G cascading model was raised by government technical officials who noted that L4G agents did not establish a supervisory link with the state technical services. The state technical services felt that their staff should have participated in the FFS training. They could also have helped facilitate the cascading of training. Sustainability may also have been compromised by this lack of collaboration.

Gains in Productivity, Access to Markets, and Incomes

An L4G commissioned survey of 58 animal fatteners in 2019 found that they earned an average gross margin of 135,530 CFAF per head of cattle, 80 percent higher than the purchase price, and an average gross margin of 41,596 CFAF per head of sheep, 115 percent higher than the purchase price. If the fatteners respect the 3-4 month fattening period with three cycles per year, this could provide an annual

income of 406,590 CFAF for three cycles of cattle fattening and 124,788 CFAF for three cycles of sheep fattening.

FGD participants were asked about their fattening activities before and after their training in FFSs and their income earned. In all cases, these responses suggest that PO members were receiving substantially more for the sales of their cattle and sheep after adopting improved fattening approaches taught in the FFSs. However, FGD participants in the co-located circles did not indicate profits that were higher than in the other circles without activity co-location. FGD participants did not provide quantitative measures of weight gains or profits, but they often indicated purchase and sales prices. These qualitative impressions are confirmed in an L4G survey of beneficiary farmers in which 90 percent of respondents said they were making more money from livestock sales after L4G than before. In another L4G survey of 528 beneficiaries, 56.1 percent of respondents indicated that L4G had made a difference in their livelihoods.

L4G performance monitoring results reported to the Feed the Future Monitoring System and found in its Annual Reports broadly confirm the positive KII and FGD findings reported above. From the baseline in FY 2014 through FY 2018, gross margins, incremental sales, and offtake rates for cattle and sheep (or small ruminants) all showed significant improvements, although with some ups and downs along the way for gross margins. The sole exception to this trend is exports of cattle and sheep, which reached a peak in FY 2016 only to fall again in succeeding years to settle in FY 2018 at values lower than in the baseline.

Beneficiary Access to Markets

PO members primarily engage in individual selling in local markets, either by selling to traders at the farm gate or by transporting the animals and selling in local markets. About one-half of the POs indicated that they join together for group sales. With a single exception, the POs sell their animals at the prevailing market price at the time of sale absent a formal sales contract.

Combined Impact of SVPP and FFS Activities (Co-location)

POs and other key informants all recognized the enhanced value of placing SVPP and FFS activities together. They indicated that their animals gained weight faster due to FFS training and remained healthier and suffered less mortality as a result of vaccination campaigns and rapid VA animal treatment. Due to the qualitative nature of this evaluation, there was no accurate way to measure the impact of this interactive relationship, except to recognize the value of vaccination and disease treatment, including quarantine of animals purchased for fattening and maintaining the health of animals undergoing fattening regimes. POs recognized the link between vaccination and fattening activities and the value of VAs in providing advice to them about general animal health as well as nutrition, but they could not provide any clear sense of the combined impact. Other key informants were more able to define how these two interventions might produce higher-level results in theory and in practical terms. They were not, however, able to provide specific examples of where this occurred in actual practice.

Limiting Factors

When asked for recommendations on how future livestock activities might be improved, not surprisingly, many recommendations involved the provision of additional resources, including financial assistance, animals, storage warehouses, feedlots, and equipment. Key informants pointed out that insufficient resources are the most important limiting factor in fattening activities followed by insufficient access to the necessary products. They suggested that future livestock activities should invest more in developing market infrastructure, such as a fattening pen for each PO or a few villages, in addition to funding a component to help animal fatteners and then reimburse loans after selling.

Stakeholder Participation

Several stakeholders again raised the issue of a lack of local participation in activity planning and implementation. In this case, the state technical services in charge of animal production say they were not involved in the FFSs nor were they kept abreast of activity interventions. While all stakeholders agreed

that the FFSs and other livestock support activities should be expanded to other areas of Mali, they also agreed that future activities need to involve the locals more in planning and implementation, in particular, the state technical services.

CONCLUSIONS

- The fattening techniques taught in the FFSs were highly valued by participants. They recall all of these techniques, most of which were new to them.
- Beneficiaries particularly valued FFS training in the proper selection of animals for fattening, dual-use forage crops, fabrication of licking blocks, improvement of hay with urea, development of correct animal food rations, and management of forage crops after harvest.
- In the Koro and Bankass circles of Mopti region where SVPP/VA services and FFS training were co-located, beneficiaries recognized the value of easy and rapid access to vaccination and animal treatment by VAs. Between the new fattening techniques taught and enhanced veterinary services, their animals are in better health, grow more quickly, and generate greater income than before L4G.
- The presence of private vets and VAs in other circles of Mopti meant that the value of new fattening techniques could be enhanced in these other circles. However, the lack of a private veterinary system in Timbuktu circles where L4G installed FFSs meant that synergistic effects could not be expected.
- According to FGD participants, new knowledge of animal fattening techniques and close proximity of the VAs decreased animal loss, increased the number of animals fattened, and encouraged more farmers to engage in this profitable activity if it is treated as a serious business.
- L4G donated animal feed, seed for forage, dual-use crops, and materials for making licking blocks, which permitted more FFS beneficiaries to fatten animals. Without this assistance, they would have had great difficulty using the new fattening techniques. Many seek more financial assistance to continue.
- Stock raisers and animal fatteners overwhelmingly report a growth in animal productivity, exemplified by greater and faster weight gain and reduced morbidity, coupled with increased incremental sales from shortening fattening cycles, and an increase in income, in part due to L4G livestock interventions. However, outcomes in these areas fell sharply FY 2019 due to increased insecurity.
- The cascading training model used by L4G was seriously limited by the lack of per diems for participants in cascade training sessions. Nevertheless, an informal spread of knowledge did occur in villages, since all PO members met seemed equally aware and appreciative of the new fattening techniques.
- The state technical services in charge of animal production were not involved in the FFSs nor were they kept abreast of activity interventions. Nevertheless, local government officials have a favorable view of the activity's accomplishments and recommend extending the activity to other areas of Mali.

RECOMMENDATIONS

- The area of co-location of SVPP/VA services and animal fattening training sites should be expanded to the other circles of Mopti region and to the circles of Timbuktu. This was not accomplished under L4G, but it could be attempted under any USAID or other donor follow-on project.
- USAID could extend the L4G activity, or similar large-scale effort to improve livestock productivity, to other areas of Mali, security permitting. Most agriculturalists in the southern part of the country do fatten animals and could improve these fattening activities. This would be an excellent additional source of revenue for women.
- The state technical services in animal production should be integrated into any new livestock productivity activity design and implementation, just as they should be integrated into vaccination and veterinary treatment activities in villages. The co-location of vaccination, treatment, and fattening techniques should require the full partnership of the state services for implementation and sustainability.
- To better diffuse new animal fattening techniques in any future livestock activity, it will be necessary to improve participation in cascade training sessions to mobilize a greater number of beneficiaries in

future activities. This will require a system of per diem payment and transportation allowance coupled with training in a larger number of villages with more representatives from each PO. This model is viable and cost effective compared to others, but it must take into account the need to compensate trainees fully for their time and perceived costs.

EQ 3: “How has the presence of water management systems impacted the relationship/cohabitation between users?” / EQ 4: “How effectively are water management systems meeting the needs of the users?”

Findings, conclusions, and recommendations for EQs 3-4 are based largely on two FGDs with water point committee members in Tori village and Koro Center in the Mopti region. Given this and the overlapping nature of the two EQs, they are addressed jointly.

FINDINGS

Drought and limited water access are common in the implementation area of L4G. The nine-month dry season presents particular difficulties, especially when drought is severe. In response, L4G devised a plan to rehabilitate or drill six boreholes with solar powered pumps and water tower storage in the livestock markets of the villages of Doundé, Koulogon Habbé, Ouonkoro, and Tori in the Bankass circle of Mopti and in Youdiou in the Koro circle of Mopti, in addition to improving the manual pump at the Koro District central market by installing a solar powered pump and water tower. Insecurity impeded the water point development in Youdiou. The borehole had been dug and equipment purchased, but the water point was subsequently sabotaged and work halted. This left five water points with completed, operational pumps by 2019. L4G worked with local governments to train water point committees at the five improved water points which were charged with developing a governance structure for administering the water points, including rules for water use and fee collections. In August 2019, L4G officially transferred responsibility for the water points and their equipment to the water point committees.

FGD participants indicated that conflicts at the water points were minimal and always verbal. The “first come, first served” rule is strictly applied except for elders during long waits. During the winter months when there is more cloud cover, there is occasionally not enough water from the pump to meet all customers’ needs quickly, which may result in longer waits. People may also wait longer just before market days, when people are watering their animals. Having separate taps for home use and watering animals also reduces wait times. Overall, wait times are substantially shorter than before L4G.

There have been disagreements concerning fund distributions between the water management committee and the mayor’s office. Both committees have set up financial checks and balances and have a treasurer and an auditor to manage the money and check the accounts. Each water tank also has a water meter, which can be used to estimate the amount of money that should be collected. Although not necessarily precise, the meter is a check on unauthorized water use. Each water point has an employee responsible for collecting fees. It has been challenging, however, to provide proper oversight for this person.

The impressions of committee members and government officials about water point management are overwhelmingly positive. Overall, the water point governance structure works well. Nonetheless, committee members conceded that governance and accounting practices could be strengthened and that more training should be provided to water management committees to assist them in this process. Benefits of the improved water points include shorter wait times, greater convenience, automatic pumping that reduces manual labor, and reduced transaction costs by reducing walking distances. Water point conditions at villages not served by L4G are far worse in comparison to the L4G-supported water points.

CONCLUSIONS

- Several months after the water points became operational, they continue to function well, although vandalism by unknown persons during a village attack prevented the development of one planned water point.

- Conflicts around the water points are rare. When they do occur, they are typically associated with longer wait times and are limited to verbal conflicts.
- Access to water is impeded when there is more cloud cover/less sunshine, because the solar power is not adequate to pump water into the tower.
- In the two villages visited with newly drilled or rehabilitated water points, the water point committees are established and continue to govern the water points.
- Overall, the water point governance works well resulting in reduced wait times and increased fee collection. Other benefits include less unauthorized water use, greater convenience, reduced need for manual labor, and reduced travel times.
- The water point committees have rules for usage and fees. However, there are some disputes around distributing water fees between the committee and municipality that remain unresolved.
- L4G has made an important incremental contribution to improving water access in the relevant communities, particularly in comparison to villages not supported by the activity.

RECOMMENDATIONS

- A follow-up intervention by USAID, other donors, or state technical and administrative services could provide technical assistance to water point committees around financial oversight and planning, including site maintenance and repairs/replacement.
- USAID should construct new water points in the parts of those regions that have the least access to improved water, should security conditions in Mali allow it.
- Water user fees fixed by the municipalities should be kept as low as possible to maintain, repair, and establish a depreciation allowance for the new water points.
- A transparent system of public feedback should be put in place at the new water points involving the division and use of water user fees between municipalities and water point committees.
- Public feedback sessions can be the framework for exchanges where users will can express their expectations and make recommendations with respect to improving the water points.
- Future water interventions should use a participatory process to select water management committee members to promote transparency and public confidence in management decisions.
- The one non-functional water point built under L4G could be fully restored and made operational by continued USAID or other donor activities in the area once security permits. The investment is substantial and should be recouped.

I.0 EVALUATION PURPOSE AND QUESTIONS

I.1 EVALUATION PURPOSE AND AUDIENCE

This evaluation represents the final performance evaluation of the Livestock for Growth (L4G) activity, one of two flagship activities (L4G and Cereal Value Chain) of the United States Agency for International Development Mali (USAID/Mali) Agriculture and Economic Growth (AEG) Office. The purpose of the evaluation is to assess activity progress in the livestock sector and to inform the design of future activities under the Global Food Security Strategy (GFSS) country plan.

The main audience for this evaluation is USAID. This includes the USAID/Mali AEG office but also the Mali Mission and the Bureau for Resilience and Food Security (RFS) in Washington, D.C. As the final report will be publicly available, USAID expects that the Government of Mali (GOM) and a wide variety of other development partners will find the results useful.

I.2 EVALUATION QUESTIONS

The L4G performance evaluation seeks to answer the following four evaluation questions (EQs):

1. To what extent do the trained auxiliaries continue to engage in activities that improve animal health in their villages? Are vaccines available in the villages of auxiliaries trained by the *Services Vétérinaires Privés de Proximité* (Private Proximity Veterinary Services, or SVPPs)?
2. From the beneficiaries' perspective, did their access to the co-located introduction of new fattening technologies and vaccination programming improve beneficiary productivity, access to markets, and incomes? How did the co-location contribute to the improvements?
3. How has the presence of water management systems impacted the relationship/cohabitation between users?
4. How effectively are the water management systems meeting the needs of the users?

2.0 ACTIVITY BACKGROUND

2.1 ACTIVITY DESCRIPTION

L4G's goal is to promote inclusive competitive economic growth of the livestock value chain in Mali, defined as small ruminants and cattle. The development hypothesis for L4G is that if (1) the quality of livestock improves, (2) market access and incentives for semi-sedentary and small producers—including women and youth—are expanded, and (3) the enabling environment of the livestock sector improves, then Mali's livestock sector will be more domestically and internationally competitive and contribute to increased agriculture gross domestic product and to broad-based economic growth.

L4G was designed to increase the output of the livestock value chain by strengthening support services (e.g., advisory, inputs, finance, and research) and improving access to information and technology. Activity interventions aimed at increasing access to products and services and identifying incentives for wider participation in livestock activities. L4G also builds the resilience of poorer livestock households through developing the skills necessary to participate in commercial activities, livestock production, and sales, or in related service industries (e.g., fodder).

To achieve Feed the Future's objectives, L4G has integrated gender and household nutrition and hygiene practices into its approach and outputs. While not an objective, it is expected that improved management

of livestock will result in increased meat and milk production, which can have nutritional benefits for livestock households.

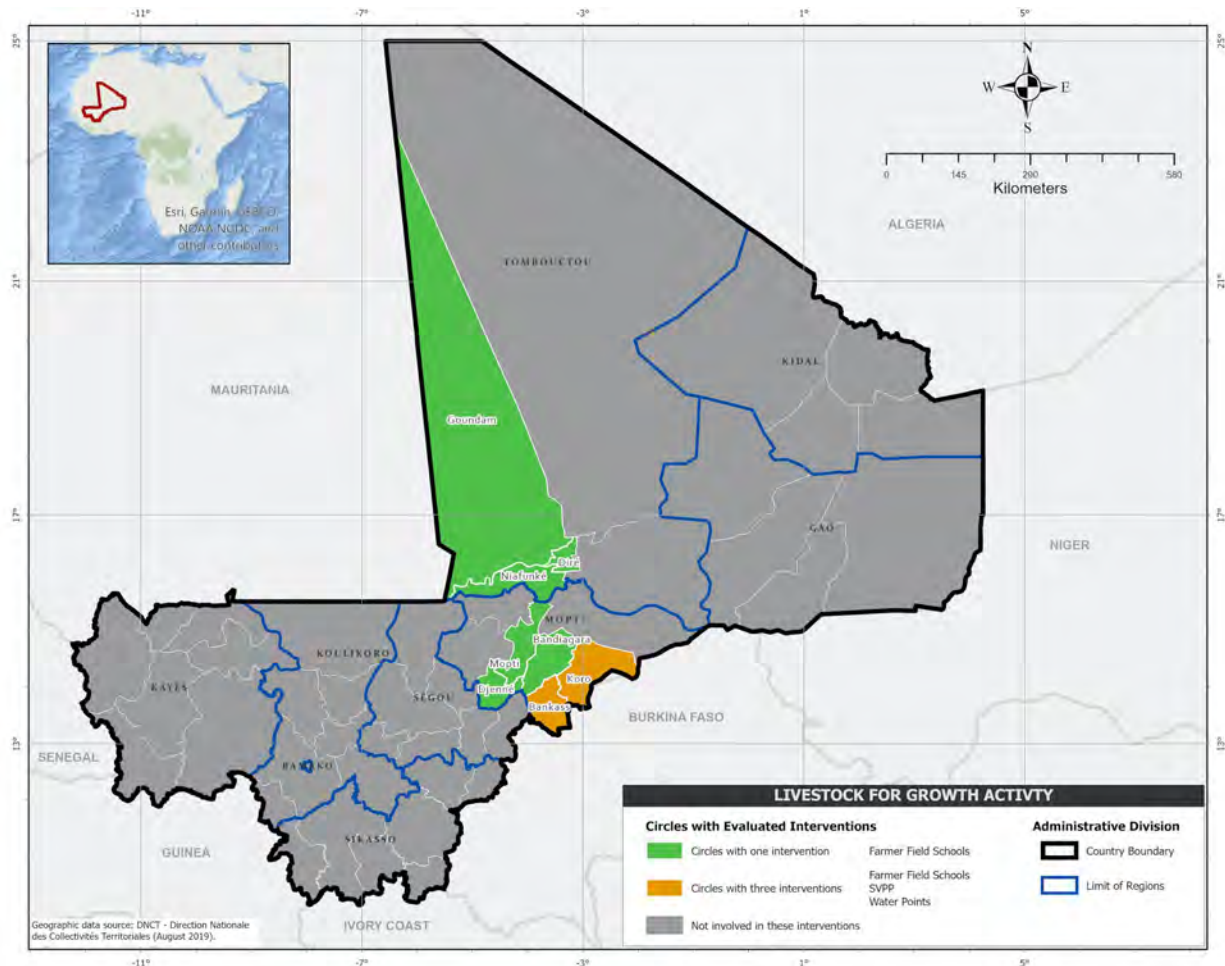
2.2 APPROACH AND IMPLEMENTATION

L4G implemented a market-oriented approach, which integrates improved production with market demand. In line with this approach, most of L4G’s interventions responded to existing market demands both within Mali and the West African sub-region. Specifically, production activities and activity targets responded to market demand related to increasing domestic and export trade.

Organization capacity strengthening and leadership building and training were critical factors underpinning most of L4G’s interventions. From basic literacy to business skills, organizational management, production and management technologies, marketing, and advocacy, there is a great need for strengthening the capabilities of all actors to catalyze the necessary upgrading and investments. Building the management and leadership capacity of men and women throughout the value chain was critical to ensure that L4G’s results are market driven and sustainable in the long term and at multiple levels.

The L4G activity worked in the Mopti and Timbuktu regions within the Feed the Future Zone of Influence (ZOI). At end of activity, the activity was located in three circles of the Timbuktu region (Diré, Niafunké, and Goundam) and five of the Mopti region circles (Bankass, Koro, Mopti, Bandiagara, and Djenné). (See Figure I for a detailed map of Mali showing L4G intervention locations.)

Figure I: Map of Mali Showing L4G Intervention Locations



L4G interventions focused on multiple value chain actors, including but not limited to livestock producers, traders, aggregators, transporters, inputs suppliers, and other service providers. For L4G, producers were broadly defined to be those households with members who raise small ruminants and/or cattle. While semi-sedentary herders, small producers, and small traders were its primary focus, L4G did not exclude working with medium and large producers and traders, as these are often the initial (or early) adopters and can demonstrate the benefits of technologies. Providers of inputs (e.g., forage and fodder seed, feeds and ration supplements, vaccines, and veterinary pharmaceuticals) and services (e.g., veterinary services) were the main focus on the inputs side.

3.0 EVALUATION METHODS AND LIMITATIONS

3.1 EVALUATION METHODS

Qualitative Methods

This evaluation employed primarily qualitative data collection and analysis methods. Primary data collection consisted of 18 focus group discussions (FGDs) and 18 key informant interviews (KIIs) implemented over a four-week period from October 7 to November 10, 2019. FGDs and KIIs were carried out by a field team of Malian livestock and evaluation specialists and a team leader based in Bamako. Discussions in village-level FGDs addressed primarily EQs 1 and 2, while KIIs provided additional viewpoints from administrative and technical service officials. Other FGDs were held with veterinary auxiliaries in the Koro and Bankass circles and with water point management committees in Koro center and from Tori village (Bankass circle). Annex 2 includes a schedule of field work, and Annex 3 includes FGD and KII guides.

Focus Group Discussions with Village Farmers

The evaluation team received a list of villages where SVPPs/Veterinary Auxiliaries (VAs) and Farmer Field Schools (FFSs) were co-located. From that list, the team chose seven co-located villages in the Bankass and Koro circles. These are: Koro Center, Tere, Koporona, Pel-Maoude, Ende Toro, Logon, and Tori. For contrast, the team next chose seven non co-located villages within the Mopti and Timbuktu regions where FFSs existed, but there was no SVPP/VA service. These are Mopti/Bandiagara circle (Dandoli), Mopti/Mopti circle (Gnimitongo), and Mopti/Djenné circle (Sofara). Within the Timbuktu region the evaluation team chose Diré circle (Bourem Sidi Amar and Tindirima), Goundam circle (Tonka), and Niafunké circle (Sibonne). Since five villages had two FGDs each, the number of FGDs for co-located villages (10) was slightly more than the number of FGDs for non-co-located villages (8). This selection of villages was done purposively within type of village (co-located or not), in order to assure geographic and ethnic distribution and with security concerns taken into account. Two co-located villages also had new water points, Koro and Tori. The number of FGD participants by gender is provided in Table I.



Photo 1: Focus group with a women's producer organization in Koro.

Once the villages were finalized, the evaluation team contacted a representative of the producer organization (PO) in the village and asked him or her to invite up to 10 people to the FGD on the appointed day. The team asked that they invite a mix of male, female, and youth members (if it was a mixed PO). The following table shows the final number of FGD participants by gender and region/circle.

Table 1: Farmer FGD Participants by Gender, Co-Location, Region, and District

Region	Male	Female	Youth	Total	Number of FGDs
Co-Located	-	-	-	-	-
Mopti/Koro	0	26	14	40	5
Mopti/Bankass	13	31		44	5
Non Co-Located	-	-	-	-	-
Mopti/Bandiagara	8	8	-	16	2
Mopti/Mopti	5	6	-	11	1
Mopti/Djenné	-	-	9	9	1
Timbuktu/Diré	5	11	-	16	2
Timbuktu/Goundam	4	6	-	10	1
Timbuktu/Niafunké	8	-	-	8	1
Total	43	88	23	154	18

Focus Group Discussions with Veterinary Auxiliaries

The evaluation team conducted two FGs with VAs, one in Mopti/Bankass with eight men and one in Mopti/Koro with six men. The VAs were brought to a central location from the various villages where they are located. The FGD participants were selected purposively, considering geographic distribution and availability to travel to participate in the FGD.

Focus Group Discussions with Water Point Committees

The evaluation team conducted two FGDs with members of water point committees. There are five improved water points; four are new and one is a replacement for a previous manual pump. The evaluation team conducted one FGD with the committee for a new water point (Tori) and one FGD with the committee for the improved water point (Bankass Center). The first FGD was composed of four men and the second of two men, one woman, and three youth. Due to security concerns, it was necessary to bring the Tori committee members to a central location (Koro Center) for the FGD. The water point committee chose the FGD representatives, based on those best able to provide the overall opinions of the committee and of their constituent water users.

Key Informant Interview Respondents

To identify key informants for the KIIs, the evaluation team developed a list of desired interviewees, according to the following categories:

1. Government representatives at the regional and circle levels
2. Representatives of non-governmental organizations (NGOs) or private sector organizations
3. Private veterinarians contracted with L4G
4. Representatives of the implementing organization

The evaluation team chose to focus on the Mopti region, and in particular the Bankass and Koro circles within Mopti, since that is where the activities of concern for the EQs were concentrated. The team next developed a list of potential interviewees and contacted them to schedule interviews. A total of 18 interviews (with 19 persons, as a result of one group interview) in the categories above were conducted. The final list of interviewees is provided in Table 2.

Table 2: List of Interviewees for L4G Evaluation

Name	Title	Organization
Government Representatives		
Oumar Din	President	Koro circle
Issa Coulibaly	Chief of Veterinary Service	Koro circle
Issa Sagara	First Deputy to Mayor	Koro circle
Hamidou Dougnon	Chief of Services	Local Service of Animal Production and Industries (SLPIA), Koro circle
Mamadou Samassekou	Advisor for Rural Development, Regional Council	Mopti region
Hammadi Kane Diallo	Regional Directorate for Animal Production and Industries (DRPIA)	Mopti region
Jean Baptiste Traore	Director for Veterinary Services	Mopti region
Moussa Maiga	Chief of Veterinary Service	Bankass circle
Hama Sy	First Deputy to Mayor	Bankass circle
Kaleb Tessougue and Mr. Soumbougou	First Vice President and General Secretary, Circle Council	Bankass circle
Youssef Traore	Head of Pasture Resources	SLPIA, Bankass circle
Abdul Aziz Traore	Director of Hydraulic Services	Bankass circle
NGO Sector Representative		
Housseyni Kokena	Project Supervisor	International Livestock Research Institute (ILRI)/Mopti
Private Veterinarians Contracted with L4G (SVPPs)		
Laya Togo	SVPP	Bankass District
Hamidou Sokonda	SVPP	Bankass District
Former L4G Staff		
Thomas Herlehy	Senior Program Manager Advisor to L4G	DT Global
Izza Soubiane	Data Manager	DT Global
Jean Poudiugo	Former L4G Field Agent	DT Global/Mopti

The field team visited the two L4G activity regions in Mopti, and Timbuktu. Both FGDs and KIIs were recorded, while assistants to the field researchers also took notes of each FGD and KII. Both synthesis reports and full transcriptions were made of each FGD and KII. The qualitative analysis also included a review of documents, primarily those produced as reports to USAID from the implementing partner (IP) DT Global (formerly AECOM). Qualitative data were then analyzed/coded using content analysis and the qualitative data analysis program NVivo to identify salient themes and sub-themes in the data. (Annex 4 provides a comprehensive bibliography of documents reviewed for the evaluation.)

Quantitative Methods

The evaluation team accessed the following measures of the activity's quantitative progress for this report.

- The Mali Living Standards Measurements Study (LSMS) for 2014 and for 2017. These are nationally representative population-based surveys conducted by the GOM with USAID support. They use a two-stage design and the analyses are weighted. The 2014 survey included 3,805 households and the 2017 survey included 8,390 households.
- The "Final Survey" conducted by International Business and Technical Consultants, under contract to DT Global. This was conducted in 2019 with a sample of 538 L4G program participants.
- A survey of 58 L4G-trained fatteners conducted for DT Global in July 2018.
- Reports from private SVPP veterinarians.
- L4G performance monitoring data.

In some cases, secondary data were disaggregated to the circle level, which allowed the evaluation team to specifically analyze data for Bankass and Koro (the co-located circles).

The evaluation team also requested and obtained disaggregated data from the IP, DT Global. These data, in the form of Excel spreadsheets, were primarily partial lists (from some parts of the activity area, and only selected time periods), so the team was ultimately unable to extract useful indicators from those data.

Outcome Measures

The qualitative nature of the four EQs coupled with the data collection techniques meant that the data produced outcome measures that are not generally quantitative, such as majority consensus; subjective estimates of quality, value, practice, and availability; concurrence among respondents; and frequency of responses. Beyond the concepts linked to the EQs, several themes and patterns emerged from the content analysis across the FGDs and KIs using NVivo, which are reported below as evaluation findings.

3.2 METHODOLOGICAL LIMITATIONS

The villages visited for the evaluation were selected purposively to assure geographic representation and a mix of co-located and non-co-located villages. Security concerns in the two regions of Mopti and Timbuktu affected the selection of villages. All KIs were also selected purposively. A few selected interviewees could not be contacted or were unavailable. Thus, the samples were not fully representative of L4G as a whole.

Some of the quantitative data used for this evaluation were collected by the IP and could not be validated. A baseline data survey was carried out in 2015 and a final impact study was carried out late in 2019. There was no midterm evaluation. A complicating factor was that L4G had ended just prior to the evaluation team's arrival in Mali, and all key staff had left the country. Quantitative performance monitoring data were provided by DT Global, but the personnel to answer questions concerning those data were not readily available. Consequently, the evaluation team relied primarily on previously processed data whose quality and methods were outside the team's control.

4.0 FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This section presents the findings, conclusions, and recommendations for each of the four EQs. For the recommendations, it should be noted that many recommendations are contingent on the easing or cessation of insecurity and inter-ethnic strife in the country. In addition, as L4G has now ended, recommendations pertain largely with what USAID/Mali should do for future livestock support activities in Mali.

4.1 EVALUATION QUESTION I

To what extent do the trained auxiliaries continue to engage in activities that improve animal health in their villages? Are vaccines available in the villages of auxiliaries trained by SVPPs?

BACKGROUND

Vaccination rates at the time of the launch of L4G were very low in the activity implementation area. Lack of human and material resources (vaccines, vehicles, cold storage) to carry out annual vaccination campaigns contributed to low vaccination rates. The Regional Directorate of Veterinary Services for Mopti (DRSV in French) reported in 2015 that the Bankass and Koro circles had 953,512 bovine cattle, of which about 200,000 were vaccinated (21 percent). For small ruminants the situation was far worse. Of 2,385,376

animals, only about 50,000 were vaccinated (2 percent).¹ Few herders even knew who could provide veterinary services for their animals.

To respond to this shortage of veterinary services, the L4G activity formally launched the SVPPs in September 2015. The fee-based model included L4G-trained private veterinarians and 76 L4G-trained VAs. Between March and July 2015, L4G trained six private veterinarians (including one female), in order to improve their technical and private service delivery skills. L4G staff also provided training to 76 VAs, including 24 women (31 percent).² The VAs were given 20 days of training on seven modules. The Fiscal Year (FY) 2015 Annual Report stated that many of these VAs were also enrolled in the *Institut de Formation Professionnelle* (Institute for Professional Training, or IFP) in Bankass. L4G trained the VAs to buy and stock livestock inputs and veterinary medicines in order to provide basic veterinary services and advice to herders and animal fatteners. At SVPP launch in September 2015, only two vets remained active in the SVPP program. A third SVPP was fully certified in January 2016 and joined the other two. L4G helped the SVPPs to strengthen their businesses by developing a private sector revenue stream. All three SVPPs created business plans by early 2016.

The SVPP system encouraged private veterinarians to expand beyond vaccination to focus more broadly on animal health, while expanding the number and quality of VAs to provide animal fattening and animal health services in tandem with private veterinarians. The private veterinarians managed the supply chain of veterinary medicines and supplies, including the vaccination doses. SVPPs and VAs vaccinated cattle and small ruminants against common local diseases (peri-pneumonia, foot-and-mouth, and pasteurulosis), launched a deworming effort at the beginning and end of the rainy season, and treated other diseases. L4G reinforced SVPP skills in the use of vaccines, proper disposal of needles and glass vaccine containers, and procedures to ensure compliance with maintaining the cold chain for live vaccines.

L4G supplied veterinarian starter kits worth 1,740,000 CFAF (\$2,950) to each of the three private veterinarians. These consisted of furniture, refrigerators, freezers, air stabilizers, syringe guns, thermometers, needles, stethoscopes, stoves, surgical gloves, and other supplies. For the vaccination campaign in FY 2016, L4G purchased vaccines and provided them on credit to the three SVPPs to promote future sustainability. These loans were repaid and were intended to provide a model for bank credit in future.

Table 3 shows the number of animals vaccinated in FY 2016 and FY 2017 under L4G. In FY 2017, the SVPPs reported vaccinating 459,452 animals (cattle, sheep, and goats) against diseases, a substantial increase over FY 2016. They also reported combined profits of over 43 million CFAF (\$86,162).

Table 3: Number of Vaccinated Animals Under L4G, 2015-2017

Type of Vaccine	2015-2016			2016-2017		
	Bankass	Koro	Total	Bankass	Koro	Total
Contagious Cattle Pneumonia	36,266	4,327	40,593	78,283	85,081	163,364
Cattle Pasteurellosis	24,910	17,000	41,910	65,154	23,366	88,520
Sheep/Goat Pasteurellosis	82,534	38,645	121,179	166,628	40,490	207,568
Total	143,710	59,972	203,682	310,065	148,937	459,452

Source: Vaccination records compiled by L4G SVPP veterinarians.

In FY 2018, the three SVPPs reported vaccinating 171,591 cattle and 115,734 sheep and goats, a combined total of 287,325 animals, but a drop of 37.5 percent due to the growing insecurity. Between 2016 and 2018 an average of 22 percent of animals were vaccinated, compared to 8 percent in 2014.

¹ L4G Annual Report 2014-2015, p. 4.

² The L4G Final Report (FY 2014-2019) gives a figure of 76, one less than the 77 given in previous annual reports, including the last annual report (FY 2019). No reason is given for this by DT Global.

During FY 2017, L4G expanded the SVPP model into four new zones: one in Bandiagara circle, one in Mopti circle, and two in Djenné circle. L4G conducted community outreach that resulted in the selection of 26 new VAs for further training and service delivery under the direction of four private veterinarians. The L4G sub-contractor, AMRAD, also worked with existing veterinarians in the Timbuktu region to identify 10 VAs who could be paired with veterinarians and be trained by them to provide auxiliary animal health care services in the Timbuktu region. In its last implementation year (FY 2019), the three SVPP private veterinarians (one in Koro circle and two in Bankass circle) and 76 VAs (49 in Bankass and 27 in Koro) remained functional, and from five to 15 VAs supported each SVPP.

For the last two years of activity implementation, however, these vaccination campaigns were severely hampered by insecurity and inter-community strife in the Mopti and Timbuktu regions. In addition, insecurity in the Mopti and Timbuktu regions prevented SVPPs and VAs from conducting their normal vaccination and deworming activities. The FY 2019 annual report stated that more than 98 percent of vaccinated animals and revenues generated by the SVPPs were realized during the first half of FY 2019 (through March 31, 2019), with only 2 percent of vaccinations carried out during the second half of FY 2019 (after April 1, 2019). In FY 2019 the number of animals vaccinated was only 63,294, a drop of 78 percent from FY 2018. (The FY 2019 Annual Report did not distinguish vaccinations by animal type.) By June 2019, none of the SVPP veterinarians or VAs were able to operate outside the main city centers.³

FINDINGS

To investigate the availability of continued veterinary services, the evaluation team conducted 10 FGDs with participants from POs in the initially targeted SVPP areas, including four villages in Koro circle and three villages in Bankass circle. The team also conducted FGDs in seven other villages, three in Mopti region and four in Timbuktu region. Finally, the team conducted two FGDs with VAs, one with VAs from Bankass circle and one with VAs from Koro circle. These findings are enhanced by KIIs with the two Bankass SVPPs and with other knowledgeable individuals, including circle and regional-level government officials, the directors of veterinary services for the Bankass and Koro circles and for the Mopti region.

Continued SVPP Veterinarian and VA Presence in Villages and Their Roles

Participants in all 10 of the FGDs in Bankass and Koro circles acknowledged the continued presence of SVPP veterinarians and VAs in their village or in nearby villages. They report that the SVPP vets come to their villages once or twice a year during vaccination campaigns. Outside of these campaigns, vaccinations and treatment of sick animals in the villages fall to the VAs. In addition to vaccinations, VAs provide other treatments for sick animals, including deworming, and advisory services, often going door-to-door to dispense advice or raise awareness.

The two SVPPs in Bankass circle operate in Bankass city and in Diallassagou, to the southwest of Bankass city. They both report continuing to treat, deworm, and vaccinate livestock in the Bankass and Mopti circles. The two SVPPs reported that L4G trained VAs in Bankass for three days per quarter, provided them kits with basic materials and tablets for deworming, and put them under the vets' authority. They also report having initially received financial support from L4G to provide equipment to carry out the vaccination campaign. They reimbursed those funds, but the following year L4G allowed them to use the funds as working capital (a grant rather than a loan). Each continues to supervise VA activities in the field, visiting vaccination parks once a quarter to supervise and train VAs. They also provide loans to the VAs for vaccines:

“If a VA needs vaccines he is given them, and after the treatment he reimburses the SVPPs and is given half as much again because there is lack of liquidity.” (Government official)

The following quote by a PO member in Koro circle aptly sums up the benefits VAs offer PO members:

³ L4G Annual Report 2018-2019, p. 6.

“His role is to vaccinate during vaccination campaigns and to follow the treatment of our animals. Each time we do fattening, we call him to check the condition of the animal. The fact that he resides in the village makes it easier for us to access his care services quickly, and it costs us less money. This allows us to save our animal in case of emergency. In short, it reduces our losses in terms of income. (PO member)

Notwithstanding PO members' generally positive perception of VAs, it was widely noted in both FGDs and KII that the VAs have never functioned at full strength employing the full cohort of trained VAs, a point confirmed by the SVPP vets and state veterinary service officials. Many had been appointed through favoritism by local officials and lacked the will or qualifications to carry out their duties.

There was initially a tripartite agreement in FY 2016 between the town hall, L4G, and the SVPP vets to manage the SVPP system. As part of this agreement, the VAs are supposed to get their vaccines and other supplies from the SVPP vet, although reportedly this does not always occur. According to the SVPP vets, this agreement also included a plan to expand their coverage areas. However, the plan was never implemented due in part to the change in the L4G director, which, they claimed, adversely affected the expansion by delaying it to the point of abandon.

In contrast, the development of the SVPP program in Timbuktu lags significantly behind Mopti. In the four FGDs conducted in the Niafunké, Goundam, and Diré circles, participants reported that there are neither private veterinarians nor VAs operating in their villages. While state veterinarians exist in the Niafunké and Goundam circle villages of Tonka and Sibonne, there are no vets of any kind operating in the Diré villages of Tindirima and Bourem Sidi Amar.

SVPP and VA Vaccination and Treatment Activities

As reported by FGD participants, annual or biannual vaccination campaigns normally occur in all villages visited in the Mopti region and in two of the three circles visited in Timbuktu (with the apparent exception of Diré). PO members reported that the most frequent vaccinations are for peri-pneumonia and for livestock with diarrhea symptoms, but farmers also vaccinate commonly for foot-and-mouth disease, colds, and pasteurulosis. FGD and KII participants claimed that vaccination rates have risen notably in recent years, and that there has been a corresponding decrease in livestock morbidity and mortality, although they did not provide quantitative estimates for these claims. (All claims of improved animal health provided by FGD and KII participants were self-reported and not verified by independent sources.) Key informants widely cited the installment of vets and VAs under SVPP as an important contributor to these outcomes.

PO members in the Bankass and Bandiagara circles indicated that L4G incentivized their PO membership to take vaccinations more seriously. Prior to L4G, in Bankass there was a VA in the PO's village, but there was relatively little demand among members for his services. L4G, however, helped them understand the importance of herd health and herd fattening in value-added economic terms. While in the past they vaccinated at most one-half of their animals, they now claim to be vaccinating close to 100 percent.

“We now vaccinate our animals normally, even if they do not show signs of sickness symptoms.” (PO member)

Similarly, PO members in Bandiagara vaccinated their animals prior to L4G, but only some of them, and there were problems with the cost and quality of the vaccines.

“The problems we had with vaccination have disappeared, because with the L4G activity everyone understood the importance of vaccination. Previously, people did not vaccinate all their cattle, because they did not understand, but with the training received with L4G they understand everything.” (PO member)

In Mopti, where L4G SVPP vets do not operate, POs receive vaccination and other veterinary services from state-supported private vets who are not part of the L4G SVPP. In addition to vaccination services, these state agents treat sick animals and do deworming when necessary. However, in the villages where

VAs do exist outside the SVPP area, they provide similar veterinary services as the state agents, as reported by FGD participants from a men's cooperative in Bandiagara circle.

The head of the veterinary service of Bankass circle indicated that he does not know which vaccines L4G has provided VAs, but a number of other initiatives in the area are supplying them with vaccines, which are, in turn, administered by state veterinary agents. These state veterinary agents are volunteers trained by the state. According to this key informant, the VAs have the advantage of being able to travel throughout the circle providing veterinary services, despite the ongoing insecurity in the area.

Even in Timbuktu, where L4G SVPP activities had little direct influence on vaccination and veterinary treatment activities, one PO in Niafunké circle indicated that the L4G activity had helped to reinforce the skills of the state veterinary services. According to PO members, the L4G activity helped them become more aware of the need for regular deworming and a quarantine period after animal purchases for fattening before mixing them with the other animals on the homestead.

In response to a question about continuing the activities of the auxiliaries after L4G, one public official believes they can be sustained. However, he argues that the number of trained and active VAs is currently too low, and that there are not enough approved (mandated) agents to supervise them. In addition, he stated that the VAs require ongoing training, noting *"it is above all necessary to motivate those auxiliaries and give them refresher training."*

Availability and Cost of Vaccines

None of the 18 POs visited in Mopti or Timbuktu indicated problems with the vaccine availability in their villages, whether during campaigns or at other times. This echoed similar claims made by SVPP vets and VAs regarding vaccine availability. In Bourem Sidi Amar (Diré circle), where the PO indicated that no state agents were available for vaccination campaigns or treatment, FGD participants, nonetheless, claimed to be satisfied with the availability of vaccines. One of the two SVPPs in Bankass indicated that he has never faced a vaccine shortage. He has a freezer and two solar-powered refrigerators in a field site for storage and is thus able to provide his VAs with a steady supply of vaccines.

While vaccines are always available for purchase in the cities, the main impediment to their use is their cost, both cash and transportation costs. As noted by a member of the Koporona PO in Bankass, *"We have the vaccine every time we need it. It just depends on your having money or not."*

During vaccination campaigns, the state subsidizes the vaccine cost, and key informants cite vaccination prices ranging from 125 to 225 CFAF for cattle, approximately 100 CFAF for small ruminants and poultry, and 200 CFAF for sheep. Outside of the vaccination campaigns, the prices ranged from 200 to 1,000 CFAF for cattle and from 100 to 200 CFAF for small ruminants. The prices during and outside campaigns do not appear to differ, according to the FGD participants. The youth platform in Sofara, however, claimed that the cost to vaccinate cattle outside of the vaccination campaigns can be as high as 3,000 CFAF. At this time, vaccinations and treatments are often mixed, and the price charged depends on the animal and the specific disease. Because of the cost barrier, in some cases, animals are not vaccinated until they appear sick.

In addition to the cost of the vaccines themselves, farmers pay the VA a labor charge. Labor charges are negotiated between the VA and the farmer and include, among other things, compensation for transport/fuel and other costs for the VA plus a profit bump.

Positive Impressions of SVPP/VA Activities

The SVPP system installed by L4G was favorably perceived by members of POs who were included in the FGDs. Table 4 shows some of the favorable impressions expressed by FGD participants.

Table 4: Positive Impressions of SVPP and VA Services Mentioned by FGD Participants

Type of Positive Impression	Number of Mentions
Learning about how to improve animal health	14
More ready access to veterinary services	7
Higher number of animals vaccinated	3
Fewer animal deaths due to vaccines	8
Greater payment flexibility	3

Note: Out of 18 FGDs.

All FGDs indicated that the VAs respond rapidly when called, if they are able to. According to the chairman of Bankass circle, for example, *“The [SVPP] approach has effectively improved the vaccination coverage rate because the auxiliaries are close to the population.”* A PO member noted *“They [VAs] occupy a very large place in the village. They are very important to us, because when your animal gets sick and you call them, they come very quickly to treat it.”*

Before the installation of the VAs under L4G, farmers’ only options were to call private vets or state technical agents, which were often unavailable, busy, or otherwise unable to provide prompt service.

Said one PO member in Koro circle, *“Before L4G, veterinarians were only in Koro, and it was not easy to mobilize them. But nowadays, auxiliaries are living with us in the village, and we have access to their services very easily.”*

A PO member in Bankass circle similarly noted that previously, when an animal showed signs of illness, they would have to call a veterinarian from Bankass city observing, *“He might spend two to three days before coming. It causes us many losses.”*

Another benefit is that having people who live in the same or a nearby village provide services introduces greater payment flexibility, which in turn promotes increased utilization.

“When they are in the village, even if you have no money, they take care of your animal and then you pay them their money later. When the person comes from Koro or Bankass, you do not know each other so you are obliged to pay them the same day.” (PO Member)

FGD participants from women’s PO in Mopti circle emphasized that the presence of VAs nearby, together with the L4G intervention, have made a significant difference in their ability to earn income from their animal raising activities.

A high-level official in Bankass city maintained that herders are no longer holding back from vaccinating their herds stating, *“Mortalities we knew before have greatly decreased.”*

Similarly, another Bankass city official asserted that the VAs play a vital role assisting livestock raisers in vaccination and providing different animal treatments.

“Due to the assistance of these young auxiliaries, treatments and vaccinations are no longer difficult to do. They are there in town, and we benefit from their services at any time, whenever we wish. So having them close to us is an important thing initiated by the activity. And in addition, it helped to absorb unemployment.” (Government official)

In Koro circle, a high-level government official noted that state veterinary agents were not numerous enough to cover the whole circle and that the addition of SVPP vets and VAs has materially increased available vet resources leading to an improvement in animal health.

“We think it was a very good thing to have brought these auxiliaries closer to the stock raisers. But it should be noted that auxiliaries are also insufficient.” (Government official)

In this light, he said that state agents require much time and effort to visit villages in the circle during and outside the vaccination campaigns and that, ideally, there should be at least five VAs in each commune.

Key informants also uniformly agreed that the SVPP program has helped stock raisers to improve the health of their herds. VAs are active in the villages and always respond to requests for animal treatment and vaccinations with an attendant rise in the number of livestock vaccinated and improvement in herd health. During 2019, however, FGD participants indicated that livestock vaccination rates and herd health declined concomitantly with the disruption in the SVPP system and vaccination campaigns brought about by increasing levels of insecurity in the regions. Stock raisers were afraid to group the animals because of bandits.

All of the FGDs with POs in the Mopti region, whether within the L4G SVPP/VA core zones of the Bankass and Koro circles or in adjoining circles, claimed to be more aware of the need for vaccination, in part due to the influence of L4G. FGD participants also uniformly claimed to have observed a significant impact on animal health through decreased animal morbidity and, more importantly, decreased mortality, again due in part to L4G. Although the FGD participants were unable to offer precise estimates of improved animal health, they were adamant that the losses typically experienced in the past have been significantly reduced. These were self-reported results with no actual data to back them up.

Challenges to Achieving Full Vaccination

Table 5 lists prominent challenges to achieving full herd vaccination, as indicated by FGD participants.

Table 5: Challenges to Full Vaccination Mentioned by FGD Participants

Type of Challenge	Number of Mentions
Cost of vaccinations	3
Theft of herds or insecurity at vaccination campaigns	2
Lack of vaccines available	1
Lack of quality vaccine	1
Vaccines not located in close proximity	1

Note: Out of 18 FGDs.

KIIs with government administrative and technical officials further identified several challenges to full implementation, expansion, and sustainability of the L4G SVPP approach now that the activity is over, including insecurity, cost, access to and availability of services, training and availability of VAs, and poor state oversight and coordination with L4G

Insecurity

Insecurity from violent extremism and inter-community conflict in Mopti and Timbuktu was the number one reason cited in KIIs for the limitations in the reach of the L4G SVPP activity. Indeed, as indicated earlier, the vaccination campaign in Mopti was suspended in April 2019 due to growing insecurity. Many villages are now totally inaccessible because of insecurity. One official said that, in the past, the challenge was the lack of qualified and competent veterinarians, but now it is their ability to get out to the areas they wish to serve.

For example, there is considerable fear among herders of grouping animals for vaccination because of banditry. Indeed, some herders have sold their animals to avoid being robbed.

“The theft of the herds of some stock raisers by armed bandits greatly discouraged these stock raisers from bringing their animals to the vaccination parks for fear of being robbed of their property. At the same time, growing insecurity means that mandated private technical or veterinary agents are no longer able to reach certain inaccessible localities.” (Government official)

Another factor that results from insecurity is that stock raisers may distrust the vaccinators and the vaccines they use, if they do not personally know the vaccinator. Consequently, they may not bring their animals to them. The VAs have helped to continue veterinary services because they reside in the villages and do not have to travel through insecure areas in order to provide services. However, insecurity does

affect the VAs' ability to do their job. For example, the VAs must come into town to pick up vaccines and submit statistics on their vaccinations for official reports. During the latter part of L4G, there was a ban on motorcycle use in the field to limit terrorist displacement; however, this ban has now been removed.

High Cost

The second barrier to full implementation and a 100 percent vaccination rate is cost. One official reported that some costs are very high for the herders. Such is the case for foot-and-mouth disease. The dose alone can cost as much as 1,000 CFAF and would seem cost-effective only for cattle. The cost for providing the vaccination can be another 500 CFAF. The GOM has started to subsidize this vaccine down from 1,000 to 150 CFAF. Participants in the youth FGD in Sofara claimed that the cost to vaccinate cattle outside of the vaccination campaigns can be as high as 3,000 CFAF. One of the two Bankass SVPP veterinarians indicated that complete clinical treatment varies from 1,500 to 9,000 per head of cattle and 400 to 500 CFAF for small ruminants. This is very expensive for a herd of animals.

To avoid paying these costs, stock raisers may vaccinate only a portion (for example, 60 percent) of their animals, believing that this will be sufficient to protect the rest of the herd. Because people are not vaccinating completely, other diseases have sprung up that were rare before.

One official recommended that, with donor support, it is beneficial to provide vaccinations free of charge initially. He feels the solution is to gradually raise the subsidized price and let the herders pay an increasing share of the real price, once they begin to realize the value of the practice. This value is now recognized in L4G core areas by its impact on herd mortality. Once this occurs, the price the stock raisers pay can be used to pay the VAs and replenish the stock of vaccines.

Lack of Credit Access for SVPPs

SVPP vets reported that L4G never followed-up on its plans to link the vets to sources of credit to finance vaccination campaigns. L4G did, however, organize two days of "Café-Finance" meetings in November 2018 in which banks and microfinance institutions (MFIs) met with POs and presented their financial products, but little progress was achieved beyond this point.

Lack of Awareness

The SVPPs and VAs indicated that there is continued lack of awareness of the value of vaccination among many herders reportedly contributes to the lack of willingness to pay for vaccinations. In addition, there can be a lack of understanding of the importance of having multiple vaccinations, in the correct order. The isolation of many villages, and the general lack of transportation for the population, results in this lack of awareness. As a result, farmers may not follow the correct order of vaccination or may only vaccinate part of the herd to avoid paying taxes.

Limited Access to and Availability of Services

The evaluation team heard from multiple respondents that there are not enough accessible vaccination parks, especially those suitable for small ruminants. Those that do exist often do not meet minimal standards. The current instability has meant that existing parks are no longer maintained and some are badly damaged. One head of veterinary services suggests building vaccination parks in some new localities to avoid long-distance travel. This would be especially useful in view of the current insecurity in many parts of the Mopti region, especially the Bankass and Koro circles. In addition to terrorist activity, there is a good deal of banditry, and stock raisers fear losing their herds if they have to travel far for vaccinations.

Several officials asserted that the conservation of veterinary products, especially vaccines, is a challenge. The lack of cold chain equipment for vaccine storage and solar panels to power this equipment is particularly notable in the villages given that VAs must often travel long distances (up to 160 kilometers) to obtain vaccines. One proposal would be to obtain refrigerators fueled by solar panels. In FGDs, this

was confirmed by the VAs themselves, who claimed to have insufficient vaccination materials, for example syringes and coolers.

“To further improve local services, it is necessary to provide stations with solar refrigerators and freezers to ensure the conservation of veterinary products so that people who travel 60 to 100 kilometers to come to Bankass can stock up there directly. This saves enormous time and resources and makes it possible to give adequate treatment on time and help reduce mortality.” (SVPP)

Training and Availability of VAs

The evaluation team heard repeatedly that the number of VAs needs to be increased, even in Bankass and Koro, where they are reportedly still insufficient in number to cover the whole circle. For example, a senior official in Bankass stated that a major obstacle to vaccination activities is the lack of private veterinarians in the localities to ensure effective vaccination, coupled with an insufficient number of trained VAs to support them.

“We think it was a very good thing to have brought these auxiliaries closer to the stock raisers. But it should be noted that auxiliaries are also insufficient.” (Government official)

In this light, he noted that VAs require much time and effort to visit villages in the circle during and outside the vaccination campaigns and that, ideally, there should be at least five VAs in each commune.

In addition to an inadequate number of VAs, there is an issue of the inadequacy of their training and skills, compounded by how the VAs were selected. Government officials expressed their opinions as follows:

“Trained auxiliary agents [VAs] do not have the required knowledge. They do not manage to do the activities as they should. There are also agents who are not operational at all.” (Government official)

“[L4G] should have called on agents who were qualified enough to improve the vaccination coverage rate, like graduates of IFP.” (Government official)

“The choice of auxiliaries was made by the agents of the town hall. The choice was more political.” (Government official)

“At first, the mayors who made the choice of auxiliaries thought that after the training, these people would continue to do the activities and it would be a job for them forever, but that is not the case.” (Government official)

“The activity chose two youths in each village and trained them in preliminary care. But after observation with injections and others, it was clear that they were not qualified enough to do it. Therefore, the best option is to choose people who are involved with the field. Unfortunately, the program did not do what was best regarding that.” (Government official)

“[L4G-trained VAs] do not have all the necessary technical skills to ensure the application of good and adequate practices. This is not limited to vaccination work, but also includes treatment of sick animals.” (Government official)

Observers of the VAs, including the two L4G SVPP veterinarians, indicate that most of the VAs were not graduates of the IFP in Bankass, or other similar technical schools, but rather were chosen by local politicians and administrators. In addition to formal training, the graduates of IFP would have had four years of experience in the field. They reported in KIIs that only a few of the initial group of L4G-trained VAs were graduates of the IFP. In addition, some of those receiving L4G training were illiterate, and many of those that were literate were not educated beyond the 9th grade diploma. Some stock raisers themselves have complained that the VAs were only trained in primary treatment, deworming, and vaccination, without much knowledge of the various diseases their animals have. This was echoed by one of the former L4G activity agents as well who indicated that the training should be deepened and lengthened, particularly in how to diagnose and treat certain diseases.

The lack of skills and training of the initial group of VAs led to the result that only a portion of the trained VAs were operational by the end of the L4G activity, compounding the problem of limited availability of VAs. It was widely noted in both KIIs and FGDs that the VAs have never functioned at full strength, a point confirmed by the SVPP vets and state veterinary service officials. Of the 76 originally trained, a large number were never operational and at activity end only 23 were in place in their villages, including 14 in Bankass and nine in Koro.

Table 6 shows the number of VAs trained, operating, and working with SVPP vets in Bankass and Koro circles toward the end of the activity as reported by Fraym. The numbers in Table 7 roughly corroborate the ET’s own findings confirming that a significant attrition has occurred among trained VAs, both in terms of the total number who remain operating and the number who remain operating with SVPP private vets.

Table 6: Presence of Veterinary Auxiliaries in Bankass and Koro Circles under L4G

Circle	Number of VAs Trained	Number of VAs Operating	Number of VAs Working with SVPP Vets
Bankass	49	12	12
Koro	27	15	6
Total	76	27	18

Source: Fraym report “High-Level Analysis of Animal Health in Target Communities before and During L4G Activities,” citing L4G report “Mali Livestock for Growth (L4G) Diagnostic Report on Private Veterinary Services of Proximity.”

According to the SVPPs and state veterinary services officials, a factor contributing to this attrition rate was that the selection of VAs was not done in a participatory manner and did not involve the SVPP veterinary agents nor the state veterinary service. (This was never indicated as an issue by DT Global, nor did it provide any explanation for this practice.) Most of the operational VAs were graduates of the IFP. A regional director asserted that regulations prohibit using unqualified personnel, and that VAs should be graduates of an agro-pastoral school such as the IFP.

Another factor in the attrition is that an SVPP reported that he did not make the selection of the VAs he would be expected to supervise.

“The bad part of the L4G activity was the selection of auxiliaries. The selection of auxiliaries was poorly made by politicians. In the beginning, we were asked to make a list of people capable of ensuring the vaccination and treatment of animals in the field. We made a list, but ultimately the activity gave this task to politicians. These politicians also chose people who have never held a syringe and who have no knowledge in terms of farming. We knew many people who have the competence to do the job and who already worked with us long before the activity. There are also young people from IFP who can do these tasks well. In the context of the activity, the whole problem lay only in the choice of auxiliaries.” (SVPP)

He goes on to say that they continue to rely on the VAs that the activity trained and put at their disposal, but only 12 are now functional in six municipalities, because a majority of the initial group were not qualified. Another problem this SVPP points out is that while the selection criteria are the main source of non-functionality of VAs, another problem is the lack of respect of the agreement between agents and VAs.

“But L4G never reacted whereas it had to bring us together and find a solution to the issue.” (SVPP)

In response to a question about continuing the activities of the auxiliaries after L4G, one public official believes they can be sustained. However, he argues that the number of trained and active VAs is currently too low, and that there are not enough approved (mandated) agents to supervise them. In addition, he stated that the VAs require ongoing training, noting *“It is above all necessary to motivate those auxiliaries and give them refresher training.”*

State Oversight and Coordination with L4G

In order to sustain the benefits of the SVPP/VA activities, it will be important to involve the government veterinary services in Bankass and Koro. However, the evaluation team heard that there is a lack of vaccination monitoring and lack of control by state agents, which puts the sustainability of the L4G SVPP program at risk.

While this is partially a function of their lack of financial resources, it is also due to the lack of buy-in to the program by the government veterinary services.

Evaluation interviews carried out with state functionaries and technical service officers revealed that they perceive L4G to have neglected to coordinate with them sufficiently during implementation. This is a common problem in development activities that seek to avoid bureaucratic delays while trying to achieve accomplishments on the ground, often in difficult circumstances. However, neglecting the state technical services in this case, particularly the veterinary service, was clearly seriously resented by key respondents.

For example, one head of veterinary services indicated that even as head of the service he did not have any role to play in the L4G activity.

“This is because in the beginning, the activity promised us to hire young graduates who were going to work as auxiliaries, but in the end, it was the opposite. So, I was disappointed and had no commitment to the activity....Despite the fact that they gave me some materials in the beginning of the activity, I was disappointed by their approach. And since then I have not had any contact with L4G.” (Government official)

Another head of the veterinary services felt that the sharing of vaccines and vaccination materials should pass through the state technical service for quality control before being administered to animals. He emphatically stated that, *“If you undertake an activity and you do not engage in synergy of actions with the technical services of the State involved in the field, I would say that it will fail at 95 percent.”*

One way that the government veterinary services could have been involved is participation in the selection, training, and supervision of the SVPPs and VAs. One veterinary service head stated that L4G indicated at the beginning that there would be a tripartite partnership in place between the veterinary service, the circle council, and the SVPP/VA system to carry out supervision. However, he indicated that from the beginning of activities, L4G hired people from outside the country to train the auxiliaries and that was a loss for the state and for the veterinary service. He claimed that competent human resources are to be found in Mali to conduct training of VAs and carry out vaccinations. However, L4G used an expert from Niger to train the VAs, which annoyed some of the Malian technical staff and set the stage for the inadequate buy-in to the program by government agencies.

“I would not say that their strategy does not work, but if we work together, we have to make the right decisions together and examine the relevant things together, which has not been the case with them.” (Government official)

The government agencies are responsible for collecting routine statistics on vaccination. One official criticized one of the SVPPs, indicating that it had been six months since he had received any vaccination reports from him. Another person, a rural development advisor, also felt left out.

“They never called us to attend a meeting or anything else of the activity. Whereas we just wanted to be a witness to what they are doing. They forget that we are a major player. Even in the documents of the activity, there is a place which is reserved for the regional council in order to supervise what they are doing, but nothing happened.” (Government official)

The presidents of the circle councils also indicated that they were also kept apart from activity implementation.

“As chairman of the circle council, I have had no specific role to play in the implementation of the L4G activity, but we were invited to its launching and to its closing ceremonies. L4G did not involve us in its achievements, so we didn’t collaborate much. We waited for them to come to us first, because we are the entry point, but they did not do it.” (Government official)

One head of veterinary service summed up the opinions of the officials who were interviewed:

“From now on the activity must review its collaboration with the technical services of the State. It is necessary that the competent technical services at the local level be involved for the areas which fall within their competence and district. And that it hires people who have the necessary skills to carry out the tasks of auxiliaries. As for technical training, it must promote national talent who have the necessary skills to provide training in terms of animal health.” (Government official)

CONCLUSIONS

- The L4G activity succeeded in devising and putting into place an SVPP in the Koro and Bankass circles of the Mopti region that involved three accredited private veterinarians and 76 VAs. Despite intentions to expand this model to other circles of the Mopti region, L4G was unable to extend the SVPP program by activity end.
- The network of VAs backed by SVPPs was greatly appreciated by beneficiaries, easy to access, rapid in response, and affordable. The VAs covered their areas well and provided all veterinary services, including vaccination, deworming, disease treatment, and other advisory services. Although VAs were only given basic training, villagers felt that VAs provided quality services and provided valuable information on the value of vaccination.
- While L4G intended in the beginning to choose VAs from qualified graduates of the IFP in Bankass or other similar schools, SVPPs and local government officials claimed that it allowed local politicians in the administrative circles or communes to push forward many of their favored candidates. This led to a large number of unqualified VAs, some of which never functioned in their communities. Although L4G in its final activity report continued to tout the training of 76 VAs, at activity end the evaluation team found only 23 active in their areas.
- The low number of SVPP vets and trained and qualified VAs, together with L4G’s lack of expansion to other circles in Mopti region and to the Timbuktu region, limit the overall vaccination and animal care coverage the SVPP program has been and will be able to achieve, despite considerable improvements in both over L4G’s lifetime. These low numbers of veterinary service providers, combined with the historic high attrition rate among VAs, is an impediment to the long-term sustainability of the considerable improvements in veterinary care and coverage achieved during L4G’s lifetime.
- In spite of equipping the SVPP veterinarians with essential veterinary starter kits and lending them financing for the first two vaccination campaigns, L4G was never able to successfully link the veterinarians with bank credit lines for succeeding campaigns. The cessation of most bank lending in Mopti region due to insecurity is probably the major reason for this, but L4G failed to come up with an alternative credit mechanism.
- According to beneficiaries and service providers, there is no shortage of vaccines available for use in the villages. The VAs obtain their supplies in nearby towns, but their ability to store them is extremely limited. The SVPPs still have sufficient cold storage in their offices. Notwithstanding, there exist ongoing challenges related to ensuring that SVPP vets and VAs possess the necessary equipment, in particular cooling equipment for vaccines, to provide quality services and prevent vaccine spoilage.
- The most important challenge to full vaccination coverage is the insecurity and inter-community violence. L4G VAs and SVPPs, as well as other private veterinarians and auxiliaries, are hampered in their ability to reach insecure or isolated villages, and herders are afraid to mass their animals to take them to vaccination parks. Many herds have been sold off or taken south to safer areas.
- L4G failed to collaborate closely with relevant state regional and circle veterinary officials in its intervention areas. This caused resentment among local government stakeholders. While the

veterinary services recognize the value of L4G, they feel it should have been involved far more in activity training activities and coordination on the ground. They have, moreover, serious concerns about supervision of the SVPPs and VAs and quality control of vaccines and disease treatment.

- The L4G SVPP model is viable and appreciated by beneficiaries, but it requires financial resources to continue at its current level, let alone expand into new areas in the Mopti and Timbuktu regions. This implies further donor funding.

RECOMMENDATIONS

- USAID could consider implementing a follow-on livestock activity in Mopti and Timbuktu where stock raising and animal fattening are such an important component of household welfare. Obviously, this will depend on the return of security in these regions.
- In order to increase population access to vaccines and medicines, future activities should support private veterinarians and VAs by equipping new nearby supply points with refrigerators, freezers, medicines, and thermos-tolerant vaccines. This will be important as the initial equipment provided by L4G deteriorates. Maintaining the cold chain is essential to sustaining private and public veterinary care and vaccination campaigns in Mali. If state resources are not sufficient, donor support will be necessary, whether by USAID or through a collaborative effort by donor agencies.
- Credit linkages between SVPPs and local banks need to be prioritized and established by any future activities. Contacts with banks were initiated in the Mopti region during L4G, but there was no follow through. The private veterinarians need to finance their vaccination campaigns and under normal conditions can reimburse these bank loans. Of course, currently banks have cut back lending even to agriculturalists, but with a return to security they can begin to lend again. Given declining security conditions, alternative credit sources should be explored, particularly NGOs.
- With its experience in financial intermediation, the Association of Professionals in Financial Intermediation of Mali (APIFIMA) could be called upon to develop loan applications for these veterinarians and provide advice in reimbursement. The state will need to provide more resources for its own agents. This should be a part of any new USAID or other donor effort in the livestock sector.
- At the same time, VAs should be assisted with a start-up fund to acquire their first stock of supplies, as well as some measure of transportation assistance. In the absence of L4G, this will probably require further donor resources, since this is a private system. If USAID chooses to finance a follow-on livestock activity in Mali, it should include such a fund in expansion activities in Mopti and Timbuktu.
- It will be necessary to increase the involvement of the state veterinary services at the various administrative levels through specific agreements with a future SVPP model activity. Such an activity will need to be donor supported at first, but closer collaboration and a less-abrupt phase-out of USAID-funded activities could improve the sustainability of the system.
- At a minimum, the state veterinary services should be involved in the selection of future VAs to avoid favoritism and political interference in their selection and to respect essential qualifications for their positions and duties.

4.2 EVALUATION QUESTION 2

From the beneficiaries' perspective, did their access to the co-located introduction of new fattening technologies and vaccination programming improve beneficiary productivity, access to markets, and incomes? How did the co-location contribute to the improvements?

BACKGROUND

L4G sought to improve fodder and feed for livestock by identifying the best practices already in place in Mali and then introducing and spreading them in the activity intervention areas of the Koro and Bankass circles. L4G also sought to identify and build relationships with risk-tolerant forage producers to adopt new techniques from other areas. This included the identification and introduction of seed technologies that would improve fodder production and help roll them out to the wider population.

One approach L4G took was helping animal fatteners cut costs by producing their own forage and feed, enriching hay with urea, and learning farm silage production. Bottom-up investment would then keep fattening costs reasonable. In the L4G animal fattening training, participants learned the basic norms and standards for market delivery, buyer preferences and exigencies, and innovative marketing plans to sell their animals at peak price periods. According to the L4G 2016 Annual Report, the methods for animal fattening that L4G promoted increased the number of annual animal fattening cycles possible from one or two to three or four. The L4G-assisted fatteners were reported to be selling livestock with greater mass than animals fattened by traditional means.

In FY 2016, L4G pursued initiatives to sensitize herders on improved animal fattening techniques. L4G organized several training sessions for POs in new communes of the Koro and Bankass circles on three topics that contributed to animal fattening: techniques for enriching hay and straw with urea, fabrication of multi-nutritional licking blocks (MLNBs) for livestock, and forage management. With the limited agricultural land available, developing dual-purpose fodder crops was determined to be a sound strategy to meet the nutritional needs of livestock in Bankass and Koro. Improving the production and productivity of these fodder crops would allow producers to generate a surplus sufficient to be marketed to other livestock owners, earning the household an income while meeting household nutritional needs.

One goal was to assure that improved fattening activities were co-located with increased access to veterinary services, through the SVPP activities, as occurred in the Bankass and Koro circles. In April 2016, L4G expanded into seven communes in the Bandiagara, Djenné, and Mopti circles and a select number of activities in six communes in the Timbuktu region. While this expansion included improving animal fattening activities, it does not appear that expanded veterinary services through the SVPP model were successfully implanted in these new areas in either region, as noted above under the findings for EQ 1. Consequently, co-location of veterinary and fattening activities was focused primarily in the Koro and Bankass circles.

In the third year of L4G activity (FY 2017), L4G established FFSs, which involved using community-based lead farmers as trainers of neighboring farmers. These individuals demonstrated and taught practical skills to POs and their member livestock farmers as well as dual crop and/or forage farmers. The FY 2017 annual report indicates that 37 FFS demonstration sites were established, with each L4G field agent responsible for mentoring and monitoring the activities of two to three sites. There were 18 FFS sites for demonstrating forage production (*i.e.*, cowpea, groundnuts, and an indigenous grass) and 19 FFS sites for demonstrating best practices for animal fattening.

In the fourth year of L4G implementation, the major means to disseminate information on new techniques and technologies in animal fattening continued to be through FFSs. The L4G FY 2018 Report indicates that L4G collaborated with 529 POs to establish 45 new animal fattening demonstration sites in Mopti region circles (16 in Bankass, seven in Koro, four in Mopti, three in Bandiagara, and five in Djenné) and 10 in Timbuktu region circles (five in Diré, three in Niafunké, and two in Goundam). A cost-sharing model was used in which L4G and POs agreed to co-finance the supplies, equipment, and materials, with the POs

providing roughly 70 percent of the total investment, including all animals used for demonstration purposes. This same year L4G trained 650 lead farmers at these 45 FFS animal fattening demonstrations who in turn taught the techniques learned to 590 POs with 31,912 member farmers (20,987 women and 11,065 men). In theory, each lead farmer was to train at least 25 others who would in turn train another 25 animal fatteners. Because of insecurity and resulting governmental restrictions on motorcycle movement, however, the actual number of participants decreased to about 32,000 from the original target of 101,000.

Other activities promoted by L4G in its target areas focused on support to livestock fattening and production methods, including enhanced production of fodder and local forage crops, MNLBs, and regular off-take of animals from herds.

In L4G's last year of operation (FY 2019), the FFS remained its primary mechanism to disseminate best practices in animal fattening. During that year, L4G created an additional 69 FFS sites, which included 28 sites for cattle fattening in Mopti region, five sites for cattle fattening in Timbuktu region, 28 sites for sheep fattening in Mopti, and eight sites for sheep fattening in Timbuktu. In addition, L4G conducted information campaigns by radio and through mobile phone service providers and continued to promote the cultivation of dual-use fodder crops such as cowpea, groundnut, sorghum, millet, and moringa.

FINDINGS

Findings are based on 18 FGDs, 10 in the Koro and Bankass circles, four in other circles of Mopti, and four in Timbuktu. These findings are augmented by findings from 18 KIIs.

Animal Fattening Training in Farmer Field Schools

All PO members included in the 18 FGDs, both in co-located and non-co-located circles, had participated in the FFSs. All POs had previously practiced fattening but claimed to have learned new techniques from the FFSs. Normally, a few members of each PO (usually two) attended the FFS and were then expected to pass on the training to others in their PO, as well as on to others in their own and surrounding villages. Formal extension of this training to at least an initial group of 25 more persons was the objective, but this cascade training appears to have fallen short of expectations for lack of per diems and difficulty of travel. It was probably known to these trainee leaders that no per diem was forthcoming, but they hoped for better turnout in any case. Nevertheless, extension of these teachings seems to have occurred among PO members, since all FGD participants revealed solid knowledge of the full set of new techniques.

The basic fattening techniques taught in the FFSs were recalled by the members of all 18 POs visited, and included choosing the right animal for fattening (breed, age, weight), use of a zoometric tape for measuring animal weight and gains, treating hay with urea for higher digestibility and nutritional value for animals, feed rationing when fattening animals, producing MNLBs, understanding animal health care practices, techniques for forest harvest and conservation, and prophylactic guidance for preventive vaccinations against diseases and other treatments. When asked for additional techniques learned, PO members most commonly identified necessary quarantine and treatment for purchased animals, vaccination, use of fodder and dual-use crops (human and animal consumption), and use of a measuring tape to gauge animal size during fattening. They also occasionally mentioned the use of an operating account to track expenses and profitability. All POs, moreover, also mentioned receiving seed to produce fodder and dual-use crops.

Responses indicated a high degree of satisfaction with the business knowledge gained from the training, in addition to the specific new fattening techniques acquired. They indicated that one of the important business lessons taught was how to shorten the fattening to an optimal period, assuming the other feeding techniques were followed. They recognized that they had not been doing fattening efficiently, keeping the animals around the homestead for far longer than necessary to make a reasonable profit. Nor did they previously have a method for tracking and calculating costs and gross profit margin for their animals, until L4G gave them training in what these beneficiaries called the "operating account."

To examine the additional benefits of co-location of the SVPPs and FFSs, the evaluation team held FGDs outside of the co-located circles. PO members in these non-co-located FGDs demonstrated a similar recall and understanding of the concepts as those in Koro and Bankass. As mentioned, these POs had also been exposed to the techniques taught in the FFSs of L4G.

Participation in the FFS was not only effective in teaching participant farmers new fattening methods, it also helped them understand better how fattening can help them earn more from their animal raising activities, as the following quotes illustrate:

“And that is how many of us understood the training. So, we understand a lot about the period during which we have to fatten and then when we sell, we can know how much we spent and how much we have as profit.” (PO member, Koro circle)

“These items were given for demonstrations in order to know the added value of these different technologies and to develop an operating account to see the profitability of the different technologies.” (PO member, Koro circle)

“With training and support of the project, we learned a lot in terms of fattening. We continue to practice these techniques, because they bring us a lot of income.” (PO member, Bankass circle)

POs visited included some that had received previous training in fattening techniques and others that had not. In the first case, members of one PO indicated that they had learned valuable new information and techniques despite past trainings, with one member remarking:

“I told the agents that they had nothing to teach us because this is an activity we already know. But after some sessions, I realized that I had a lot to learn. Techniques for selecting animals for fattening, making the licking blocks, improving straw with urea, post-harvest management, and estimating the live weight of animals.” (PO member, Djenné circle)

In the POs without previous instruction in fattening techniques, members were effusive about the valuable new techniques and skills they had learned. Table 7 shows some of the benefits of the FFSs mentioned by FGD participants.

Table 7: Skills Learned at Farmer Field Schools Mentioned by FGD Participants

Type of Skill Learned	Number of Mentions
How to grow and improve fodder	17
Fattening techniques (i.e., timing of fattening)	17
Estimating weight of animals	7
Marketing techniques and contracts	7
Calculating profits	7
Ability to fatten more heads	15

Note: Out of 18 FGDs.

PO members observed that, although they had been doing fattening prior to L4G, they now realized that the FFS showed them the professional, agribusiness way to do it. Said a PO member from Diré circle, *“This is really something new for us, because we didn’t know it before. We continue to apply everything that the project has taught us.”*

Other stakeholders—including local government officials, SVPP veterinarians, VAs, and former L4G field agents—universally expressed positive perceptions of the FFSs and the value of the fattening techniques taught there. The following quotes are typical of the views expressed by these stakeholders:

“It has greatly helped stock raisers. In the past, people practiced activities but they had no experience of it. But thanks to L4G, farmers are able to distinguish the difference and usefulness of chemicals, having the experience of new techniques and even the time that it takes to feed animals.” (VA Koro circle)

“It is very useful to do fattening because it allows producing good quality of animals and providing healthy meat and then generating incomes. If one succeeds in managing well his fattening income, he will make his own business.” (Local government official)

“In my opinion, when we talk about fattening, we are also talking about income. When this income is acquired, there is surely an improvement in living conditions. This means that the program has served a lot, and so far, others continue to use the techniques learned through the program.” (SVPP)

Issues with the Cascade Training Model

Although highly satisfied overall with the fattening training received in the FFSs, PO participants also identified a number of ways in which FFSs might be improved. Among the most common recommendations included offering more training of the same type closer to more villages, reducing travel time and distance, including more people in the training, and extending the length of the training in each case. The first two of these recommendations, however, do not account fully for L4G’s cascading strategy in which these initial training of trainers (TOT) sessions would lead to a cascading down of training across multiple villages, thus reducing the travel time and distance for all participants.

At the same time, however, embedded in the recommendation to increase the number of training participants is the recognition that initially training a small number of people risks knowledge loss if those people trained either do not fulfill their cascading role or are unable to grasp the fattening techniques well enough to communicate them to others. In other words, the number initially trained would be much greater with better retention and the need for subsequent cascade training reduced. The following two quotes illustrate this point.

“It will be necessary to carry out training in our own village where we can mobilize more people for the demonstration sessions. Because during sessions at the central level where several villages meet, there are only one or two representatives per village and during the feedback session in their own villages. There is a risk of information loss because the only delegate is not able to retain or record all the information given his level of education.” (PO member, Tere)

“If the project can increase the number of participants or come to us for local training, it would be even better to avoid loss of information.” (PO member, Logon)

Another issue brought up in multiple FGDs was that PO members considered the per diem for the FFS training and the lack of a per diem for the cascading of training “entirely inadequate.” The male Ende Toro PO members indicated that the project (or a future similar project) needs to review the per diem given for both initial and cascading training because:

“They are very insufficient to cover what we spend. We want the per diem to be given according to the distance of the participants’ localities. Of course, we go to learn but we leave our families for three days when we do not work as well. Who will feed our families? After that, we must plan for another per diem for the other members, because many do not come because of that.” (PO Member Ende Toro)

This issue clearly limited the educational value of the planned cascade training sessions supposed to occur as PO representatives returned to their villages and trained their fellow PO members or PO members in neighboring villages. What emerged from the FGDs was that the plan for cascading of training fell well short of its intended reach, although the PO members could not provide specific numbers. The PO representatives that had attended the initial FFS trainings all indicated they had informed other PO members, but not much beyond that.

For example, the women of the female PO in Koporona indicated that L4G chose 10 women from their PO to attend the FFS training. On return to their village, these women did pass on the teachings, but not in formal training sessions:

“Since people are not stable, we communicated one by one to transmit the information. Even during ceremonies, we shared information with everyone.” (PO member, Koporona)

The mixed PO in Koporona also noted issues with the cascading model, particularly related to the lack of a per diem:

“When a person goes to training in Koro, comes back, and asks people to come for the feedback session, people are not motivated. They say there is no per diem to receive, so they do not come. At the beginning we even called mayors and chiefs and they all stopped coming to the trainings, because we don’t give money.” (PO member, Koporona)

In the latter case, the cascading training model was not working well, not because of the PO representatives chosen to attend the FFS training, but again because of the lack of per diem.

“The problem is that the villagers refuse to come and listen to him. They say there is no per diem to receive. I think we should plan local trainings. They must be held in our village. And that we plan to have food, because it is not easy to go on an empty stomach for training. There is also the fact that money motivates people. We have also seen examples of trainers here who do not give training correctly without the per diem.” (PO member)

The per diem issue came up again and again, both in all of the PO FGDs but also in KILs with local government officials. In Bankass circle, for example, government officials reiterated the need for the L4G to improve its training conditions, particularly the transportation allowance and per diem. A former L4G field agent in Mopti also identified this as an important impediment to cascade training remarking that *“During the feedback sessions, it is not easy to mobilize the participants, because there is no food catering or appropriate lodging at the village level. The establishment of lodging at the village level or to provide food can help mobilize more people during training sessions on secondary sites.”*

A final concern with the L4G cascading model was raised by a regional government official Bankass who noted that, in addition to the lack of sufficient per diems during the training, L4G agents did not establish a supervisory link with the state technical services (SLPIAs). He believes that the FFS must have representatives at the local levels. The local SLPIAs have personnel there for that, so they should have had representatives at the training. This would also have helped facilitate the cascading of training. Sustainability may also have been compromised by this lack of collaboration.

Gains in Productivity, Access to Markets, and Incomes

EQ 2 refers specifically to whether there were beneficiary gains made under L4G in livestock productivity, access to markets, and incomes.

An L4G-commissioned survey of 58 animal fatteners in 2019 provides information on the profitability of fattening activities in the L4G activity areas. As seen in Table 8, the fatteners earned an average gross margin of 135,530 CFAF per head of cattle, 80 percent higher than the purchase price, and an average gross margin of 41,596 CFAF per head of sheep, 115 percent higher than the purchase price. If the fatteners respect the 3-4 month fattening period with three cycles per year, this could provide an annual income of 406,590 CFAF for three cycles of cattle fattening and 124,788 CFAF for three cycles of sheep fattening. This all depends on having the resources to feed the animals correctly and keep them free of disease.

Table 8: Prices for Cattle and Sheep Entering and Leaving Fattening Cycles (2019)

Type of Animal	Number of Enterprises	Number of Livestock	Average Acquisition Price (CFAF thousands)	Average Sales Price (CFAF thousands)	Gross Margin (CFAF thousands)	Percent Increase in Value
Cattle	21	182	168.8	304.3	135.5	80%
Sheep	33	216	36.2	77.8	41.6	115%

Source: "Ruminant Livestock Fattening under L4G: Findings of a Sample Survey and Recommendations for Future Programming." Holtzman and Sidibé, September 2019. Gross margin does not include costs of fodder or other inputs.

The evaluation team asked FGD participants about their fattening activities before and after their training in FFSs and their income earned. Table 9 shows responses from 11 FGDs to the questions: "Do you now earn more money selling fattened animals than before the training? Can you estimate how much more for different animal types?"

Table 9: Reports from FGDs with 11 POs Concerning Increased Prices for Sales of Fattened Animals After L4G FFS Training

POs/Circles	Increased Prices in CFAF (Thousands)	
	Cattle	Sheep
Co-Located Circles/Mopti		
PO 1	--	10-50
PO 2	75-100	25
PO 3	--	10-15
PO 4	--	25-35
PO 5	25-50	5-20
Non Co-Located Circles/Mopti		
PO 1	50-100	30-60
PO 2	100-125	5-20
Non Co-Located Circles/Timbuktu		
PO 1	--	30-60
PO 2	75-90	30-50
PO 3	100	10-50
PO 4	100-150	30-50

In all cases, these responses suggest that PO members were receiving substantially more for the sales of their cattle and sheep after adopting improved fattening approaches in the FFSs. However, it does not appear that profits were higher for FGD participants in the co-located circles than in the other circles without activity co-location. FGD participants did not provide quantitative measures of weight gains or profits, but they often provided purchase and sales prices.

These qualitative impressions are confirmed in a survey of beneficiary farmers who were asked whether respondents felt they were making more money from sales of livestock after L4G than before the activity. As seen in Table 10, 90 percent of respondents answered in the affirmative.

Table 10: Percent of Livestock Holders Making More From Sales After L4G

	Goats	Sheep	Cattle
Total selling livestock	47	391	115
Total who made more money	42	351	104
Percent who made more	89.4%	89.8%	90.4%

Source: Final L4G Survey by International Business and Technical Consultants, 2019.

L4G also conducted an endline survey of 528 beneficiary farmers on their perceptions of the activity's impact on income or food supply during the hunger period when crops are growing and not yet harvested (May to October). Table 11 shows that 56.1 percent of respondent farmer beneficiaries felt that L4G had made a difference in their livelihoods compared to 43.9 percent who did not.

Table 11: Did L4G Make a Difference in the Hunger Period?

	Number	Percent
Yes, it made a difference	302	56.1
No, it did not	236	43.9
Total	538	100.0

Source: Final Survey by International Business and Technical Consultants, 2019.

Table 12 presents the values for four of L4G's key performance indicators beginning with the baseline in FY 2014 through FY 2018.⁴ The four indicators, each disaggregated by cattle and sheep (or small ruminants), are: 1) gross margin per head; 2) value of incremental sales due to L4G assistance, 3) value of exports, and 4) off-take rate by L4G-assisted POs. A sixth indicator on the occurrence of parasitic and contagious livestock diseases was added but was not measured or reported on until FY 2017 (see response to EQ 1).

Data on these indicators were collected in parts of the Koro and Bankass circles only in the baseline study. As it expanded to new areas, L4G project included these new zones in its indicator values for that and succeeding years. In this way, the indicators do not strictly represent progress in the original communes of the Koro and Bankass circles, but rather the overall accomplishments of L4G. The results are presented in United States (U.S.) dollars, as reported in the L4G annual reports.

Table 12: L4G Baseline and Annual Indicator Values

Indicator	Baseline (2014)	FY 2015	FY 2016	FY 2017	FY 2018
Gross Margin: Cattle ^{5*}	\$40	\$48	\$235	\$156	\$288
Gross Margin: Sheep [*]	\$33	\$41	\$64	\$27	\$47
Value of Incremental Sales: Cattle [*]	-	\$98,369	\$618,691	\$1,038,091	\$1,656,264
Value of Incremental Sales: Sheep [*]	-	\$18,531	\$289,530	\$703,008	\$843,649
Value of Exports: Cattle [*]	\$781,257	\$644,395	\$867,194	\$735,041	\$737,447
Value of Exports: Sheep [*]	\$417,453	\$181,780	\$1,663,373	\$353,948	\$0
Offtake Rate: Cattle ^{6**}	14.5%	21.0%	28.6%	34.9%	83.1%
Offtake Rate: Small Ruminants ^{**}	19.9%	20.5%	40.1% ^{***}	36.9%	71.1%

*Source: Feed the Future Monitoring System

**Source: L4G Annual Reports from FY 2015 to FY 2018 (Bankass and Koro circles only at baseline 2014).

***Sheep only.

The results shown in Table 12 broadly confirm the positive KII and FGD findings reported above. From the baseline in FY 2014 through FY 2018, gross margins, incremental sales, and offtake rates for cattle and sheep (or small ruminants) all showed significant improvements, although with some ups and downs along the way for gross margins. The sole exception to this trend is exports of cattle and sheep, which reached a peak in FY 2016 only to fall again in succeeding years to settle in FY 2018 at values lower than in the baseline.

⁴ Data for FY 2019 is available, but it is not considered reliable by RFS and is thus not reported in Table 12.

⁵ Gross margin is a measure of sales proceeds less input costs and does not take into account labor time.

⁶ The off-take rate is the percentage of animals sold or consumed in a year compared to their number at the beginning of the year. An improvement in this rate indicates growth in herd size through reproduction and reduced mortality. It represents the basic cropping rate for herd livestock and is a measure of herd productivity.

Beneficiary Access to Markets

FGDs and KIIs also asked about how POs marketed their livestock. Responses indicated that PO members primarily engage in individual selling in local markets, either by selling to traders at the farm gate or by transporting the animals and selling in local markets. About one-half of the POs indicated that they join together for group sales. With a single exception, the POs sell their animals at the prevailing market price at the time of sale absent a formal sales contract. The exception is the youth livestock platform in Sofara in Djenné circle, which acknowledges L4G's assistance in setting up the contracts. Another PO in Ende Toro village in Bankass circle said that L4G attempted to facilitate contact with traders and promoted the idea of a contract, but it did not pan out.

Combined Impact of SVPP and FFS Activities (Co-Location)

The evaluation team asked PO members and other key informants to place a value on the co-location of private veterinarian vaccination campaigns and new fattening techniques taught in the FFSs. Everyone recognized the enhanced value of placing both together in the same villages of Koro and Bankass circles, which marked the limit of SVPP veterinary activities in a project intervention zone that had established FFSs in all areas. They indicated that their animals gained weight faster due to FFS training and remained healthier and suffered less mortality as a result of vaccination campaigns and rapid VA animal treatment. Due to the qualitative nature of this evaluation, there was no accurate way to measure the impact of this interactive relationship, except to recognize the value of vaccination and disease treatment, including quarantine of animals purchased for fattening and maintaining the health of animals undergoing fattening regimes. The POs recognized the link between vaccination and fattening activities and the value of VAs in providing advice to them in general animal health as well as nutrition. In short, FGD participants uniformly grasped the value of the two occurring together but could not provide any clear sense of the combined impact.

On the other hand, KIIs were more able to define how these two interventions might produce higher level results, as the following quotes indicate.

“Of course, there is an advantage. Farmers are now selling their peanut and cowpea fodder to livestock raisers. This was not the case before the arrival of L4G. In addition, the auxiliary gives them treatment and vaccination, and he also provides advisory support. So, stock raisers will have very easy access to services without calling upon the state veterinary service. Again, it makes it possible to produce good quality animals and healthy meat. So, I think there is a very great advantage in having Farmer Field Schools and auxiliaries at the same time and in the same village.” (Government official, Koro circle)

“The advantages are that before the farmers cultivated their fields and after the harvest threw out the fodder. But with L4G they learned its usefulness and finally sold them to fatteners. Then with the training, the fatteners got to know the enrichment of straw with urea and the manufacture of licking blocks. So, with the usefulness and the use of these foods, the animals are well fed. As far as the auxiliaries are concerned, they do the treatment, vaccination, and deworming of animals. So, the presence of farmer field schools and veterinary auxiliaries not only maintains the health of the animals but also makes it possible to produce good quality animals and healthy meat.” (VA, Koro circle)

“On the one hand, the new techniques offer a way to producing quality animals for slaughter. It provides for quality meat and generates incomes for fatteners. When coupled with the presence of an auxiliary to deworm and treat other diseases it can quickly fatten animals and produce greater incomes for the owners. In addition, it reduces animal loss during epidemics?” (SVPP private veterinarian, Bankass circle)

Whereas these key informants could clearly articulate the advantages of co-location in theory and in practical terms, they were not, however, able to provide specific examples of where this occurred in actual practice.

Limiting Factors

The evaluation team asked PO members and other stakeholders for recommendations on how future livestock activities, such as L4G, might be improved. Not surprisingly, many recommendations involved the provision of additional resources, including financial assistance, animals, storage warehouses, feedlots, and equipment. A high-level official in Koro circle validated these many financial aid requests, stating that: *“The only bottleneck to fattening is the lack of financial means. People like to do the activity, but they can’t afford to do it. Sometimes they force themselves to practice fattening, while they don’t have enough to feed the animals.”*

Former field agents at L4G agreed with this assessment by pointing out that insufficient resources are the most important limiting factor in fattening activities followed by insufficient access to the necessary products. They suggested that future livestock activities should invest more in developing market infrastructure, such as a fattening pen for each PO or a few villages, in addition to a funding component to help fatteners fatten and then reimburse loans after selling. It would be especially useful to support young graduates who practice a lot of the fattening activities.

Stakeholder Participation

Several stakeholders again raised the issue of a lack of local participation in activity planning and implementation. In this case, the state technical services in charge of animal production were not involved in the FFSs. In most cases, moreover, local administrative authorities say they were not kept abreast of activity interventions. Whereas all stakeholders agreed that the FFSs and other livestock support activities should be expanded to other areas of Mali, they also largely agreed that such future activities need to involve the locals more. In particular, future livestock activities need to improve collaboration with the technical services by involving them more in implementation of activities on the ground.

CONCLUSIONS

- The fattening techniques taught in the FFSs were highly valued by participants. They recall all of these techniques, most of which were new to them in their fattening activities.
- Beneficiaries particularly valued FFS training in the proper selection of animals for fattening, dual-use forage crops, fabrication of MLNBs, improvement of hay with urea, development of correct animal food rations, and management of forage crops after harvest.
- In the Koro and Bankass circles of the Mopti region, where SVPP/VA services and FFS training were co-located, beneficiaries recognized the value of easy and rapid access to vaccination and animal treatment by VAs located in or near their villages. Between the new fattening techniques taught and enhanced veterinary services, their animals are in better health, grow more quickly, and generate greater income in more fattening cycles during the year than before L4G.
- The presence of private vets and VAs in other circles of Mopti meant that the value of new fattening techniques could be enhanced in these other circles. However, the lack of a private veterinary system in Timbuktu circles where L4G installed FFSs meant that synergistic effects could not be expected.
- According to FGD participants, new knowledge of animal fattening techniques and close proximity of the VAs decreased animal loss, increased the number of animals fattened, and encouraged more farmers to engage in this profitable activity if it is treated as a serious business.
- L4G donated animal feed, seed for forage, dual-use crops, and materials for making MLNBs, which permitted more FFS beneficiaries to fatten animals. Without this assistance, they would have had great difficulty using the new fattening techniques. Many seek more financial assistance to continue.
- Stock raisers and animal fatteners overwhelmingly report a growth in animal productivity, exemplified by greater and faster weight gain and reduced morbidity, coupled with increased incremental sales from shortening fattening cycles, and an increase in income, in part due to L4G livestock interventions. However, outcomes in these areas fell sharply FY 2019 due to increased insecurity.
- The cascading training model used by L4G to spread between villages and among the general population was seriously limited by the lack of per diems for participants in cascade training sessions.

These sessions were part of a TOT system by which initial PO representatives taught the new techniques to the other members of their POs and they in turn taught others from other villages. Nevertheless, an informal spread of knowledge did occur in villages, since all PO members met seemed equally aware and appreciative of the new fattening techniques.

- The technical services in charge of animal production were not involved in the FFSs, and in most cases, local administrative authorities were not kept abreast of activity interventions. Nevertheless, state services, authorities, and administrators have a favorable view of activity accomplishments and generally recommend extending the activity to other areas of Mali.

RECOMMENDATIONS

- The area of co-location of SVPP/VA services and animal fattening training sites should be expanded to the other circles of the Mopti region and to the circles of Timbuktu. This was not accomplished under L4G, but it should be attempted under any USAID or other donor follow-on project.
- USAID could extend the L4G activity, or similar large-scale effort to improve livestock productivity, to other areas Mali, assuming security so permits. Most agriculturalists in the southern part of the country do fatten animals and could improve these fattening activities. This would be an excellent additional source of revenue for women.
- The state technical services in animal production should be integrated into any new livestock productivity activity in Mali, just as they should be integrated into vaccination and veterinary treatment activities in villages. The co-location of vaccination, treatment, and fattening techniques should require the full partnership of the State services for implementation and sustainability.
- To better diffuse new techniques of animal fattening in any future livestock activity in Mali, it will be necessary to improve participation in cascade training sessions to mobilize a greater number of beneficiaries in future activities. This will require a system of per diem payment and transportation allowance coupled with training in a larger number of villages with more representatives from each PO. This model is viable and cost effective compared to others, but it must take into account the need to compensate trainees fully for their time and perceived costs.

4.3 EVALUATION QUESTIONS 3 AND 4

EQ 3: “How has the presence of water management systems impacted the relationship/cohabitation between users?” / EQ 4: “How effectively are water management systems meeting the needs of the users?”

Findings for EQs 3 and 4 are based largely on two FGDs with water point committee members in Tori village and Koro Center in the Mopti region. Because the findings focus on these two water point committees, and because of the overlapping nature of the two EQs, they are addressed jointly in this section.

BACKGROUND⁷

The background information below on water points applies to both EQs 3 and 4. Mali lies in the Sahel region of Africa, where drought and limited access to water are common. This chronically limits the ability of farmers and herders to have access to the water that is essential for their family, their herds, and their crops. The long nine-month dry season presents particular difficulties, especially when drought is severe. Indeed, in 2017, 56 percent of livestock owning households



Photo 2: A typical water point in Mali.

⁷ Unless otherwise cited, information in the background section comes from L4G annual reports for FY 2017, FY 2018, FY 2019, and FY 2019 Quarter 2 reports.

in the L4G target area experienced drought, by far the greatest shock to their livelihood, as reported in the Mali LSMS of that year, and an increase over that reported in 2014 (51 percent) for the same group (see Table 13).⁸

Table 13: Most Severe Livelihood Shocks for Livestock Owners in the L4G Implementation Area (2014 and 2017)

Shock to Livelihood	2014 (%)	2017 (%)
Drought	51	56
Violence and Conflict	8	2
Illness and Accident	7	7
High Food Prices	5	13

Source: Mali LSMS, as reported by Fraym.

While access to water is a serious problem in the L4G implementation area over the early period of the activity, access to water was already increasing in the target regions. The Fraym study examined the use of unimproved water sources by livestock owning households by circle in the Mopti region. The rate of use of unimproved water went down between 2014 and 2017 in both Bankass and Koro (where L4G water points were eventually constructed). Use of unimproved water also declined in two of three other Mopti districts studied. The L4G water point improvements were only completed in 2019. Thus, these data show that use of unimproved water sources was on the decline throughout the Mopti region before the water points were established.

In May 2014 and again in August 2015, L4G conducted stakeholder workshops to identify the most important constraints to the livestock value chain. These workshops confirmed the data provided above, showing that access to water is among the principal issues that limit the ability of herders to develop their herds for market.⁹ This led to a plan to rehabilitate or drill six new boreholes with associated solar powered pumps and water tower storage in the livestock markets of the villages of Doundé, Koulogon Habbé, Ouonkoro, and Tori in the Bankass circle of Mopti and in Youdiou in the Koro circle of Mopti. The plan was also to improve the previous manual pump at the Koro District central market by installing a solar powered pump and water tower. In August of 2018, L4G contracted with Sonikara, a private engineering firm specializing in solar water pumps and water towers, to construct the water points.

Civil conflict leading to violence in the Mopti region impeded many aspects of L4G, including water point development. A report by Fraym assessed the impact of violence on the L4G project in general, and on the water points in particular.¹⁰ Fraym found that during the L4G project period there were six violent civil conflicts within 5 kilometers of the five completed water points. In addition, before the work was completed there was an assault on the Youdiou water point, leading to a decision to abandon the work. The borehole had been dug and equipment purchased, but the water point was subsequently sabotaged and work halted. This left five remaining water points with completed, operational pumps by early calendar year 2019. L4G later held a workshop in Timbuktu to assess the need for new water points in that region. Those efforts occurred too late in the project to lead to any new water points in Timbuktu, in spite of the identified need for them.

As part of the process of establishing improved water points, L4G worked with local governments to train water point committees at the five improved water points. The committees were to develop a governance structure for administering the water points, including setting rules for water use and establishing and

⁸“High-level Analysis of Livestock-owning Households in Target Communities Before and During L4G Activities,” by Fraym for DT Global.

⁹ “Portrait and Mapping of Livestock Value Chain in the Implementation Areas of the Livestock for Growth Program: Analysis and Classification of Constraints and Actions of Priority,” November 2015. Prepared by AECOM.

¹⁰ “The Security Context in Target Communities during L4G Activities,” by Fraym for DT Global.

collecting fees from the users. A former L4G staff member described the purpose of the water point committees as follows:

“This committee is the best way to manage a water point, because we need a group of people and not a single person in the management. In this group, there must be a chief who controls the situation, a manager who is there to sell the water, a treasurer to keep the cash, and an auditor to control the finances. And in the case of damage, there has to be someone to fix it.” (Former L4G staff member)

On August 20, 2019, just as the activity was coming to a close, L4G organized a ceremony to transfer responsibility for the water points and their equipment to the water point committees. Representatives from the five committees formally accepted responsibility for the water points and the equipment at this ceremony.

FINDINGS

The evaluation team conducted FGDs with selected members of two water point committees and farmers in Tori village and Koro Center. Due to insecurity in the area of Tori, its water point committee representatives and users were brought to Bankass for the FGD. The team also conducted KIs with government officials in Bankass and Koro. Table 14 shows some of the characteristics of the two point committees in Tori village and Koro Center, including their water usage rules and pricing structures.

Table 14: Characteristics of Water Points and Water Point Committees

Characteristics	Tori Village	Koro Center
Number of Members	8	16 (8 active)
Initiation Date	February 2017	December 2018
Method of Member Selection	Chosen by the mayor’s office in consultation with others including village chief	Chosen by the mayor’s office
Membership Criteria	Literate and resident of village	Not specified
Rule for Water Use	First come, first served (exception for elders)	First come, first served (exception for elders)
Type of Use	For home use and for animals	For home use and for animals
Fees	Per bucket: 5-10 CFAF; Per cow: 10 CFAF; Per sheep: 5 CFAF	Per bucket: 5 CFAF; Per cow: 25 CFAF; Per sheep: 10 CFAF
Use of Water Point Fees	80% to the mayor’s office for general use of the commune; 20% for committee to maintain infrastructure and to pay the guardian of the pump who collects fees. This is clearly not sufficient to sustain the water point.	3% to mayor’s office (currently under dispute); remainder for committee to maintain infrastructure and to pay the guardian of the pump who collects fees

Water Point Governance

Wait Times

The evaluation team asked FGD participants whether there was any conflict around water point usage or conflicts concerning issues in governance. In both cases, FGD participants indicated that conflicts at the water points were minimal and always verbal (no violence in either case). The “first come, first served” rule is strictly applied except on occasion for elders during long waits, as indicated by the following quotes:

“Even if it is urgent and the person waiting is one of our relatives, he will follow the queue for the proper functioning and compliance with the regulations of the water point.” (Water point committee member)

“No matter the positions or tactics with which you come, you will respect the queue unless you are an elder and the one in front of you gives you the permission.” (Water point committee member)

“I am satisfied with the management of the committee. And there is no conflict or problem at this level. In the beginning when it was PMH [human motricity pump] system, there were conflicts because people waited a long time to have access to water. But since the water point was restored, that is no longer the case. If you have your money, you come, and you follow the queue. After a short time, you will have access to water without any difficulty.” (Mayor)

There are times when there is not enough water from the pump to meet all customers’ needs quickly; this generally is in the winter months when there is more cloud cover/less sunshine. This problem, as noted by water point committee members in both FGDs, may result in longer waits. However, they also mentioned that this is the time of the year when there is rain, so there is less demand for water from the water point.

Another time that people may wait is on Thursdays before the market day, when people are watering their animals. According to one committee member, *“The main users are the population and animals of the village and surrounding villages on the day of the fair. The population takes enough water on Thursday and stores it in order not to be missing and also to make juice drinks for potential customers at the fair.”*

Thus, during selected times the waits may be longer than at other times, and small disputes may arise, but overall the process works well. One thing that helps is having separate taps for people filling buckets for home needs and for watering animals. The key finding, however, is that FGD participants from both committees acknowledged that the wait times and associated frustrations are substantially less frequent after the L4G-supported water point improvements than before.

“In the past, there was not a precise or determined time to have water because some can have it easily which other can spend a whole day without having some...A standpipe was installed for the needs of humans and four pipes for animals. So, animals and humans can both use the water point simultaneously, which has considerably reduced the waiting times.” (Water point committee member)

Payment

The evaluation team also sought to determine whether there were conflicts concerning money collected from water point users. There have been disagreements concerning the distribution of funds between the water management committee and the mayor’s office. Both committees have set up financial checks and balances in accounting by having a treasurer who keeps the money as well an auditor who checks the accounts periodically. Each water tank also has a meter that measures the amount of water still in the tank, which can be used to estimate the amount of money that should be collected, although it is not necessarily precise, and it acts as a check on unauthorized water distribution.

“The people do not try to bribe you but try to beg you by asking you to give them water for free, something that is impossible because the water meter calculates.” (Water point committee member)

Each water point has an employee responsible for collecting the fees. It has proven challenging, however, to provide proper continuous oversight for this person leading one committee member to recommend the use of a sub-meter.

“The improvement we want at our water point is to have a sub-meter to know the exact volume of water sold during a day...a sub-meter can allow us to have this information and to better follow with the saleswoman.” (Water point committee member)

The impressions of government officials interviewed about water point management are overwhelmingly positive, as indicated in the following quote:

“If these committees are present for the sale of water and maintenance, the points will last longer, and they will remain and keep serving the population. Otherwise without these committees, the points will not last, and it would be a loss for the population because there will be no one to repair them in the absence

of the project. The Tori management committee even has currently 200,000 CFA francs in its cash.”
(Chairman, District Council)

Overall

Overall, the water point governance structure works well, a finding uniformly echoed by water point committee members and other key informants. Nonetheless, committee members conceded that governance and accounting practices could be strengthened and that more training should be provided to water management committees to assist them in this process.

“From now on, for the establishment of the water point management committee, it will be necessary that we make it through a general assembly where the members are chosen by consensus with their roles and responsibilities well defined. The management committee should be coupled with a monitoring committee to ensure the proper execution of the missions of each one and ensure a good governance process. It is also necessary to set up feedback sessions at the town hall with the various stakeholders to improve transparency.” (Water point committee member)

Benefits of L4G Water Point Interventions

The FGDs and KIs uncovered several benefits to the improved water points. These include shorter wait times, greater convenience in the form of separate waterspouts for animals and human use, automatic pumping that reduces the need for manual labor, and reduced transaction costs by reducing the need for people to walk long distances for water. The following quotes illustrate these benefits in the words of water committee members and other water users.

“In the past, there was no specific or definite time to get water because some people could have some easily while others could spend a whole day without having any. Especially on the fair days, the water point was inaccessible to the populations and the water point because the cattle market is invaded by animals.”
(Water point user)

“Earlier it was PMHs [manual pumps] which were frequently broken, almost once a fortnight. The access to water was very painful... Today, with solar pumping, the difficulty obtaining water has considerably decreased, and this leaves time for people to do something else.” (Chairman, Circle Council)

“L4G has rehabilitated the water point in the cattle park and I must admit that it has relieved us. It is a total relief for the town hall, the farmers, in short everyone”. (Mayor)

“Those [water points] allow animals to be watered easily, but it also allows us to vaccinate easily, especially small ruminants, because when the vaccination parks were built, the dimensions were not respected, which means that small ruminants can jump the walls during vaccination.” (Veterinarian)

“All the population has access to water without problem and the animals also come to drink in good conditions.” (VA)

In contrast, in FGDs with farmers in villages not served by the improved water points, the consistent finding was the need for improved water access with prevailing conditions worse by comparison to the L4G-supported villages and water points.

“L4G promised a water point for our field work, and we want it to keep that promise.” (Farmer)

“We want to have a water point in our parcel to continue producing fodder crop even in the dry season.”
(Farmer)

“From now on, my wish is to make a lot more water points, because when we have water, we can achieve a lot.” (President, District Council)

CONCLUSIONS

- Access to water remains a continued and serious problem throughout the Mopti and Timbuktu regions.
- At the time the evaluation fieldwork, several months after the water points became operational, water points installed with L4G support continued to function well, although vandalism by unknown persons during a village attack a violent conflict prevented the development of one planned water point.
- In the two villages visited with newly drilled or rehabilitated water points, the water point committees are established and continue to govern the water points.
- Overall, the water point governance structure exists and works well resulting in reduced wait times and increased fee collection. Other benefits include less unauthorized or unpaid water use, greater convenience, reduced need for manual labor, and reduced transaction costs/travel times.
- Conflicts around the water points are rare. When they do occur, they are typically associated with longer wait times and are limited to verbal conflicts and have not involved physical violence.
- Access to water is impeded when there is more cloud cover/less sunshine, because the solar power is not adequate to pump water into the tower.
- The water point committees have established rules for usage and fees; however, there are some disputes concerning how the money should be distributed between the committee and municipality that remain unresolved.
- Quality water access had been improving in the Mopti region before the water points were established. While there are no quantitative data on the specific contribution made by L4G on improved water access, the evidence from key informants interviewed by the evaluation team indicates that L4G has made an important incremental contribution to improved water access in the five locations where new water points were developed. This conclusion is further supported by the relative conditions in villages supported by the activity and villages not supported by the activity.

RECOMMENDATIONS

- A follow-up water point intervention by USAID, other donors, or state technical and administrative services could provide ongoing technical assistance to water point committees concerning financial oversight and planning, including financial and manpower planning related to site physical maintenance and repairs/replacement.
- Depending on resources available, the security situation in Mopti and Timbuktu, and further experience with the five pilot water points over the next year, USAID should construct new water points in the parts of those regions that have the least access to improved water.
- Water user fees fixed by the municipalities should be kept as low as possible to maintain, repair, and establish a depreciation allowance for the new water points.
- A transparent system of institutionalized feedback to the public should be put in place at the new water points involving the division and use of water user fees between municipalities and water point committees.
- Public feedback sessions can be the framework for exchanges where users will also be able to express their expectations and make recommendations with respect to improving the water points.
- A process of participatory selection of the members of the management committees will help to promote transparency and population confidence in management decisions taken.
- The one non-functional water point built under L4G could be fully restored and made operational by continued USAID or other donor activities in the area once security permits. The investment is substantial and should be recouped.

ANNEXES

ANNEX I: EXPRESSION OF INTEREST

PEEL TASK ORDER

EXPRESSION OF INTEREST – PERFORMANCE EVALUATION

I. BACKGROUND INFORMATION

A) Identifying Information

1. Project/Activity Title	Livestock for Growth (L4G)	Cereal Value Chain (CVC)
2. Award Number	AID-688-C-14-00004	AID-688-C-13-00002
3. Award Dates	September 30, 2014 September 29, 2019	October 17, 2013 October 16, 2018
4. Project/Activity Funding	\$14,489,448	\$24,971,628
5. Implementing Organization(s)	DT Global (formerly AECOM)	ACDI/VOCA
6. Project/Activity COR/AOR	Mamoutou Diarra	Amadou Diane

B) Development Context

I. Problem or Opportunity Addressed by the Project/Activity Being Evaluated

On March 22, 2012, a military coup overthrew the elected president of Mali and his administration. Taking advantage of the political vacuum in the south, armed rebels led by Islamic extremists took control of the northern two-thirds of the country. On January 11, 2013, following southward movement of the extremists, the French Government intervened to help Malian and African forces repel the insurgents and regain the occupied territory. The country has since returned to relative calm, with two rounds of peaceful presidential elections conducted in 2013, followed by legislative elections in the same year. Over 3 million Malians voted again in presidential elections in 2018.

In support of the Government of Mali's (GOM) National Agriculture Investment Plans (NAIP) of 2011-2015 and 2015-2025, USAID restarted activities in Mopti and the region of Timbuktu to address the food security needs as the physical security situation allowed. The overriding goal in the GOM's National Agriculture Investment Plan is to strengthen the agriculture sector so that it is the main engine for economic growth to address hunger, malnutrition, and poverty.

Mali's Feed the Future Strategy for 2010-2015 was approved in April 2011. It provides the roadmap for investments in agriculture and nutrition aimed at reducing poverty and hunger in Mali. The strategy uses a value chain approach to increase economic opportunities and it focuses development interventions on three core value chains: sorghum/millet, rice, and livestock. These three value chains are key to Mali's development and overall food security as the majority of the population relies directly on these staple foods for their livelihoods and food security.

In 2013 the Cereal Value Chain activity began in the Mopti and Sikasso regions and in 2014 the Livestock for Growth Activity started in Mopti and Timbuktu regions. The purpose of these flagship activities was to increase agricultural production, productivity and incomes, by both increasing direct income to men and women farmers, as well as through various value-added income generating activities carried out by value chain actors (including: input suppliers, farmers, traders, processors, wholesalers, buyers, and exporters), and through support services that strengthen the value chain including agricultural technology providers and financial service providers.

2. Intended Results of the Project/Activity Being Evaluated

a. CVC

CVC refers to a series of interventions that contribute to the Feed the Future (FTF) strategy for sorghum, millet, and rice value chains. The purpose of the project is to increase agriculture production, productivity, and incomes, by both increasing direct income to men and women farmers, as well as through various value-added income generating activities carried out by value chain actors (including: input suppliers, farmers, traders, processors, wholesalers, buyers, and exporters), as well as support services that strengthen the value chain including agricultural technology providers and financial service providers.

The Intermediate Results (IRs) that the CVC activity seek to achieve are:

- Increased agricultural production and productivity in the cereals value chain;
- Expanded market and trade of core value chain products;
- Increased resiliency of vulnerable communities and households;
- Strengthened local capacities and systems.

The activity assumes that increased productivity in and commercialization of rice, sorghum, and millet value chains, along with growth in private sector engagement in these value chains, attention to existing and new end-markets, and the appropriate facilitating policies, will increase the availability of these important staple crops and access to these foods through positive impact on incomes of actors along the value chains.

Overarching these results is a vision whereby strengthening the cereals value chains is achieved through the connection across and facilitation of relationships among value chain actors, support services, and other key market participants, as well as addressing key policy constraints relating to these value chains, whereby the entire value chain is positioned for sustainable growth, upgrading, and value addition which brings the benefits to the target smallholder and beneficiary households.

Key CVC investments in local capacity building were expected to ensure that results were market driven and continue in the long-term after the completion of the activity, reflecting USAID's emphasis on locally-led and implemented development efforts. Successful integration of approaches aimed at improving household nutrition practices, increasing youth participation, incorporating environmental management and resilience to climate change and prioritizing gender equity were determined as essential to CVC's long-term results.

Due to both agricultural potential and the tremendous need, it was expected that FTF interventions had the greatest impact within these regions. Approximately 3.15 million people live in the ZOI, and an estimated 300,000 people will be directly affected by the FTF initiative, while approximately 1.3 million are expected to benefit indirectly.

b. L4G

L4G's goal is to promote inclusive competitive economic growth of the livestock value chain in Mali, defined as small ruminants and cattle. The development hypothesis for L4G is that if (1) the quality of livestock improves, (2) market access and incentives for semi-sedentary and small producers—including women and youth—are expanded, and (3) the enabling environment of the livestock sector improves, then Mali's livestock sector will be more domestically and internationally competitive and contribute to increased agriculture GDP and to broad based economic growth.

The activity aims to achieve this goal through four IRs including:

- Increased livestock productivity
- Increased domestic and export livestock trade
- Strengthened local capacities and systems

- Improved enabling environment for livestock sector

L4G was designed to increase the output of the livestock value chain by strengthening support services (advisory, inputs, finance, research) and improving access to information and technology. Activities aimed at increasing access to products and services and identifying incentives for wider participation in livestock activities. L4G also builds resilience of poorer livestock households through developing skills necessary to effectively participate in commercial activities, livestock production, and sales, or in related service industries (e.g., fodder).

To achieve FTF objectives, the L4G Activity has integrated gender and household nutrition and hygiene practices into its approach and outputs. While not an objective of L4G, it is expected that improved management of livestock will result in increased milk production, which can have nutritional benefits for livestock households.

3. Target Areas and Groups

Geography

The CVC activity worked in the Sikasso and Mopti regions within the FTF Zone of Influence (ZOI). The list of the villages can be found [here](#). This includes 117 communes within Sikasso, Mopti, Koulikoro, and two communes in Ségou that encompasses the MCC Alatona Irrigation Project (AIP) sites. The communes were selected on the basis of agricultural potential, poverty and nutritional status of the population as indicated by stunting and wasting indices.

Target Groups

CVC: The target audiences for CVC includes male and female farmers as well as other actors in the cereal value chains including; input suppliers, farmers, traders, processors, wholesalers, buyers, and exporters, as well as support services that strengthen the value chain including agricultural technology providers and financial service providers. Women are a target audience for both activities. For CVC specifically, the overall goal of the program was to achieve a one-to-one men to women ratio of beneficiaries.

L4G: The L4G contract will focus on multiple value chain actors, including but not limited to livestock producers, traders, transporters, and inputs/other service providers. For the L4G Activity, producers are broadly defined to be those households with members who raise small ruminants and/or cattle. While semi-sedentary herders, small producers, and small traders will be the primary focus, L4G does not exclude working with medium and large producers and traders as these are often the initial adopters and can demonstrate the benefits of technologies. Providers of inputs—e.g., forage and fodder seed, feeds and ration supplements, vaccines, and veterinary pharmaceuticals—and services such as veterinary services will be the main focus on the inputs side.

4. Approach and Implementation

a. CVC

CVC was implemented by ACDI/VOCA, with local non-governmental organizations (NGOs), Nyèta Conseils and G-Force. Overall CVC direction, support, and administrative management were provided by ACDI/VOCA through their Bamako office, with specific regional coverage by Nyèta Conseils for Mopti and Timbuktu and G-Force in Ségou and Sikasso.

CVC implementation focused primarily on production and sales. It incorporated multiple interventions and multiple VC actors; including producer organizations (POs), traders, processors, government-based extension services, financial intermediaries, women's groups, cereal associations, and private sector firms.

New technology, new processes, and new practices were adopted to increase production. CVC built the capacity of actors and business services, which enabled access to new credit options. The activities worked

to strengthen relationships among actors, to promote a stronger and more inclusive enabling environment to create sustainable economic opportunities for women and men involved in these VCs.

Community Agrobusiness Teams (CAT)

A CAT is made of five to eight female and male, literate, youth PO members. Their main duties were to share knowledge, provide technical assistance to producers, and contribute to a number of PO management tasks. To facilitate technology transfers, CVC trained CATs theoretically (in classroom settings) and with demonstration plots. In turn, trained CATs used the demonstration plots and their knowledge to train other farmers. CATs' establishment started in the third year of CVC. Thus members received training during year three and four. CATs play an interfacing role between village POs and input and cereal dealers, Government Technical Services, NGOs, and financial services.

According to reports, the CVC organized trainings of 90 CAT members in Koro, Bankass, and Mopti districts, including 36 women, on post-harvest practices, maintenance of family storage, and management of cereal stocks to strengthen household food security. CAT members then trained 4,356 producers, including 2,365 women. The training focused on the provision and management of cereal stocks for commercialization, after setting aside stocks for household consumption, monitoring and managing cereal stocks, marketing, and the use of increased revenue to strengthen household food security.

Federations of POs

The security crisis in the Northern and Central Mali forced the region's banks and microfinance institutions to move further south. As a result, producers in Mopti and Timbuktu found themselves without any financial institutions to finance their agricultural inputs. Consequently, producers decided to create federated societies to improve their negotiation power. CVC supported the creation of two large Federations of POs in the Mopti and Timbuktu regions. These two Federations, with support from CVC, were able to access in-kind loans for farm inputs and equipment from "Planète Distribution," a private business in the Mopti region, so they could continue their activity. Establishing confidence among producers, intermediaries and Planète Distribution enabled the timely supply of inputs and equipment (pump, power tillers, fertilizers, and diesel oil) to producers and the prompt repayment with rice paddy following harvest. According to CVC reports, Planète Distribution mobilized investment credit worth approximately \$1,782,830 (CFAF 1 billion) in the Mopti region in 2018 for pumps. A total of 251 cooperatives received 308 GMP pumps on credit, with a total value of \$4,392,900 (CFAF 2.46 billion).

In addition, CVC worked with each Federation to provide trainings to POs. Supported by CVC staff, 27 local trainers from the Federation of Rice Producers in Tombouctou (FUSCOCYN) trained 7,471 irrigated rice producers. The training focused on addressing water pollution, the risks associated with the consumption of irrigation water, and good hygiene and sanitation practices related to the spread of waterborne diseases. The Federation of the Faranfasi-So in Niono, through its collaboration agreement with CVC, trained producers on Systems of Rice Intensification practices in irrigated areas of Alatona. Trainers used posters and trained 1,546 producers, including 1,034 women. Training topics included the application of organic fertilizer, land preparation, establishing nurseries, transplanting seedlings, fertilization regimes, irrigation regimes and plot maintenance, and harvest techniques.

Financial intermediation

In 2017, with support from CVC, financial intermediaries formed the APIFIMA to establish minimum standards for their profession and reinforce the credibility and sustainability of their services. The association established a toolkit that provides a systematic process for due diligence and loan application packaging. According to CVC reports, APIFIMA supported the expansion of the agricultural portfolios of 12 Malian financial institutions. It worked with more than 120 wholesalers and agribusinesses (input suppliers, cooperatives, and cereal processors) to improve their bookkeeping. It also helped these businesses prepare financial documents to submit to banks to support their loan applications and demonstrate their improved financial management capacity to lenders. Thus, it helped mobilize more than

\$20,331,216 of financing to 59,253 farms and agribusinesses. APIFIMA reduced default rates on loans through APIFIMA members' involvement in tracking repayments.

Mentoring for women

CVC supported the development of a Gender Mentor Association to create mentorship among women. The mentor association established a nine-member committee, adopted rules and regulations of the association, and developed a roadmap defining the actions, managers, and the implementation schedule for scaling up mentoring activities after the end of the CVC Project.

The approach generated and disseminated information on gender-based opportunities and constraints to raise awareness and support the development of programs that integrate gender equality in agribusiness and food security activities. According to CVC reports, mentoring had a snowball effect within CVC-assisted mixed POs. Since the beginning of the mentoring program, CVC strengthened the capacity of seven mentors, including three women, and 53 mentored producers from 20 POs.

b. L4G

L4G implements a market oriented approach which integrates improved production with market demand. In line with this approach, most of L4G's efforts respond to existing market demands both within Mali and within the West African sub-region. Specifically, production activities and targets respond to needs based on market demand to domestic and export increase trade.

Organization capacity strengthening and leadership building and training will be critical factors underpinning most of L4G's interventions. From basic literacy to business skills, organizational management, production and management technologies, marketing, and advocacy, there is a great need for strengthening capabilities of all actors to catalyze the necessary upgrading and investments. Building management and leadership capacity of men and women throughout the chain is critical to ensuring that the L4G's results are market driven and sustainable in the long term, and at multiple levels.

Vaccination campaigns

L4G introduced Private Proximity Veterinarian Services approach (SVPPs) in the Koro and Bankass Cercles to improve livestock health care delivery. The SVPP system partnered three licensed private veterinarians with 76 auxiliaries in order to deliver veterinarian services to animals in remote areas not reached by state services. L4G initially provided each of the three licensed private veterinarians with a starter kit and it annually provides technical animal health and management training. In 2018, the three SVPPs vaccinated 287,525 animals against major crippling diseases, including Cattle Pneumonia (PPCB) and sheep/goat pasteurellosis.

In July 2018, L4G partnered with the Malian Laboratoire Central Vétérinaire to evaluate the occurrence of contagious and parasitic diseases of in L4G coverage areas. To conduct the study, LCV visited 11 sites for epidemiological surveys and sampling. This included farm visits for clinical examinations of animals and the collection of clinical and epidemiological data and field sampling from 270 cattle and 450 small ruminants. The vaccination coverage rate increased from 8% in 2014 to 20% in 2018.

Fattening techniques

L4G collaborated with Producer Organizations (PO) to establish animal fattening demonstration sites in the Mopti and the Timbuktu regions. L4G and POs agreed to co-finance (L4G contributed 53%, and POs 47%) the supplies, equipment, and materials needed to demonstrate best practices and improved technologies. In addition, the POs purchased all the animals (10 cattle or 10 sheep per site) to use for demonstration purposes. L4G provided livestock fatteners and training materials illustrating how to formulate a healthy and balanced diet for animals. It adapted low-cost locally available feeds with new technologies, such as treatment of straw with urea, supplementation with multi-nutritional licking blocks, and special intensive fattening feeds. The success of fattening efforts, combined with improved veterinary

care, resulted in healthy animals that met market requirements. For example, fatteners were able to deliver cattle weighing at least 300 kg to LAHAM, which is the only modern slaughterhouse in Mali.

Fodder shortage

Especially during the dry season, which in the Sahel lasts for about nine months, fodder shortage constitutes a major challenge to successful livestock production in Mali. For this reason, L4G has promoted the cultivation of dual-use fodder crops such as cowpea, groundnut, sorghum, millet, and Moringa. Such crops provide food for humans, in the form of grains or seeds, while the stalks and chaff provide a nutritious source of fodder for livestock.

Livestock market information system (LMIS)

Livestock POs, animal fatteners, and other producers need access to timely and accurate market information to better understand the demand for livestock in various markets and to be able to supply it. For this reason, L4G launched a pilot LMIS mobile-phone app, known as SUGU (which means market in the Bambara language). In the Koro, Bankass, Mopti, and Djenné Districts or Circles, L4G has partnered with 10 existing Livestock Market Management Committees and has trained 10 enumerators to collect market data via the SUGU app.

Water point improvements

L4G carried out five drillings in livestock markets in the villages of Doundé, Koulogon Habbé, Ouonkoro, Tori, and Youdiou. In each water point, physico-chemical analyses were conducted and photovoltaic pumping systems were built. L4G trained five water committees, including 27 participants (five women and 22 men), on the use of water infrastructure and related resource management

C) Existing Data

The Evaluation Team is expected to conduct a short review of the relevant literature and USAID guidance. In addition, USAID Mali will share the following documents for a desk review:

- Contracts (2)
- Gender analysis reports (2)
- Gender assessment reports (2)
- Activity MEL Plans
- Quarterly reports (27)
- Annual Activity Reports CVC & L4G (8)
- CVC midterm evaluation report (1)

While the Evaluation Design will likely rely on some primary data, the Evaluation Team is also encouraged to take advantage of existing (secondary) datasets for its analyses. The following data will be shared by USAID Mali:

- Activity monitoring data for both CVC and L4G (in database format)

USAID Mali will provide initial contacts to the following stakeholders:

- USAID Mission Staff
- Prime Implementing Partners, Sub Partners
- Other development partners working in the areas of livestock and agricultural sector
- Key staff from Ministry of Livestock and Fishery at National, Regional, and Sub Regional levels
- Key staff from Ministry of Agriculture at National, Regional, and Sub Regional levels

II. EVALUATION RATIONALE

A) Evaluation Purpose

This EOI covers the final evaluations for the two flagship AEG activities in Mali (Cereal Value Chain and Livestock for Growth) of the USAID/Mali Agriculture and Economic Growth (AEG) Office. The purpose of the evaluations is to inform the design of future activities under the Global Food Security Strategy (GFSS) country plan.

The evaluation questions cover particular aspects of implementation where lessons can be learned towards better understanding the sustainability of the models developed through the implementation. The evaluation findings will also constitute evidence to inform the co-design process and adaptive management for a new set of activities in the livestock and cereal sectors in Mali, under a new Project Appraisal Document produced by AEG. The evaluations will complement and confirm lessons learned that have been collected from the implementing partners.

B) Audience and Intended Uses

The main audience of these evaluations is USAID. This includes the USAID/Mali AEG office but also the mission as a whole and the Bureau for Resilience and Food Security (RFS) in Washington. As the final report will be available publicly USAID expects that the Government of Mali (GOM) and other development partners will find the results useful as well.

C) Evaluation Questions

This EOI requests the final evaluation for the two flagship AEG activities in Mali (Cereal Value Chain and Livestock for Growth) of the USAID/Mali Agriculture and Economic Growth (AEG) Office.

The evaluation will employ mixed methods, using quantitative and qualitative data to answer the evaluation questions; the evaluation should note strengths, weaknesses, and opportunities for improvement.

a. CVC

1. To what extent have the Community Agrobusiness Teams (CATs) continued their capacity building and networking since the end of the CVC activity?
2. In what ways, if any, did CVC's private sector engagement strategy (with Planète Distribution) benefit farmers? Did it compensate for missing financial market actors and/or did it displace other actors (i.e., did it give an unfair advantage to Planète Distribution compared to other distributors in the market)? Are there other positive or negative unintended outcomes that affected the private sector?
3. To what extent were Producer Organizations (POs) able to negotiate profitable contracts with brokers?
4. From the perspective of POs, Planète Distribution, and lenders, what is APIFIMA's (Financière du Mali/Professional Association of Financial Intermediation in Mali) value as an intermediary between beneficiaries and the banks?
5. In what ways, if any, did the mentoring activity affect women's ability to successfully pursue their professional goals? To what extent do women feel their voices are heard in mixed gender POs after completing the mentoring program?¹¹

Questions 1 through 5 will be addressed using disaggregated data to the extent possible, to see how vulnerable households, women and youth were affected.

¹¹ The questions regarding gender empowerment should be considered through a context specific lens.

b. L4G

1. To what extent do the trained auxiliaries continue to engage in activities that improve animal health in their villages? Are vaccines available in the villages of auxiliaries trained by SVPPs?
2. From the beneficiaries perspective, to what extent did access to the co-located introduction of new fattening technologies and vaccination programming improve beneficiary's productivity, access markets, and incomes? How did the co-location contribute to the improvements?
3. How has the presence of water management systems impacted the relationship/cohabitation between users?
4. How effectively are the water management systems meeting the needs of the users?

Questions 1 through 4 will be addressed using disaggregated data to the extent possible, to see how need to also examine how L4G affected target populations of vulnerable households, women, and youth.

III. TIMEFRAME & TRAVEL

A) Timeframe

The evaluations shall take place over a period of 50 weeks (please see deliverable timeline below) with an end date of **April 2020**.

B) Travel

Both evaluations require travel to and within Mali to be carried out at one time. In addition to Bamako, the evaluation team will be required to travel to Mopti and Timbuktu regions. Duration of travel will be dependent on the methodology proposed by the contractor and the security situation.

IV. DELIVERABLES & DESIGN

A) Description of deliverables

The evaluation team (ET) shall present the following as deliverables during the implementation for each evaluation. The listed meetings and communications do not preclude additional communications, to be agreed upon by both parties, as needed. All electronic text deliverables must be submitted in MS Word or PPT format. Quantitative and qualitative data deliverables shall be delivered in relevant formats such as Stata, Excel, CSV, etc.

Post-award Kickoff Meeting: PEEL shall hold kickoff conference calls (or in-person meetings) with the Mission, activity IP representatives, and other relevant stakeholders to inform details of the Concept Note and review expected deliverables and timeline. Other items on the agenda for the kickoff calls/meetings may include:

- ET questions to clarify the evaluation questions or other relevant topics.
- Establish expectations for the Concept Note.
- Identify possible additional sources of information available to the ET for its desk review.

Concept Note: The ET shall submit a draft Concept Note after the post-award kickoff meeting. The Concept Note should demonstrate careful and realistic planning and include (1) the finalized evaluation questions, (2) a brief description of the evaluation design, data collection methods, and analysis methods, (3) the anticipated schedule and logistics, and security arrangements for deliverables and evaluation activities detailed, (4) an Evaluation Design Matrix linking each question to relevant data source, data type and data analysis), (5) list of the proposed key personnel on the evaluation team, delineated by roles and responsibilities, and (6) budget for the evaluation.

USAID shall provide written feedback to the Concept Note, which will be approved by the PEEL COR and concurred by the activity manager before the evaluation can begin.

Evaluation Design Protocol: Upon approval of the concept note, the ET shall submit an evaluation plan that elaborates the proposed evaluation design. The evaluation design should reference the relevant literature; detail the approach to answer the evaluation questions (including data collection methods, data sources, selection criteria and sampling plan, description of data collection instruments, and a specific technical analysis plan). The evaluation design should be consistent with the information in the Concept Note regarding the evaluation schedule, logistics and security arrangements, and members of the evaluation team with delineated roles and responsibilities.

The Evaluation Design Protocol will include the Draft Data Collection Tools for both quantitative and qualitative components of the evaluation. The tools should include questionnaires, forms, and guides for data collectors.

USAID shall provide written feedback on the Evaluation Protocol and draft data collection tools. USAID approval of Evaluation Protocol and data collection tools will be required before any field work for the evaluation can begin.

In-brief and Discussion: Preceding the field-based data collection phase in Mali, the ET will provide an in-brief for USAID/Mali, the activity IP and other relevant stakeholders, as determined by USAID/Mali. The in-brief should include a presentation on the main features of the evaluation design, data collection tools, and logistics. This should provide the opportunity to address or clarify USAID's written feedback on the data collection tools and to inform the relevant local authority about the kick-off of the field work.

Data Collection Training and Pilot test: The ET should train data collectors as required by the chosen evaluation methodology. The ET shall conduct a data collection field test for quantitative data collection, using digital data collection tools, for its whole evaluation team (as relevant). This is the final test of the team logistics, team performance, and data quality systems in place. The ET shall document any changes to the data collection tools during training and piloting and submit the final data collection tools to be used for the evaluation to USAID following the pilot test.

Weekly Updates: Once field activities begin, the ET shall provide USAID with weekly progress updates to keep the COR and/or Activity Manager informed on progress on the evaluation. These updates should brief USAID on data collection progress to-date and any challenges that arise. The ET and USAID can negotiate the best format to provide these updates.

Draft Evaluation Report and Executive Summary: The ET shall submit a draft report, including an executive summary of no more than 10 pages. The executive summary must present key findings that answer each evaluation question as well as conclusions pertinent to the audience and purpose of the evaluation. Please refer to USAID guidance and the sections below for required report content and format guidelines. The ET must submit drafts of the evaluation report in English and the executive summary in both English and French.

USAID shall provide written feedback on the draft evaluation report. Additional drafts may be needed.

Final Report and Executive Summary: The ET shall finalize the evaluation report and executive summary, submitting them electronically in both pdf and Word format to USAID. The final report shall incorporate, clarify, correct and/or adjust the report in accordance with the comments provided by USAID. The final report will be approved by the COR with concurrence by the Activity Manager.

The ET must submit the evaluation report in English and the executive summary in both English and French.

The contractor shall upload the 508 compliant final report to the Development Experience Clearinghouse (DEC) website no later than one week following final approval of the final report.

Draft Infographic: In addition to the final report, the ET shall submit a draft two page infographic summarizing the evaluation findings and recommendations. The infographic shall be in both English and French and be designed for the evaluation audience identified by USAID.

USAID shall provide written feedback on the infographic.

Final Infographic: After incorporating the feedback provided by USAID, the ET should submit a final infographic in both English and French. The infographic should be submitted in both pdf and source file format.

Findings Presentation: The ET should present the evaluation findings to USAID/Mali, IPs, and RFS if relevant, through a PowerPoint presentation. This is typically delivered through a webinar. USAID/Mali can consider a local dissemination event with other relevant stakeholders as required.

Data Set and Supporting Documents: The ET shall send all data and supporting documents gathered during the evaluation to USAID. This shall include all data (quantitative and qualitative) used in the analysis. For quantitative data, this includes a database with all the data (and datasets) used, codebook, code, and analysis files. For qualitative data, this includes translation of all scripted observations, interviews, group discussions, and reviewed documents. Source documentation such as reports and publications should also be included. Quantitative and qualitative data deliverables shall be delivered in relevant formats such as Stata, Excel, CSV, etc.

Data Submission of quantitative data: The ET must submit to USAID and the Development Data Library (DDL), at www.usaid.gov/data, in a machine-readable, non-proprietary format, a copy of any dataset created or obtained in performance of this award, including Datasets produced by a subcontractor at any tier. [ADS 579](#) detailing USAID’s Open Data Policy provides additional information about submission. The ET must ensure their submissions meet all requirements, including the protection of any personally identifiable information (PII).

B) Suggested timeline for deliverables

Below is a suggested timeline for deliverables. A final timeline for deliverables will be agreed upon in the evaluation concept note. Contract Start Date (CSD) indicates the date that the work assignment is approved by the COR. This timeline suggests 40 weeks to complete an evaluation. The ET is encouraged to submit a timeline that is as compressed as possible while leaving enough time to produce a rigorous evaluation.

Evaluation Deliverable	Deadline for Completion With Respect to Contract Start Date (CSD)	Responsible Party
Work Assignment Kickoff Meeting(s)	within 5 business days of CSD	PEEL
Draft concept note	within 15 business days of CSD	ET
USAID review of concept note	within 20 business days of CSD	USAID
Final concept note	within 35 business days of CSD	ET
Evaluation Design Protocol and Draft Data Collection Tools	within 50 business days of CSD	ET
Written feedback on the Evaluation Design Protocol and Draft Data Collection Tools	within 55 business days of CSD	USAID
In-brief Meeting	within 60 business days of CSD	ET
Data Collection Pretest	within 65 business days of CSD	ET
Final Data Collection Tools and Testing Protocol	within 70 business days of CSD and before the beginning of field testing	ET
Complete Data Collection	within 100 business days of CSD	ET
Draft Evaluation Report and Brief	within 160 business days of CSD	ET
Data Set and Supporting Documents	within 160 business days of CSD	ET

Evaluation Deliverable	Deadline for Completion With Respect to Contract Start Date (CSD)	Responsible Party
Written feedback to the Draft Evaluation Report and Brief	within 175 business days of CSD	USAID
Final Report and Brief	within 190 days of CSD	ET
Additional comments or approval	within 195 business days of CSD	USAID
Draft Infographic	within 200 days of CSD	ET
Final Infographic for Dissemination of Evaluation Report to Stakeholders	within 212 days of CSD	ET
Publication on DEC	within 230 days of CSD	ET
Data submission to DDL	within 230 days of CSD	ET

C) Technical requirements

I. Evaluation Design

The performance evaluations should make appropriate use of best evaluation practices and apply mixed methods as recommended by the USAID Evaluation Policy. There should be a clear and explicit link between each evaluation question and the methods to address them. Methods should include quantitative and qualitative data collection and data analysis, as appropriate. An illustrative evaluation matrix provides initial examples of how some questions might be answered but the evaluation team should demonstrate its expertise by proposing data collection and analysis that it deems best fitted to each evaluation question and according to the agricultural, socio-economic, cultural and security context of the related Zones of Influence.

When designing and budgeting the evaluation, the contractor should take into account the following criteria:

- Security considerations in the zones of influence
- Road conditions to targeted villages
- Gender roles among crop and livestock actors
- Predominant crop and livestock activities

The evaluation design should clearly articulate the link between each evaluation question, the proposed data sources, data collection method, and the analysis plan for these data. For example, the design may describe the regression model and statistics to be used in quantitative analysis. For qualitative approaches, the design may detail each planned analytical step (e.g., coding frame, how it was developed). The evaluation design should demonstrate that the proposed approaches are best practice (based on evaluation and research literature), that they are intended to provide robust answers to each evaluation question, and that they are suitable to the Mali context.

Each evaluation question should also examine subsets of relevant populations such as poorer households and women and youth. For the relevant groups, the analysis may require more than simple disaggregation of quantitative data. For example, analysis of gender dynamics is more than statistics by gender. The evaluation team should refer to relevant USAID guidance on gender and inclusion and propose specific evaluation designs, as appropriate.

In addition to proposing a strong theoretical evaluation design, the evaluation team should plan on using standard empirical tools, as relevant to the chosen methodology. This could include statistical software for quantitative analysis (e.g., SPSS, or STATA) and software for qualitative analysis (e.g., Atlas.ti or NVivo).

2. Primary Data Collection Instruments

The evaluation team may propose to design quantitative data collection instruments and qualitative protocols to gather data as appropriate. Though such instruments and protocol may be based on existing

tools, they will need to be adapted and tested so that they address the specific evaluation questions and the Mali context. Therefore the evaluation team should include a detailed plan for relevant test of such instruments.

The proposal should be specific and name each method used, the reason to use it and the data sources for each method. For example, what is meant by Focus Group Discussion, what is the criteria for the selection of its participants and why would Focus Group Discussion be more appropriate than a Group Discussion or a Key Informant Interview for a particular data source and a particular evaluation question?

All quantitative data should be collected digitally and the proposal should demonstrate that proper data quality assurance systems will be put in place.

3. Primary Data Collection

The ET shall properly train all enumerators to appropriately collect quantitative and qualitative data, as needed. Proper data quality checks and supervision should be put in place. Data quality should be checked frequently and issues should be reported during weekly meetings. Any quantitative data shall be collected digitally. Automated and manual data quality systems shall be put in place.

4. Methodological Strengths & Limitations

The evaluation team shall explain the strengths and weaknesses for the evaluation methodologies proposed under this EOI. In explaining the limitations, the evaluation team shall further explain factors contributing to the selection of the proposed methodology despite its limitation and the means to be employed by the contractor to mitigate the potential effect of the limitation.

5. Evaluation Matrix for CVC Evaluation

The illustrative evaluation matrix below provides some examples of how some evaluation questions might be answered but the evaluation team should demonstrate its expertise by proposing data collection and analysis that is best fitted and specific to each CVC evaluation question. USAID/Mali may facilitate introductions and meetings with some of the proposed data sources.

Evaluation Questions	Outcome Measures	Data Sources	Data Collection Method	Data Analysis Method
To what extent have the Community Agrobusiness Teams (CATs) continued their capacity building and networking since the end of the CVC activity?	Please include measure and or indicator(s)	<ul style="list-style-type: none"> • CATs • G-Force • Nièta Conseil • DRA Sikasso & Mopti • CMDT Sikasso • Producer Organizations • CVC Quarterly, annual & final reports • CVC Mid Term Evaluation report • CVC Success stories 	Please include quantitative and qualitative methods	-

Evaluation Questions	Outcome Measures	Data Sources	Data Collection Method	Data Analysis Method
<p>In what ways, if any, did CVC's private sector engagement strategy (with Planet Distribution) benefit farmers? Did it compensate for missing financial market actors and/or did it displace other actors (i.e., did it give an unfair advantage to Planète Distribution compared to other distributors in the market)? Are there other positive or negative unintended outcomes for the private sector?</p>	<p>Please include measure and or indicator(s)</p>	<ul style="list-style-type: none"> • G-Force • Nièta Conseil • Planète Distribution • Banque Malienne de Solidarité (BMS) Mopti • Producer Organizations (FDRY & FUSCOCYN) • CVC Quarterly, annual & final reports • CVC Success stories 	<p>Please include quantitative and qualitative methods</p>	<p>-</p>
<p>To what extent were Producer Organizations (POs) able to negotiate profitable contracts with brokers?</p>	<p>Please include measure and or indicator(s)</p>	<ul style="list-style-type: none"> • Cereal Dealers (Moulaye Sountoura, Badian Doumbia) • Groupement des Commerçants Mil Sorgho du Mali (GCMS) • Agro Dealers (DUNKAFA, Camara Semance) • CVC Quarterly, annual & final reports • CVC Mid Term Evaluation report • CVC Success stories 	<p>Please include quantitative and qualitative methods</p>	<p>-</p>
<p>From the perspective of POs, Planète Distribution, and lenders, what is APIFIMA's (Financière du Mali/ Professional Association of Financial Intermediation in Mali) value as an intermediary between beneficiaries and the banks?</p>	<p>Please include measure and or indicator(s)</p>	<ul style="list-style-type: none"> • Planète Distribution • Banque Nationale pour le Développement de l'Agriculture (BNDA) • SORO YIRIWASO (a microfinance institution) • Banque Malienne de Solidarité (BMS) Mopti • Producer Organizations (FDRY & FUSCOCYN, etc.) • G-Force • Nièta Conseil • DRA Sikasso & Mopti • CMDT Sikasso • CVC Quarterly, annual & final reports • CVC Success stories 	<p>Please include qualitative methods</p>	<p>-</p>

Evaluation Questions	Outcome Measures	Data Sources	Data Collection Method	Data Analysis Method
In what ways, if any, did the mentoring activity affect women's ability to successfully pursue their professional goals? To what extent do women feel their voices are heard in mixed gender POs after completing the mentoring program?	Please include measure and or indicator(s)	<ul style="list-style-type: none"> • Mentors (Ms. Askofaré Ouleymatou Tamboura, M. Yaya Diallo, Kané Nana Sanou, Diallo Assetou Traoré) • Mentees (Chata Sangaré, Fanta Bah) • CVC Quarterly, annual & final reports • CVC Success stories 	Please include qualitative methods	-

Evaluation matrix for L4G evaluation

The illustrative evaluation matrix provides some examples of how some evaluation question might be answered but the Evaluation Team should demonstrate its expertise by proposing data collection and analysis that is best fitted and specific to each L4G evaluation question. USAID/Mali and the L4G may facilitate introductions and meetings with some of the proposed data sources.

Evaluation Questions	Outcome Measures	Data Sources	Data Collection Method	Data Analysis Method
To what extent do the trained auxiliaries continue to engage in activities that improve animal health in their villages? Are vaccines available in the villages of auxiliaries trained by SVPPs?	Please include measure and or indicator(s)	<ul style="list-style-type: none"> • Auxiliaries • Veterinarians • Livestock farmers • L4G quarterly, annual and final reports • Success stories • IP internal assessments and studies 	Please include quantitative and qualitative methods	-
From the beneficiaries' perspective, did their access to the co-located introduction of new fattening technologies and a vaccination programming improve beneficiary's productivity, access markets, and incomes? How did the co-location contribute to the improvements?	Please include measure and or indicator(s)	<ul style="list-style-type: none"> • Beneficiaries of co-located programming • L4G quarterly, annual and final reports • Success stories • IP internal assessments and studies 	Please include qualitative methods	-
How has the presence of water management systems impacted the relationship/cohabitation between users?	Please include measure and or indicator(s)	<ul style="list-style-type: none"> • Users of water management systems • Water point management committees • Livestock buyers organizations • L4G quarterly, annual and final reports • Success stories • IP internal assessments and studies 	Please include qualitative methods	-

Evaluation Questions	Outcome Measures	Data Sources	Data Collection Method	Data Analysis Method
How effectively are the water management systems meeting the needs of the users?	Please include measure and or indicator(s)	<ul style="list-style-type: none"> • Users of water management systems • Water point management committees • Livestock buyers organizations • Secondary data sources on water availability/scarcity • L4G quarterly, annual and final reports • Success stories • IP internal assessments and studies 	Please include quantitative and qualitative methods	-

V. TEAM COMPOSITION

The evaluation team assembled shall include technical and evaluation specialists. The ET shall propose at least three key personnel, including a Senior Team Leader. For all key personnel, preference will be given to Malian or African nationals. All key personnel must have experience in their field and in Africa, preferably in Mali or the Sahel. The contractor is expected to leverage proposed key staff for both evaluations where applicable, particularly the senior team leader.

SENIOR TEAM LEADER

The **Senior Team Leader** will be responsible for leading the team both administratively and technically. The Senior Team Leader must have extensive evaluation experience of large scale development activities in Africa. S/he will be responsible for ensuring timely submission of deliverables and the main point of contact for USAID. S/he should:

- Be able to demonstrate technical expertise, skills and experience in evaluating agriculture programs using robust mixed-method evaluation designs, preferably including:
 - Designing qualitative and quantitative data collection tools and protocols
 - Collecting and analyzing qualitative and quantitative data
 - Analyzing gender questions in agricultural settings in Francophone West Africa
 - Analyzing sustainability in agricultural settings in Francophone West Africa
 - Have experience evaluating activities related to at least 2 of these areas:
 - Cereals value chains,
 - Livestock value chains,
 - Cereal production,
 - Livestock production,
 - Agricultural finance.
- Hold at minimum of a Master's degree in evaluation/research methodology, social science, agriculture or other relevant field.
- Have a minimum of 10 years of progressively responsible experience in the evaluation of development programs. This should include a team leader role in at least two evaluations.
- Be willing and able to work in Mali for as required by the workplan, to include travel within Mali as permitted by the security situation,
- Possess professional proficiency to speak and write in both French and English
- Possess outstanding communication skills, with proven experience interacting effectively with a broad range of internal and external partners, including international organizations, host country government officials, and NGO counterparts.
- Preferably have experience leading an evaluation of a USAID activity.

OTHER KEY PERSONNEL

Additionally, the following skills and experience should be present to some extent within the additional key personnel (USAID suggests limiting key personnel to 5 or less):

- A minimum of a Master's degree in a field relevant for the evaluations (international development, livestock, agriculture, agribusiness, agricultural economics, or a related field)
- At least 5 years of experience with Malian livestock and cereal activities
- Experience in veterinary medicine, animal health, animal production, animal husbandry or related fields
- A minimum of 5 years working on development activities or evaluations in West Africa, preferably in Mali

- A minimum of 5 years of progressively responsible experience in the evaluation of development programs including:
 - Designing qualitative and quantitative data collection tools and protocols
 - Collecting and analyzing qualitative and quantitative data
 - Analyzing gender questions in agricultural settings in Francophone West Africa
 - Analyzing sustainability in agricultural settings in Francophone West Africa
- Presenting to a professional audience, facilitating learning events and training data collectors
- Excellent knowledge and experience in the use of a quantitative software such as SPSS, Epi Info, STATA, or SAS (as relevant if required by proposed evaluation design)
- Experience in the use of qualitative analysis software such as Atlast.ti, NVivo, or MAXQDA (as relevant when required by proposed evaluation design)
- Ability to program tablet based data collection software (as relevant when required by proposed evaluation design)

VI. Logistics and Security

Logistics

The contractor shall be responsible for organizing transport and lodging for evaluation team members and providing other logistical support for core evaluation team staff and data collection teams. Infrastructure in Mali is not very developed and quality of roads declines outside of Bamako. Internet access may also be limited in certain regions. The evaluation design should take these things into consideration and explicitly detail how the contractor plans to deal with these challenges.

Security Arrangement

The contractor should be aware of the security situation in Mali and should propose an evaluation design that takes this situation into consideration. The contractor should also present a clear plan to deal with anticipated security challenges, including the proposed plan to address inaccessibility of data collection areas. USAID will not take responsibility for making security arrangement for the contractor but requires the contractor submit an outline of their anticipated security arrangements to ensure the safety of all team members and data collectors.

ANNEX 2: FIELDWORK SCHEDULE OF FOCUS GROUP DISCUSSIONS AND KEY INFORMANT INTERVIEWS

Date	Region/Circle	Commune	Village	PO	Purpose
10/14	Mopti/Koro	Koro	Koro	VAs and Water Point Committee	FGDs
10/15	Mopti/Koro	Koro	Koro Center and Tere	Moni-Ire and Bire-Ire	KIIs and FGD
10/16	Mopti/Koro	Pel-Maoude	Pel-Maoude	Femmes de Pel Maoude	FGD
10/17	Mopti/Koro	Koporoma	Koporoma	Amokogo/ Yakene	FGD
10/19	Mopti/Bankass	Bankass	Bankass Center	-	KIIs
10/20	Mopti/Bankass	Dimbal-Habee	Logon	Hommes de Logon/Femmes de Logon	FGDs
10/21	Mopti/Bandiagara	Dandoli	Dandoli	Maison Familiale and Yam Girobolo Toumo	FGDs
10/22	Mopti/Mopti	Socoura	Gnimitongo	Coop Kossou	FGD
10/23	Mopti/Djenné	Fakala	Sofara	Plateforme de Juenes	FGD
10/24	Mopti/Mopti	Mopti	Mopti Center	-	KIIs
10/26	Mopti/Bankass	Mopti	Mopti Center	VAs	FGD and KIIs
10/27	Mopti/Bankass	Kani-Bozon	Ende Toro	Amaigre and PO Yerin	FGD
10/29	Timbuktu/Diré	Bourem Sidi Amar	Bourem Sidi Amar	Waivo Goroben	FGD
10/29	Mopti/Bankass	Bankass	Bankass Center	Water Point Committee of Tori/PO Tori	FGD
10/30	Timbuktu/Diré	Tindirma	Tindirma	Falane	FGD
10/31	Timbuktu/Goundam	Tonka	Tonka	Mandiara	FGD
11/2	Timbuktu/Niafunké	Soboundo	Sibonne	Coop de Sibonne	FGD

ANNEX 3: FOCUS GROUP DISCUSSION AND KEY INFORMANT INTERVIEW GUIDES

Focus Group Discussion Guide for L4G Farmers

1. Please tell us something about your animals:

- What animals do you keep and how many?
- What diseases do your animals suffer from by type and how common are they?

2. Do you have your animals vaccinated and who does it?

- How often do you like to have your animals vaccinated?
- Do you know the diseases that are prevented by vaccination?
- Which animal types do you vaccinate and when did you last do it?
- Who did the vaccination? Was this given by the SVPP veterinarian or someone else?
- Were there enough doses of vaccines to vaccinate all your animals? All the animals in the village?
- What is the charge for vaccinating your animals?
- Do you see a difference in the health of your animals from the vaccinations? What is different?
- Were there any problems with the vaccination program that you can tell us about?
- How could the vaccination programs be improved?

3. Do you have a trained auxiliary that helps you in this village?

- When did this auxiliary first start helping you here?
- Is the auxiliary still coming as often as before?
- How often is he here in this village to help you? And when during the year?
- What does the AE do specifically to help you?
- How important to you is having the auxiliary help you in this village?
- How often does the private veterinarian (SVPP) come here and what does he do besides vaccinations?

4. How can they improve the vaccination program?

5. Do you fatten your animals?

- Did you learn about fattening through training in the Farmer Field School (FFS) in your village?
- When did this occur, how long did this training last, and who taught you?
- Did you learn some totally new techniques for fattening your animals in the FFS?
- Which specific techniques do you now use that you did not use before this training?
- Which of these new techniques have had the most fattening effect on your animals?
- Are you fattening more animals since the FFS training? How many more?
- How much time do you spend now to fatten various animal types? Which months by type?
- Are these fattening periods as long as period the training and new techniques?
- Do you now earn more money selling fattened animals than before the training? Can you estimate about how much more for different animal types?

- How do you think the fattening training in the FFS could be improved?
 - Do they ask you to pass the knowledge on to other people? How could they reach more people?
 - How could they improve what is taught? Should they introduce new topics or teach them in a different way?
- 6. Are there livestock dealers (collectors, wholesalers, merchants) to whom you can sell in the markets?**
- Give a description of the different types of livestock dealers.
 - Have you made contact with these dealers to provide them with specific quantities of your offtake?

Focus Group Discussion Guide for Water Point Management Committees

- 1. When did your new water point begin to function?**
- 2. How many members are in your committee and how were members chosen?**
- 3. Where did this area get its water previously? For animals and for households?**
- 4. How long did it take to obtain your water previously compared to now?**
- 5. Who are the various users using this water source?**
 - How many people are using this water point now?
 - How far do the farthest users live?
 - Is this water point supplying all the surrounding communities' needs? If not, why not?
- 6. Are there any conflicts between various users? Please describe.**
 - Are there any conflicts between animal and household needs? Please describe.
 - What rules have you set up to regulate water sharing for animals and household needs?
 - Do the users obey the rules and how does the committee resolve these conflicts?
- 7. What should be improved in water use in your village?**

L4G Key Informant Interview Guide: Government Officials

Lead In: We are here to ask you a few questions about the Livestock for Growth program sponsored in Mali as part of the Feed the Future program of the U.S. Government. We are trying to understand certain parts of the program and how it has benefited farmers and their livestock.

- 1. Could you briefly tell us about your role as _____ [Title] _____?**
- 2. Are you familiar with the L4G program?**
 - a. How do you know about it?
 - b. What do you think overall of the program, briefly?
- 3. [For Government officials responsible for vaccination] What are the barriers to achieving full vaccination of animals in Mopti (and/or Timbuktu)?**
- 4. Do you know about the part of the program that uses veterinary auxiliaries to visit villages and help the veterinarians?**
 - a. Do you think that is helping to increase vaccination rates?
 - b. What could be improved with this part of L4G?
- 5. Are you familiar with the Farmer Field Schools sponsored by L4G [may need to explain this]?**
 - a. Is this program helping farmers improve their livestock health?
 - b. Are more healthy animals being sent to market?
 - c. How has this occurred?
 - d. What are the barriers to getting animals fattened and to market here?
- 6. Is it helpful to have the Farmer Field Schools and the veterinary auxiliaries co-located in the same villages?**
 - a. Why? How does it help?
- 7. Are you familiar with the improvements in water points as part of L4G?**
 - a. Are you familiar with the water point management committees in certain villages?
 - b. Are these committees a good way to manage the water?
 - c. How do they help, in your opinion?
- 8. Wrap up question: What further advice can you give to improve the L4G programs?**
 - a. Do you think they should expand to other parts of Mali?
 - b. How should they change the program if they do expand it?

L4G Key Informant Interview Guide: Private Veterinarians (SVPPs)

Lead In: We are here to ask you a few questions about the Livestock for Growth program sponsored in Mali as part of the Feed the Future program of the U.S. Government. We are trying to understand certain parts of the program and how it has benefited farmers and their livestock.

- 1. Could you briefly tell us about your job as a private veterinarian here in Koro (Bankass)?**
 - a. Where is your office?
 - b. How much of your time was spent on the L4G program activities?
 - c. What did you do for the program?
 - d. Have you continued in that role, and, if so, who reimburses you?
- 2. What did you do to train the veterinary auxiliaries?**
 - a. What did you train them to do?
 - b. Where did you train them?
 - c. How did you supervise them?
 - d. What do you think overall of the program, briefly?
 - e. Did the program increase vaccination rates? How much?
 - f. What could be improved with this part of L4G?
- 3. Are you familiar with the Farmer Field Schools sponsored by L4G [*may need to explain this*]?**
 - a. Is this program helping farmers improve their livestock health?
 - b. Are more healthy animals being sent to market?
 - c. How has this occurred?
 - d. What are the barriers to getting animals fattened and to market here?
- 4. Is it helpful to have the Farmer Field Schools and the veterinary auxiliaries co-located in the same villages?**
 - a. Why? How does it help?
- 5. Wrap up question: What further advice can you give to improve the L4G programs?**
 - a. Do you think they should expand to other parts of Mali?
 - b. How should they change the program if they do expand it?

L4G Key Informant Interview Guide: Other

Lead In: We are here to ask you a few questions about the Livestock for Growth program sponsored in Mali as part of the Feed the Future program of the U.S. Government. We are trying to understand certain parts of the program and how it has benefited farmers and their livestock.

[Note: Depending on who you are interviewing, you should tailor the questions to the person's job/role, and what they may know about.]

- 1. Could you briefly tell us about your role as _____ [Title] _____?**
- 2. Are you familiar with the L4G program [may need to explain it]?**
 - a. How do you know about it?
 - b. What do you think overall of the program, briefly?
- 3. From your perspective, what are the barriers to achieving full vaccination of animals in Mopti (and/or Timbuktu)?**
- 4. Do you know about the part of the program that uses veterinary auxiliaries to visit villages and help the veterinarians?**
 - a. Do you think that is helping to increase vaccination rates?
 - b. What could be improved with this part of L4G?
- 5. Are you familiar with the Farmer Field Schools sponsored by L4G [may need to explain this]?**
 - a. Is this program helping farmers improve their livestock health?
 - b. Are more healthy animals being sent to market?
 - c. How has this occurred?
 - d. What are the barriers to getting animals fattened and to market here?
- 6. Is it helpful to have the Farmer Field Schools and the veterinary auxiliaries co-located in the same villages?**
 - a. Why? How does it help?
- 7. Are you familiar with the improvements in water points as part of L4G?**
 - a. Are you familiar with the water point management committees in certain villages?
 - b. Are these committees a good way to manage the water?
 - c. How do they help, in your opinion?
- 8. Wrap up question: What further advice can you give to improve the L4G programs?**
 - a. Do you think they should expand to other parts of Mali?
 - b. How should they change the program if they do expand it?

ANNEX 4: LIST OF DOCUMENTS REVIEWED

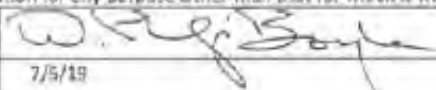
1. L4G Quarterly Reports, AECOM/DT Global: Quarters 1-3, Fiscal Years 2014-2018 and Q 1-2, FY 2019.
2. L4G Annual Reports, AECOM/DT Global: Fiscal Years 2015-2019.
3. Other AECOM/DT Global Reports:
 - a. Mali Livestock for Growth (L4G) Gender Analysis, February 2015.
 - b. USAID Mali Livestock for Growth Program (L4G) Baseline Data Study Final Report, September, 2015.
 - c. The Implementation Areas of the Livestock for Growth Program: Analysis and Classification of Constraints and Actions of Priority: Report of the August 12-13, 2015 Workshop in Bamako, November 2015.
4. Other Reports Prepared for DT Global (as background for Final Report)
 - a. Mali Livestock for Growth (L4G) Final Survey Report: Survey and Focus Group Discussion Data and Analysis, by International Business & Technical Consultants, Inc., no date.
 - b. High Level Analysis of Livestock-owning Households in Target Communities Before and During L4G Activities, prepared by Fraym, no date.
 - c. High-level Analysis of Animal Health in Target Communities Before and During L4G Activities, prepared by Fraym, no date.
 - d. The Security Context in Target Communities During L4G Activities, prepared by Fraym, no date.
 - e. Ruminant Livestock Fattening under L4G: Findings of a Sample Survey and Recommendations for Future Programming, prepared by John S. Holtzman and Seydou Sidibé, September 2019.

ANNEX 5: DISCLOSURE OF CONFLICTS OF INTEREST

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Walden Philip Boyie
Title	Evaluation Team Leader
Organization	ME&A
Evaluation Position?	<input checked="" type="checkbox"/> Team Leader <input type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	
USAID Project(s) Evaluated (include project name(s), implementer name(s) and award number(s), if applicable)	
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p><i>Note: Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant (though indirect) experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project(s). 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular project(s) and organizations being evaluated that could bias the evaluation. 	

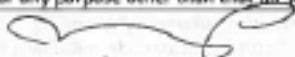
I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	7/5/19

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Jessica Dayton
Title	Research Assistant
Organization	MEDA
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	AID-DAA-1-5-00024/AID-DAA-TO-16-C-008
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p>Real or potential conflicts of interest may include, but are not limited to:</p> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

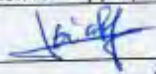
I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	9/12/19

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Lamissa Diakote
Title	Consultant - Cereals Value Chain
Organization	HEBA
Evaluation Position?	<input type="checkbox"/> Team Leader <input type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	AID-OHA-TO-16-0008
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance-Evaluation of the USAID/Mali Cereals Value Chain Activity (CVC) and Livestock for Growth Activity (L4G)
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p>Real or potential conflicts of interest may include, but are not limited to:</p> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	07/28/2019

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT SENSITIVE DATA NONDISCLOSURE AGREEMENT

AN AGREEMENT BETWEEN

Name of recipient - printed or typed

AND THE UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

1. Intending to be legally bound, I hereby accept the obligations contained in this agreement in consideration of my being granted access to sensitive data. As used in this Agreement, sensitive data is marked or unmarked "sensitive but unclassified information" (SBU), including oral communications, that meets the standards set by Office of Management and Budget (OMB) Circular A-130 Appendix 3 and the U.S. Agency for International Development (USAID) Automated Directives System (ADS). I understand that any data or systems of records protected from unauthorized disclosure by the provisions of Title 5, United States Code Sections 552 (often referred to as "The Freedom of Information Act") and 552a ("The Privacy Act") is/are sensitive data. In addition, other categories of information, including but not limited to medical, personnel, financial, investigatory, visa, law enforcement or other information which, if released, could result in harm or unfair treatment to any individual or group, or could have a negative impact upon individual privacy, federal programs, or foreign relations is sensitive data. The term includes data whose improper use or disclosure could adversely affect the ability of the Agency to accomplish its mission, as well as proprietary data and information received through privileged sources or procurement sensitive or source selection information, as those terms are defined by the Federal Acquisition Regulations.

2. I understand and accept that by being granted access to sensitive data, special confidence and trust has been placed in me by the United States Government.

3. I acknowledge I have been given access to USAID sensitive data to facilitate the performance of duties assigned to me for compensation. I understand it is my responsibility to safeguard sensitive data disclosed to me, and to refrain from disclosing sensitive data to persons not requiring access for performance of official duties. Before disclosing sensitive data, I must determine the recipient's "need to know" or "need to access" sensitive data. I will not use any sensitive data for personal financial gain.



4. I have been advised that any breach of this Agreement may result in the termination of my access to sensitive data, which, if such termination effectively negates my ability to perform my assigned duties, may lead to the termination of my employment or other relationships with the Departments or Agencies that granted my access. I am aware unauthorized release or mishandling of sensitive data may be grounds for adverse action against me. In addition, I have been advised unauthorized disclosure of data protected by the Privacy Act may constitute a violation, or violations, of United States criminal law, and that Federally-affiliated workers (including some contract employees who violate privacy safeguards may be subject to disciplinary actions, a fine up to \$5,000.00, or both.

5. I understand all sensitive data to which I have access or may obtain access by signing this Agreement is now and will remain the property of, or under the control of the United States Government. I agree that I must return all sensitive data which have, or may come into my possession or for which I am responsible because of such access:

- (a) upon demand by an authorized representative of the United States Government; or
- (b) upon the conclusion of my employment or other relationship with the Department or Agency that last granted me access to sensitive data; or
- (c) upon the conclusion of my employment or other relationship that requires access to sensitive data.

Unless and until I am released in writing by an authorized representative of the United States Government, I understand that all conditions and obligations imposed upon me by this Agreement apply during the time I am granted access to sensitive data, and at all times thereafter.

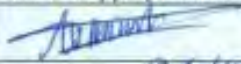
6. These provisions are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights or liabilities created by existing statute or Executive order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive orders and statutory provisions are incorporated into this agreement and are controlling.

WITNESS		ACCEPTANCE	
THE EXECUTION OF THIS AGREEMENT WAS WITNESSED BY THE UNDERSIGNED		THE UNDERSIGNED ACCEPTED THIS AGREEMENT BEFORE ACCESSING SENSITIVE DATA OF THE UNITED STATES GOVERNMENT.	
SIGNATURE 	DATE 10/26/19	SIGNATURE 	DATE 10/26/19

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	NDiaye Aminata
Title	logistician
Organization	PE Mali
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	Contract
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	L4G and CVE Mali
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p><i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

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Signature	
Date	9/3/09/2019