External Review

of the

Livestock Development in the Syunik Region Project

Phase III

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Content

Task-specific abbreviations

AI	Artificial Insemination
CCT	Cross-cutting themes (gender, DDR)
DRR	Disaster Risk Reduction
GoA	Government of Armenia
M4P	Making Markets Work for the Poor
MA	Ministry of Agriculture
MIS	Management Information System
SCO	Swiss Coordination Office
SDA	Strategic Development Agency
VC	Value chain
vet	veterinary
VET	Vocational and Educational Training

Executive Summary

This review is to assess the results of the current project phase, appraising the effectiveness, relevance of approaches, sustainability of activities and appropriateness of the implementation set-up. It is to draw lessons regarding project context and the M4P approach and provide recommendations for the future implementation of the project.

The project has installed a tailor-made M&E system based on a precise measurement plan, delivering up-to-date data on results related to logframe indicators. This review bases its assessment on the last annual report with data referring up to the end of August 2013, next to interviews with implementers and stakeholders.

Despite addressing a complex sector, this project has a clear profile. Around the main line of facilitating the rise of a self-sustainable veterinary service supply, further crucial aspects for building markets are addressed: milk and meat market channels, input supply, capacity-building of farming units, local public service improvement. The appearance of consistency also stems from competent implementation by a dedicated team.

Both reported figures as well as the feedbacks from beneficiaries, facilitators and partners confirm that vet services have become available upon demand when needed in the 40 attended villages, thanks – as vets emphasize – to the project's facilitation and capacity-building. They are today functioning as both public (so far mainly vaccination campaigns) and private agents, offering services for a fee. Most have an office offered by and in the municipality, equipped with a basic stock of medicine. With growing herds and AI, demand for their services is rising.

The additional component of brucellosis prevention, while being an imperative from a human and animal health point of view, so far lacks consistency in the way it is set-up.

Eight years ago, practically no milk market existed in Syunik; milk was bartered or self-consumed and animal husbandry not considered an economically feasible activity. Today, milk production has increased by 25% (between 2010 and 2012), half of which is sold to market agents (7 milk collection points, and processors producing mainly cheese). Livestock farmers' cash income has increased by 22% between 2010 and 2012, benefiting almost 3000 families. Market demand for good-quality milk is rising. The project's M&E system calculates how much of these effects can be reasonably attributed to the project (see annex 2).

Many shortcomings for developing the livestock market in Syunik remain, e.g. input supply, mechanization, fodder and feed production and supply, infrastructure and pasture management, the vet system itself (still unorganized and unregulated), and so far only 40 villages/municipalities attended, i.e. less than half of Syunik region.

One of the biggest challenges, however, was the change of mentality required for market build-up: from a passive attitude expecting services free-of-charge to a mentality accepting fair exchange (e.g. transparent milk sale being paid according to the quality of milk tested in front of the farmer; service supply against a fee; etc.).

The project has mainstreamed the cross-cutting themes in this phase – gender in all components, DRR included in governance, and governance couched as a component.

The review draws the following lessons from the project: it demonstrates not only Adam Smith's „invisible hand" at work but also that M4P's system-building pretention has good chances to succeed (sufficiently firm interconnected self-interests along VCs), although the system-building support „from above" is still very weak. This project also attests to the importance of good and dedicated project leadership and team work. Its convincing work, being perceived as a genuine development partner, facilitated greatly the mentality change among farmers towards market-oriented development.

The review recommends action concerning the following points:

- SDA has built M4P implementation know-how and capacity; this is a highly valuable asset which should be taken advantage of to expand the coverage of the project.
- The project proposes, in addition to its „standard" work, additional activities in several respects which this review fully underwrites.
- With an expansion of coverage to the entire Syunik region (and possibly beyond), the functions of project management will partly change: it will need to address the policy dimension at the regional level more prominently. The SCO, too, will be called upon to include related topics in its policy dialogue at national level.
- The time dimensions for M4P interventions by donors requires periodic analysis where system development stands (e.g. against a blueprint).
- A meat VC study for the Syunik area to update information on opportunities, new technologies and challenges from production to market should be done in connection with the new cattle market entering into operation.
- Support to regional VET institutions should be increased, as proposed by the project.
- Concerning the brucellosis component, the involved institutions should work towards a systemically more adequate future institutional set-up of this component; so far, the Ministry of Agriculture as evident lead institution is missing in this scheme.
- DRR should be continued as a CCT (possibly with UNDP involvement) to enhance the value of private and public physical investments being undertaken by farmers and communities.
- Document and showcase the „business model" of this project as an example of a successful (transition to) market development in favour of poor rural areas.

1. The Mandate

The review of phase III of this project is to assess the results of the current project phase, appraising the effectiveness, relevance of approaches, sustainability of activities and appropriateness of the implementation set-up. It is to draw lessons regarding project context and the M4P approach and provide recommendations for the future implementation of the project.

The following evaluation instruments have been applied: document reading, visits to project sites, individual and group interviews, and discussions. The latest reference document with results from operations is the annual report 2012/13, reporting up to the end of August 2013.

The ToR formulate explicit guiding questions to be addressed by the review. Under efficiency, the implementation set-up is reviewed.

2. Effectiveness and relevance of the intervention

Market players: The *core* market players whose relationship the project wants to facilitate, are the livestock farming families who produce and sell milk and meat, and the buyers of their products up to the end consumer[1].

M4P's approach is to help build the system which allows both sides – producers and consumers – to participate profitably and satisfactorily in these markets: of milk and meat and processed products thereof.

Producers should be able to
- buy performing breeds of cattle or Artificial Insemination (AI) services,
- feed their cattle well,
- purchase veterinary services and medicines on demand when needed,
- keep their cattle in adequate installations and milk them in hygienic conditions
- transport their milk to a convenient milk collection point (or sell from farm gate to a collector) which pays a price according to the quality of the milk delivered
- transport their cattle to the next animal market or contract the transport at an adequate price
- sell healthy cattle at a convenient location and a fair price (cattle market)

Consumers should be able to buy innocuous milk, meat and processed products. On this side of the core market relationship, food safety and availability of tasty products are key.

[1] This project benefits from a great advantage: homogeneity of the targeted intervention area in the rural economy, allowing a neat application of M4P.

This mission was told that demand for milk and meat is high, i.e. more could be sold than is being produced. The main problem to comply with demand is quality, of both milk and meat. Pastures, fodder and animal health needs to be improved and the related services strengthened (fodder seeds, water points and irrigation, vet services, etc.).

The project neatly defined the main categories of market players to whom it addresses its facilitation work:

a) buyers of milk (including processors) (Outcome A)
b) facilities for the sale of cattle (Outcome B)
c) farm support service and input suppliers (Outcome C)
d) women and men farmers/smallholders themselves (Outcome D)
e) public service providers of relevance for livestock farmers (Outcome E)

The project's progress report covering the period from 01/09/2012 – 31/08/2013 (see Annex 2) presents the activities undertaken with these market players in accordance with its logframe. The project's support to farmers is not delivered directly but through service providers.

This review endeavoured to obtain first-hand feedbacks on project performance from beneficiaries, partners and other stakeholders (see mission schedule in Annex 3). In all five communities visited, the mission tried to discern what their major problems are. They concerned infrastructure like the sewage or drinking water system rather than aspects the projects deals with. Stakeholders generally felt that their production concerns are being addressed with the support of the project. Several interviewed persons – producers, service suppliers, public sector officials – considered the project as the only really effective support they received so far. One veterinary service supplier expressed it like this: „We work with pleasure with this project because when we need it, they come, listen and help find a solution", such technical and „moral" support being considered more important than receiving services or installations free of charge.

Target group: The project maintains that all farmers keeping cattle in the attended communities had equal opportunity to participate in project activities (trainings, seminars, access to services) but not all responded. In accordance with the M4P approach, the project can offer incentives and facilitate the set-up of systemic elements to improve production but people choosing not to participate will not benefit (or at least not fully).

Among those not responding, the project endeavoured, based on indications of vulnerable families by community authorities, to consider poor households which had difficulties to participate. This has particularly been the case with female-headed households (about 40). In such cases, the project made a special effort to animate them to participate in seminars and trainings. It also offered a 50% co-financing for buying cattle, and to families not confident enough to keep cattle, poultry was offered as an alternative.

Access to services: It is evident from the reported results (number, quality, performance of cattle – see annex 2) and feedback from farmers that access to those services facilitated by the project substantially improved. Eight years back, a few badly paid vets in the related government agency provided irregular service (mainly vaccination) dispensing old

medicines of low quality (mostly penicillin for lack of more appropriate drugs) obtained from the only medicine supplier in the region. Since vets were employed by the state, farmers did not pay for their service. Today, there are four suppliers of medicine selling mostly non-expired products, and about three dozen vets are delivering broader *fee-based* services (vaccines, AI, surgery, advice) out in the villages – quite a change of mentality among farmers who were not used to pay for such services. Most vets operate from an office provided by the community, availing of a basic stock of medicines (facilitated by the project's revolving fund); prices are fixed, stock replenishment guaranteed through the sale of these drugs. In emergencies, vets can be called and visit farms upon demand, as far as possible (many have no car nor motorcycles). The vet network established is also used for AI, which increased strongly (with good results), and for the government's cattle vaccination campaigns. The project reports that today, 64 market actors provide advice and consultancy to farmers in the project area. Over 90% of farmers/smallholders involved in livestock received information and consultancy on animal breeding/breed improvement from vets and fodder input suppliers. Vets – some of them university-educated, others experienced farmers who learned on-the-job – expressed their satisfaction about increased recognition in the community and the growing, healthier, more productive herds they attend.

Concerning credit services, while information has been available to farmers eight years ago, they did not know what type of loan would suit them. Today, with well informed credit advisors attending farmers in village administrations, better informed farmers approach financial institutions, mostly with a clear demand which can be met. 25% of farmers (31% of which women) involved in cattle breeding received information on financial products and almost all of them applied for a loan; 91% of them (772 farmers) got credit (for more information, see Annex 2).

Public service supply at community level, too, has improved in a number of municipalities because of the introduction and use of computerized public administation software. The five visited (vice-)mayors say they can now more transparently account for the use of their scarce resources, credibly plan for community development and duly report correct data to regional government. They are better prepared to work with government projects (supported by other donors as well) on rational pasture management and other infrastructural projects. The use of nearby pastures – still in many places overgrazed – leads in an increasing number of communities to arrangements agreed with farmers (e.g. poor farmers with few cattle units are allowed to use nearby pastures, larger ones move to more remote ones) – see related results in annex 2.

It is fair to say that access to crucial services for livestock farmers have substantially improved over the past six years, with the perspective to continue on its own as it is built on mutually beneficial links (vets selling services and medicines to farmers; communities providing services to citizens which they are willing to support through their taxes (e.g. land tax which many could not pay before); farmers selling products to traders or processors rather than bartering them; etc.).

There are still crucial operational and systemic aspects to be improved for increasing smallholder livestock productivity in Syunik. The mission came across the following:

- *mechanization*: agricultural machines and implements are still old or lacking, services scarce and often of bad quality. A private input shop recently set up with the support of the CARD NGO in the region is offering milking equipment, small mowers etc. next to an ample range of vet services as well as capacity-building; the operator-owner is a further link connecting vet service supply to village vets (very appreciated by the latter);
- *infrastructure and pastures*: some villages improved the infrastructure (water points, roads, etc.) based on the project's support in phase II (pasture management plans) but much more needs to be done to increase access to new and rehabilitate overgrazed pastures in other communities; fodder types need to be improved as well.
- *vet system*: the Head of laboratory, Syunik Branch of the State Food Safety Service, while expressing his great appreciation for the project's support in establishing a functioning vet service (one of the few effective supports he is aware of in his area), mentiones that systemically, the vet system set up – while being a highly desirable initiative – still remains unorganized and unregulated; this system could, would and should gain effectiveness through adequate sector organization and regulation. This touches a systemic aspect the mission heard from several interviewees: while laws and regulations in many relevant aspects for agricultural development may be well devised and are in force, they lack application.
- *coverage*: the project so far reached more than 40 villages in Syunik but there is demand from other villages (which reacted more slowly to the offer, or were not approached) and a need to expand the systemic support to the entire Syunik region; also, some attended villages are less advanced than others and continue in need of the kind of systemic support the project provides.

Market access for farmers: Eight years ago, there was practically no market, neither for services for farmers nor for farmers' products. The scarce agricultural services available were public and purely advice-based, with almost no delivery of inputs. Much advice came from relatives and it was culturally shunned to charge money for it. Most products were bartered at close range (family, village); barter is still applied but decreasingly so (e.g. products against mechanization services). Looking at the figures provided in annex 2 on milk collection points set up (7 operating) which receive milk from (441) farmers, test it and pay according to fat content, market access has evidently been opened for milk producers, stimulating increased livestock investment by farmers (credit for USD 1.18 m for cattle breeding). Incentives placed by the project (e.g. milk testing equipment) are modest and do not distort the collection points' longer-term operation. Larger processors like the ELOLA company which collects milk from farmers, told the mission that it is interested in collecting more milk, particularly of higher quality, and that is has expanded its collection range. Other smaller processors in Syunik have also entered the market (today, 22 of them exist, half of them informal, using old technology, not controlled by inspectors). The opening of input and output markets for farmers has led to an increase in milk production between 2010 and 2012 of 25% due to increased number of cattle and improved cattle productivity (in this same period, milk production in all of Armenia increased by 3%). Today, about 50% of milk produced is sold by the farmers while before, all was bartered and self-consumed (animal husbandry was not perceived to be an income-generating activity).

M4P approach: As pointed out above, the facilitation modality has been an optimal support approach: it enabled market actors to become active market participants, able to maintain

themselves in the market without project support, and it promoted systemic elements (rules, practices, instruments, infrastructure) which facilitate the functioning of markets. In our view, this project applied the M4P approach correctly and succeeded in triggering a market development which has good chances to continue on its own, despite many shortcomings not resolved yet.

Cross-cutting themes: The ProDoc of Phase III proposed to mainstream the three CCTs of gender, DDR and governance.

Concerning gender, in Christian Armenia shaped by the soviet system, gender relationships in general were rather balanced. This was confirmed in project research on how increased family spending is decided upon. The project analysed gender aspects in livestock management, observing that women are more involved in milking, processing and sale of dairy products, and made sure that this was taken into account in training activities (female participation). In project work and reporting, all activities oriented at market players are gender-differentiated, as demonstrated in reports (annex 2). In one respect, the project continued with a special focus on women: it approached community authorities to identify female-headed households which tend to account for the larger part of vulnerable families. As mentioned above, the project adopted measures to reach such households and offer them tailor-made support measures (e.g. co-investment in animal purchase). The project also encourages women to participate in exchange visits and advocates for more gender balance among men community leaders.

DRR was taken into account in the former phase of the project but not explicitly in the present one. In fact, some measures concerning pasture management in phase III pertain also to the DRR domain but have been mainstreamed under governance – the strengthening of local self-governing bodies to support rural economic development –. Results under Outcome E in annex 2 summarize the activities leading to this Outcome: village staff members trained, use of the official Community Governance Information System, improvement of Pasture Management System, and pilot projects for overgrazed pastures rehabilitation. Interviewed mayors pointed to the software they are able to apply now and expressed their appreciation for the project support.

At the level of the regional government, the project did not experience major consequences from the change last year of the regional governor and his team. In the strategic evaluation of SDC's regional programme in early 2011, this review team talked extensively to the former Vice-Governor who was well informed and supportive towards SDC's cooperation. With the present team, good mutual collaboration is expected to continue; there is scope for closer future cooperation.

New component of brucellosis prevention: Based on the documentation (Additional Credit Part 1 Proposal) and discussion with the FAO responsible person and the SDA project, this additional component shows, in our view, some design shortcomings, due mainly to systemic limitations[2]. The Ministry of Agriculture is, of course, aware of the need for a

[2] E.g. the fact that only FAO has been awarded a license by GoA to import brucellosis vaccines.

national policy and programme to protect the animal and human population from infectious diseases. But in the transition to a market economy, Armenia still faces formidable challenges to arrive at an effective national prevention system. While the Syunik Livestock project helps build a market system „from below“, the indispensable effort „from above“ remains so far largely at the level of declaration. The Credit Proposal states: „The Ministry of Agriculture (MA) expressed its readiness to include the financing of the veterinary system in the state budget (...) once the system was developed and successfully tested in Syunik region.“ Although the MA is, and must systemically be, the lead institution in this regard, it is not part of this component and less so leads it (a risk mentioned in the Credit Proposal which is clearly present).

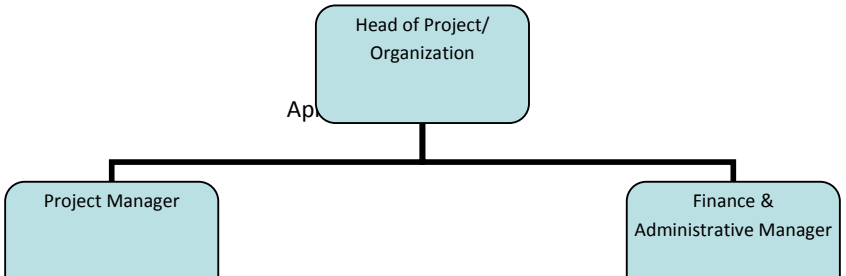
After a serious outbreak of brucellosis in the Syunik region in 2005, the GoA requested FAO to support it, leading to a first pilot one-time vaccination campaign but the public vet system has not yet been enabled to implement an entire respective programme. The GoA has asked FAO to continue its cooperation in this respect and Switzerland agreed in 2011 to support the development of brucellosis prevention up to the end of 2015. This component, the way it is set up, has been a compromise based on the many limitations faced (Ministry, vet system, lack of financing, etc.) and is a step towards setting up major aspects for a long-term prevention capacity. The vet system fostered by SDA is the best opportunity to „test“ a vaccination campaign as the vets act both on behalf of state instructions (receiving a small remuneration for each vaccine applied) and their private provision of services to farmers which permits them to maintain this service.

Concerning coverage, the proposed scheme is to attend 100 villages in Syunik region. SDC’s Livestock project up to the end of 2015, however, covers so far only 40 villages. Even if this coverage is expanded in the coming 1 ½ years, building the vet and farmers’ service market system to cover a further 60 villages will require more time. The objective of this phase – to „test“ a vet system qualified to extinct brucellosis in the Syunik area – may be too optimistic and the MA should not wait for such a result to lead and strengthen its disease prevention capacity.

The implementation set-up is peculiar: The thematic leadership and overall implementation responsibility lies with FAO, which is to provide policy and technical support (consultancies) and serves as a channel for importing vaccines but is not involved in field activities. The implementer of field activities is SDA. The Credit Proposal recognizes the risk of adjusting the activities of both entities to each other which is clearly present as well. Both FAO and SDA are, furthermore, contracted and financed *separately* by SDC, with SCO being responsible for supervising project implementation. Such a „two-pillar“ arrangement is likely to require more than supervision by SDC to produce concerted results. The entity which should be the „spiritus rector“ – the responsible state agency – is missing in this scheme.

3. Efficiency of the operation

The project structure is implemented as defined in the Phase III ProDoc:



Our visit to the headquarter has shown the same crammed-in office space as two years ago. SDA's argument is that most staff is field-based and needs only a small work space in the Yerevan office. There is an intensive nexus between field and head offices. The mission's perception of the profile of professional staff in the field offices is that it corresponds adequately to the range of tasks to be complied with. Feedbacks from vets, mayors, farmers and other stakeholders pointed to good professional quality and dedication of the project staff[3]. The mission, too, perceived a good team spirit among project staff.

During the mission's visit, the permanent field staff in the Goris office consisted of three (not seven) professional staff members, with the project manager spending time frequently in the two field offices. SDA adapts its staff assignment to implementation requirements.

In our discussions with project staff in Sisian and Goris, we perceived that the M4P's facilitation approach has been fully assimilated. We also observed that the project manager is close to the action in the field. Her guidance in terms of M4P-compatible implementation has been an important factor for the conceptual consistency of the project, as expressed in the instruments and cautious incentives applied, in the broad-based and participatory concerted actions, and also in searching well-founded solutions (e.g. the animal market location and build-up, taking more time than planned but being better founded).

Overall, as far as this mission was able to see and grasp, the set-up corresponds to a rational use of staff and office resources to comply with the project purpose.

4. Impact

The project has structured a measurement plan and related M&E system tailor-made for this project. It provides to-the-point gender-differentiated information on impact, outcome and output indicators and also assesses attribution, i.e. how much of the results is due to project intervention.

The project has measured the following impact indicators with reference to a baseline established in 2010:

Impact indicators	Results up to end 2012
Increased income for male and female farmers	- 40 communities attended

[3] The mission was told in the Syunik district that the project staff is always available when needed; it is perceived as a genuine partner in development and as such highly appreciated. A case study „Improving livelihood through livestock market interventions in rural Armenia" by David Elliott and Gavin Anderson (February 2012) writes under Staff and Management: „SDA had a very practical, hands-on, and field-based approach to implementing this project. They were successful at building an effective team that could gain respect and trust of not only the communities and farmers, but also of service and input providers and the local government."

from livestock in 40 rural communities in Sisian and Goris districts (incomes of at least 50% of 7'000 farmers/ smallholders in target communities increased by at least 25% compared with baseline)	- 2'950 livestock farming families reached (48% of households in target communities) - Income from livestock (dairy production and meat) between 2010 and 2012 amongst smallholders/farmers in target communities has increased by 22%
Increased average cash income of women and men smallholders from meat (target increased by 25% for 40% of smallholders/ farmers involved in livestock) and dairy trade (target increased by 35% for 80% of smallhalders/ farmers involved in livestock compared with base-line)	- Additional income from meat reached USD 200'000 in 2012 (in 2'107 households = 59%) - Additional income from the dairy sector = USD 820'000 in 2012 (in 1'835 households = 53%) or 15%
Productivity of cattle increased in 3'500 small-scale farms (productivity of dairy cows increased by 15% and of beef cattle by 20% as compared to the baseline)	- Dairy cow productivity increased by 9.6% from 2010 to 2012 - Beef cattle productivity increased by 16% - Both together in 2'950 farms
Number of organizational changes in local self governance institutions promoting participation and efficiency (at least 2 changes in each target municipality)	- 28 communities introduced the Community Governance Information System - 10 communities improved Pasture Mgmt - 26 target communities introduced rotational grazing schemes - A number of communities offer guidance to obtain commercial credit

Annex 2 specifies a series of further quantitative and qualitative results up to the end of 2012. It summarizes that in 2012, about USD 2 m additional cash income has been generated in the meat and dairy sector of the target area, half of which can be attributed to the project (i.e. about USD 340 out of USD 680/household p.a., in addition to self-consumption and bartered products). This is to be compared to a starting situation in which farmers mainly bartered and did not invest because of a lack of sales perspective (there were only sporadic sales, and sometimes the producer was not paid).

On gender equity, the report states that involvement of male and female farmers in livestock is rather balanced. The sector provides self-employment for over 8'400 inhabitants of target communities, 44% of which are women. Women's involvement in decision making on investments in cattle (one of the most important assets for rural households) has increased comprising 41% of surveyed households in 2012 compared to 8% registered in 2010. Involvement of male and female household members in milk and meat trade has not changed significantly: women are more involved in milk and dairy trade (49% of surveyed households in 2012 compared to 44% in 2010) and men are mostly involved in animal trade for meat (90% of surveyed households in both 2010 and 2012). Of farmers obtaining credit, 31% were women.

A further important impact indicator refers to out-migration by youth, although this aspect is not considered in the project's logframe. The mission asked interviewed mayors about whether younger people and families remain in the village. In three larger of the five villages visited, out-migration by the young has practically stopped and in others it has been reduced, basically because perspectives for a positive economic future have

improved. In smaller, more isolated villages, out-migration by young people apparently continues.

5. Lessons

In our view, the results of this project allow to draw some fundamental lessons about economic development approaches:

- The fact that in the case of this Livestock project, the triggering of a *market (i.e. demand)*-oriented vet and input service system has been shown to work even in a largely unregulated sector (regulations exist but are not applied), confirms that Adam Smith's „invisible hand" *can* work: by acting in their own interest, market participants produce a socially desirable outcome (a growing, healthier livestock sector serving the human population)[4].

- A second lesson is that in a relatively „unencumbered" environment – by government, large firms, donors spoiling farmers – like in the Syunik region, a market system building approach „from below" (by many market participants), nudged forward by intelligently designed facilitation, *can* produce (market)systemically sustainable results, i.e. ones which have good chances to continue without further support, basically because a) beneficiaries interiorized, in their own interest, the underlying functional behaviour (effort, learning, investment, respect for mutual commitments), and b) because market participation and exchange is perceived as profitable and fair enough.

- Consequently, a mentality change is occurring among livestock farmers in the region: while before, services were expected to be given free-of-charge, it is increasingly accepted by farmers that they have to pay for them (fair exchange). Farmers and villages which were previously less or not willing to join project activities, are now inviting the project to attend their area as well. Attitudes started changing also concerning cooperation in groups, mainly in connection with pasture management plans: it is discovered that associating for a specific purpose can make socioeconomic sense.

- On the other hand, the development of a regional sector – here livestock – „from below" – largely market-driven – may take longer in the absence of an effective regional and national government (the Syunik livestock project started in 2006, i.e. is now active for 8 years)[5]. The livestock market system in Syunik is still in an early

[4] Since financial asset bubbles reached, with globalization, a massive scale and burst from time to time, this tenet has been put in question in and by inadequately regulated markets.

[5] Also, expectations on advances of development processes are today characterized by higher impatience.

development stage compared to more mature systems in other countries where many more systemic elements are in place and work (including government policies, laws, strategies and regulations).

- A further lesson refers to leadership: a dedicated, capable project management makes all the difference in terms of ascertained work and results, particularly when applying a complex approach like M4P. The mission was told in communities that for farming families, it was a surprise that an operator like SDA existed at all who is genuinely interested in helping find solutions; before, it was everybody for him/herself. This cooperation provided a big boost and established trust and credibility. This goodwill and know-how is a highly valuable intangible asset gained over a number of years.

6. Recommendations

A. SDA has built up a well functioning adaptive livestock development support model in the past eight years. This substantial financial and „soft" investment in know-how is a highly valuable asset which should be put in value to roll out this support approach further, first to the region of Syunik and later possibly to other regions as well.

B. The project has brainstormed before this review about the facilitation necessities in an extended project area in the framework of its four outcome components. The 24 areas identified for facilitation correspond largely to the range of activities applied so far but include also new aspects, in particular
   - access to milk/meat markets: contract farming
   - service supply: the consolidation and organization of input supply, procedures and guidelines for vets (e.g. pricing policies, code of conduct etc.), dialogue with the government; a clearer set-up and strategy in the brucellosis component; introduction of new types of fodder and feeding technologies, and stimulation of compound feed production/ usage / sales
   - regional VET institutions: facilitate improvement of educational quality in agriculture; help popularize agricultural professions amongst youth; foster partnerships between VET institutions and private sector; help network with other local and foreign institutions
   - Local governance: pastures Monitoring Model promotion (jointly with GIZ)

   This review is in agreement with these proposals but believes that with an extension of the operational arena of the project, project management functions will partly change (see below).

C. The rise of a solid market system requires not only development „from below" – from the market – but also „from above", i.e. a conducive policy and legal environment.

Supporting the government to apply adequate livestock-relevant legislation (as it exists in several respects in Armenia) is important for market system stability. While an expansion of „development from below“ in the Syunik region is desirable, there is a need to support market-supporting elements like the establishment of a vet association, and the application of related legislation and regulation. Consequently, with an upscaling of activities to the entire region of Syunik, the tasks of both the project management and of the SCO will be enhanced as it will need to address sector-specific public policy and regulation issues at a regional and national level. This regional level could also serve to spread SDA's approach to other regions by assisting the Syunik government in meetings of regional governors and governments to espouse the project's approach, and to lobby at the national level for adequate legislation and its application at regional level.

D. The time dimension for M4P interventions by donors should be adequately considered in view of the sectoral elements which are not yet functional, requiring periodically a fresh look at where market system development stands (including where SDC will leave it).

E. At present, the construction of a regional cattle market between Goris and Sisian is in construction, based on an amply consulted proposal. It is advisable to commission a complementary meat VC study for the Syunik area by a livestock specialist to update information on opportunities, new technologies and challenges from production to market, and on what is being undertaken and in the pipeline to deal with major challenges (e.g. slaughterhouses).

F. The project has started to cooperate with the Armenian National Agrarian University, Sisian branch, in order to offer its students practices in livestock management aspects. The project proposes to increase this highly recommendable collaboration (see above).

G. Concerning the brucellosis component, the involved institutions should work towards a systemically more rational future institutional set-up of this component.

H. In governance, feedbacks from mayors of municipalities point to the importance of mayors' meetings for the exchange of information and initiatives. From the point of view of public system improvement, the cooperation of the project with this platform could be increased. Mayors can also lobby at regional government level for regulatory improvements.

I. For communities exposed to perceptible natural risks, it is recommendable to continue with DRR as a transversal theme, possibly with the invovement of UNDP. Prevention of natural calamities enhances the value of private and public physical investments.

J. This project is a good example for the M4P approach in action, i.e. for an approach which has the sustainability of results built into its intervention design. We recommend to document further and showcase this example, e.g. with a film, to be shown on Swiss television and elsewhere.

❖ ANNEX 1

BASIC INFORMATION

Project Title: Livestock Development in the Syunik Region (3rd Phase)

Contract reference: 7F-3199.03

Project period: 01.09.2011- 30.11.2015

Total budget: CHF 4'658'020.00

Implementing organization: Strategic Development Agency (SDA), Armenia

Partners: Ministry of Territorial Administration of Armenia, Regional Administration of Syunik Marz, village authorities, market players in milk and meat sectors.

The project is funded by the Swiss Agency for Development and Cooperation. The III-rd phase of the project is a merged continuation of the two SDC-funded interventions in the livestock sector, namely: the "Sisian Rural Self-Reliance Development Project" (implemented by ACF1) and the "Syunik Livestock Development Project" (implemented by SDA).

The **overall goal** of the project is the strengthening of livestock sector in the regions of Goris and Sisian and increase of income for farmers in the target communities.

The project III-d phase covers **40 target rural communities** in Goris and Sisian regions with a population of about 30,000 people or 7,000 households (of which 75% are involved in animal husbandry).

In December 2012, a new Project component: "Technical and Institutional Support to Veterinary Services in Armenia" was added to the project, which is being implemented by SDA jointly with **FAO**. The mentioned project component is aiming to strengthening of veterinary services public sector in Syunik marz contributing to improvement of the food safety system and sustainable agricultural development in Armenia.

ANNEX 2:

OUTCOMES ACHIEVED

(up to 31 August 2013)

Dairy sub-sector: The positive trends in dairy sub-sector of Armenia were registered during 2010-2012 and provided much of the motivation for farmers to increase their cattle numbers, particularly in the less remote, more easily accessible and larger villages. The 2009 price crash, however, resulted in many farmers taking the decision to disinvest in cattle. The situation regained since 2010 when prices for fresh milk reached pre-crisis level. In the meantime, reopened Russian market for Armenian cheese boosted exports which doubled in 2012 compared with 2010 (from 4,500 tons in 2010 up to 9,000 tons in 2012).

In 2012 total supply of milk in Armenia comprised 695 thousand tons, 82% of which was provided by local milk producing farms (of which 99% of milk was supplied by household's farms). About 18% of milk produce[6] was imported. In 2012 total supply of milk in Armenia increased by 8% compared with 2010 including both: local production and imports increasing by 3% and 43% accordingly (imports reached 135 thousand tons in 2012 compared with 94 thousand tons in 2010). These figures show that growing demand for dairy and milk in Armenia was addressed more by imports rather than local supply.

Milk production and farm productivity: Expansion in herd size, in addition to raised productivity, is an important factor in development of milk production in Armenia. The situation in the Project area has differed from the country-wide average figures. While the number of milking cows countrywide and Project area increased between 2010 and 2012 by 11% and 14% accordingly, the increase rate of milk production volumes in Project area differs significantly from countrywide average indicator. While countrywide milk production increased in average by 3%, in the project area the increase comprised about 25% due to both: increased number of cattle and **improved cattle productivity**[7].

Meat sub-sector: In 2012 total supply of meat and meat products in Armenia increased by 6% compared with 2010 including both: local production and imports that contributed equally to cover the increased supply. Share of local produce in total supply stood the same in 2012 and comprised 54% only. Over 98% of meat and meat products were consumed in the local market and only 1.6% was exported (export volumes decreased by 30% compared with 2010). The most popular meat types in the local market remain beef (43%), followed by poultry meat, the second largest product group in the segment (32%)[8], pork (18%) and lamb (7%).

Beef, prevailing in the meat consumption structure in Armenia, is mostly produced domestically (over 80%) by individual farmers. The imports consist of buffalo meat, which is consumed mainly by the food processing industry. In 2012 supply of beef slightly increased (by 4%) compared with 2010. Though the number of farmers involved in beef production somewhat increased, the local supply stayed nearly the same (slight decrease by 1%) and comprised around 48 ths. tons in 2012. In the meantime, imports increased by 30% (from 8.7 ths. tons up to 11.3 ths. tons). That is mostly explained by the fact that locally produced beef is usually marketed as fresh meat and consumed by households and HORECA sector where the demand for

[6] Raw milk equivalent

[7] Average milk yield per cow increased by 10% in 2012 compared with 2010 data

[8] Of which 20% only supplied by local producers - mainly large industrialized poultries.

fresh meat stayed stable, whereas increased demand was fulfilled by cheap frozen beef for meat processing companies.

Beef production and farm productivity: In the Project area the number of cattle (excluding milking cows) increased by 16% and the total volume of beef meat supplied to local market from the Project area increased by 10%. The share of slaughtered cattle in 2012 (63%) was lower compared with 2010 (73%), in other words: increased productivity (by 15%) in 2012 allowed producing more meat slaughtering fewer animals than in 2010. National data on beef supply shows that in the context of 20% increase in number of cattle (excluded milking cows), in 2012 beef supply volumes decreased by 1% compared with 2010.
Raised milk and meat productivity in Project area: *Improved farm and feeding practices, pastures*, *cattle health* and *genetics of cattle* have resulted in an increase in average milk yields from dairy cows and productivity of beef cattle in the Project area. Average milk yields from dairy cows have increased by 9.6% from 1,889 liters per cow (in 2010) to approximately 2,071 liters per cow (in 2012). One year cattle average live weight increased from 199kg. (in 2010) to 229 kg. (in 2012) demonstrating a substantial 15.1% improvement. Farms productivity in the project area has been improved in the result of the Project interventions towards development of farm support services (such as veterinary and animal artificial insemination services), improvement of pastures management practices, introduction of new/efficient fodder production schemes as well as improved capacities of farmers/smallholders in animal husbandry.

Improved access of women and men smallholders/farmers to Farm Support Services and Inputs to increase productivity: The project intervention in ***Farm Support Services and Inputs sector is focused on improving farmers' access to*** relevant ***support agricultural services,*** which result in ***increased volumes of purchase*** of agricultural inputs (feeds, medicine etc.) and services (Veterinary, AI, Mechanization etc) due to improved accessibility, reduced costs and increased understanding. The ***quality of livestock*** (in terms of genetics, productivity etc.) is being improved in the result of Artificial Insemination (AI) and cattle replacement as the ***productivity and volumes*** of raw milk and meat supplied are due to increased use of agricultural inputs and services.

Since the beginning of the project phase, **about 80% of farmers (over 2,750 farms/households)** involved in livestock have improved access and received quality veterinary services in the result of Project interventions. The Project supported establishment of 16 new Veterinary Service Points (VSP) in target communities by coordinating the supply of veterinary services, training and equipping vets as well as training and awareness raising of farmers on the importance of veterinary services. As of 31.08.2012, the number of target **communities served by Veterinary Service Points** operating in the project area **increased from 14 to 35**. During the reporting period, about 11,000 cattle received treatment through Veterinary Service Points which secured animal health and have positive impact on the productivity of cattle.

Since the beginning of the project phase, there were established 7 new AI facilities thus reaching the total number of AI services operating in the Sisian and Goris area 23. Community based AI services make those services more affordable and accessible for farmers in 40 rural communities of Sisian and Goris area.

During the 2nd year of the Project phase, 36% of farmers having cows in the project target communities used AI services and over 4,000 cows were inseminated (increased by 17% compared with baseline year). Improved access to AI services for farmers/smallholders as well as short-term activities undertaken by the Project (such as physical replacement of "bad" cows with better quality cows, "study and cattle buying" tours etc.) resulted in quality improvement of cows stock in the Project target area. Thus, **12% of dairy cows** in the Project target communities **have improved genetics** in the result of the Project interventions, 1/3 of those cows are the first generation of calves born in the result of AI.

Capacities of women and men farmers/smallholders in animal husbandry are improved: The project intervention under this objective is focused on ***developing farmers' capacities*** in farm management to improve farming practices and efficiency.

In the result of the Project interventions 64 market actors (22% of which are women) provide advice and consultancy to farmers in the Project area (of which 26 started doing that in the reporting period). **91% of farmers/smallholders** (**12%** of which women) involved in livestock received /information and consultancy in the area of animal breeding/breed improvement from veterinarians/AI technicians and fodder inputs suppliers.
In the result of the Project interventions, in total **41% of farmers** involved in livestock from target communities **applied improved farming practices** in the following areas: *animal care and feeding, animal breeding physical conditions (ventilation, lightening in cattle-sheds etc)*, that directly influenced farm productivity (quantity of produced milk and meat).

In total, **25%** of farmers (of which **31%** women) involved in cattle breeding received information and consultancy/***information on financial products/ agricultural loans*** from village authorities and 97% of those farmers applied for a loan. Improved access to information has resulted in a high level of success rate, so far about 91% of farmers who applied to financial institutions to attract loans have succeeded (772 farmers, 31% of which women). Due to improved skills of farmers in financial planning in total nearly 1,457,226 USD[1] was borrowed by beneficiary farmers from financial institutions. *81% of the mentioned amount was invested in cattle breeding*: of which 47% - invested to purchase cattle, 44% - to purchase inputs (e.g. fodder, inputs for fodder production etc.) for animal breeding and 9% for capital investments and assets maintenance (such as construction/renovation of cattle-sheds, purchase/renovation of mechanization and equipment etc.). 14% was invested in other sectors of agriculture (poultry, sheep breeding, pig breeding, etc.) and 5% used for other purposes (e.g. purchase of home assets, children education, health etc.).

Advanced practices in animal husbandry are adopted by farmers: During the reporting period **new practices/technologies in meat production** and fodder production were promoted amongst farmers by the Project and market players. **10*% of farmers/smallholders*** involved in livestock from target communities (**10%** of which are women) applied the new/improved meat production technology (including recommended feeding ratios, castration, open-sided cattle sheds etc.) to increase volumes and improve quality of meat produced.

Efficient schemes on fodder cultivation were introduced by the Project in cooperation with input suppliers and extension service providers. About 200 farmers from the target communities invested over 50,000 USD[9] and piloted efficient schemes on fodder cultivation for sainfoin, barley and fodder beet. The proposed fodder cultivation schemes will allow farmers to increase yields per hectare and reduce costs per unit and have a positive influence of animal feeding ratios on animal productivity and milk and meat production costs (note: in the Project area farmers involved in animal husbandry are used to produce fodder themselves, limited quantity of fodder is purchased).

[1] Exchange rate as of 31.08.2013: 1USD= 406,24 AMD, Source: Central Bank of Armenia

9 Exchange rate as of 31.08.2013: 1USD= 406,24 AMD, Source: Central Bank of Armenia

In the result of implementation of ***pastures management plans*** introduced during the Project previous phase in total over **12,000 ha** of quality pastures became accessible for farmers (6,900 ha during this Project phase), particularly *250 ha* of overgrazed pastures were rehabilitated (through pilot plant rehabilitation activities like cleaning territories from rock-debris, sowing seeds in the degraded areas etc.) and *11,750 ha* of pastures with improved infrastructure (water points, roads etc.)

Up to date, 26 target communities (of total 40) have successfully introduced and started implementing rotational grazing schemes to maintain pastures and improve productivity. 10 rural communities have initiated the process of mobilization and capacity building of communities (pasture users/men and women farmers, community counsel and staff of local authorities), developed and introduced practical mechanisms and procedures (including rights and responsibilities of village authorities and pasture users, TORs for village authorities staff, sample contracts for pasture users, self-control mechanisms etc.) for implementation of rotational grazing schemes in a more sustainable way.

Increased involvement and investments in Livestock: Improved access and presence of sustainable support services (such as veterinary, AI, pastures etc.) created good environment for investing in livestock sector and reduced risks associated with animals' health, therefore safeguarding farm assets and increasing farmers' confidence in maintaining and investing in cattle. In the meantime, improved efficiency and accessibility of milk market for farmers in target communities, improved knowledge in financial planning and animal husbandry as well as increased prices for milk and meat stimulated farmers from the project target area to invest into **milk and meat production**.

As of 31.08.2013, in total 40% of farmers (over 1,370 farmers, 23% of which women) involved in milk production invested to improve the performance of their farms and/or to increase the number of dairy cattle. Thus, 38% of those farmers (29% of which women) invested **in purchase of dairy cattle nearly 725,300 USD**[10]. In the meantime, 32% of smallholders/farmers (over 1,150 farmers, 19% of which women) involved in livestock have invested in meat production in terms of improving of farm efficiency and/or enlarging number of beef cattle. In total, 11% of farmers (30% of which women) involved in livestock have invested **over 363,200 USD**[11] **in cattle for meat**. Thus, the total investment in cattle for milk and meat production comprised about 1.1 mln. USD.

During the reporting period, the positive trend was registered in the stock of dairy cows in the project target communities. In total the number of cows increased by 14% (and comprised 12,584 heads) compared with the baseline year, of which **5.2%**[12] of increase was stimulated by the Project interventions. The number of beef cattle increased by 10.9% and comprised 7,587 heads. **5.0%** of this increase was stimulated by the Project interventions.

Increased production and sales volumes of milk and meat at farm level: In 2012 *overall production of milk on farms* in target communities *increased by 15%* compared with base-line 2010. In total, over 3,000 tons of raw milk per year was ***additionally*** produced and marketed by farmers in the result of project interventions. As mentioned above, two major changes facilitated by the Project interventions, namely: increase in milk yields by 10% and the number of milking cows by 5%, contributed to the increased milk production at farms in target communities.

[10] Exchange rate as of 31.08.2013: 1USD= 406,24 AMD, Source: Central Bank of Armenia

[11] Exchange rate as of 31.08.2013: 1USD= 406,24 AMD, Source: Central Bank of Armenia

[12] Project team estimations

Growing demand for fresh milk and dairy products (particularly cheese) as well as improved access to fresh milk market (due to both: improved efficiency of milk collection and increased volumes of milk supplied by farms) allowed more farmers to sell surplus of milk produced. Thus, in 2012 the share of farmers selling milk/dairy comprised 53% compared with 47% in 2010 and in total 216 farmers started to trade milk/dairy produce in cash.

Project interventions contributing to increase in number of livestock and raised productivity of beef cattle resulted in increased volumes of beef meat in the Project area by 21% in 2012 compared with the baseline year. In the meantime, the volume of beef traded in 2012 increased only by 10% compared with 2010. (Animal Market initiative planned to support the animal trade was postponed for known reasons).
Nevertheless, there has been registered a positive trend: the share of farmers involved in beef cattle breeding for sale increased from 52% in 2010 up to 59% in 2012 and 232 farmers started to trade beef cattle in cash.

Final figures for additional employment and income generated:
The project registered a significant (22%[13]) growth of incomes from livestock (dairy production and meat) between 2010 and 2012 amongst smallholders/farmers in target communities. In total about ***2 mln. USD*** of additional income (of which 50% or ***1 mln.USD*** attributed to the Project) was generated in meat and dairy sector in 2012 in the project target area. This growth has been realized amongst 40 remote rural communities in the Project area.

Note: To calculate the project attribution of income generated in livestock sector average milk and prices for 2010 were considered as the project had no influence on the changes registered in the prices (milk and meat prices increased by 12.7% and 16.4% accordingly).

The number of households benefited from the Project (in terms of increased income from livestock) comprised about 2,950 (*or 48% of households in target communities with over 11,600 people of population*). Average annual income increase of 2,950 livestock farmers (male and female) in 40 Sisian and Goris rural communities comprised 5% (from 764,856 AMD in 2010 up to 802,405 AMD in 2012) in the result of project interventions.

Additional income generated in dairy sector comprised about 820,000 USD and was distributed amongst 53% of male and female farmers (1,835 households) involved in dairy sector, average cash income from milk per household increased by 15%. Additional income generated in meat sector comprised about 203,000 USD and was distributed amongst 59% of male and female farmers (2,107 households) involved in livestock.

400 households (6% of total) in target communities got cash income opportunity starting production and sale of milk and/or meat. Additional jobs were created in veterinary and AI sector for 24 rural inhabitants.

From the gender perspective, involvement of male and female farmers in livestock is rather balanced. The livestock sector provides self-employment for over 8,400 inhabitants of target communities nearly half of which or 44% are women. The positive changes were registered in terms of women's involvement in decision making process at farm level. Thus, women's involvement in decision making on investments in cattle (one of the most important assets for rural households) has increased comprising 41% of surveyed households in 2012 compared to 8% registered in 2010. Involvement of male and female household members in milk and meat trade has not changed significantly: women are more involved in milk and dairy trade (49% of surveyed households in 2012 compared to 44% in 2010) and men are mostly involved in animal trade for meat (90% of surveyed households in both: 2010 and 2012).

[13] Source: Baseline and Interim Survey amongst farmers

OUTPUTS AND PERFORMANCE

For Outcome A: Improved access for women and men smallholders/farmers to reliable milk market.

Outputs and targets of the Project	Results as of 31.08.2013
Output A.1. Raw milk collection infrastructure improved	
- Number of MCP[14] established or improved efficiency of operations (target 11 MCPs of which 4 newly established, 3 in Goris and 1 in Sisian districts[15]).	- 5 MCPs improved efficiency of operations (2 in Goris are and 3 in Sisian)
- Number of farmers selling milk through MCPs (target 1,400 smallholders, 30% women).	- 441 farmers selling milk through MCPs, 45% of which are women (during the 2nd year of the project number of farmers selling milk through MCPs comprised 357 (41% women); increased by 16% compared with baseline year[16]).
- Milk trade volume and cash turnover by the 13 MCPs (target 4,500 tons per annum, 1.1 mln USD, sex-disaggregated data).	- Milk trade volume for the 2nd year of the project: 962 tons (increased by 25% compared with baseline). Cash turnover for the 2nd year of the project: 328,970 USD[17]. Cash turnover increased by 21% compared with baseline.
Output A.2. Improved capacities of MCPs to act as a mediator between Dairy Processors and Farmers.	
- Number of MCPs involved in long-term relationship with Dairy Processors and Farmers (target 13 MCPs of which 6 in Goris and 7 in Sisian districts). - Number of long-term contracts signed with dairies and farmers by MCPs (target: 13 contracts with dairies and 600 with farmers with duration over 6 months).	- 4 MCPs involved in long-term relationship with Dairy Processors, 2 MCPs cooperates with 2 Dairy Processors, in total 6 long-term contracts signed with dairies by MCPs. -1 Dairy processor has improved contractual conditions in agreements signed with MCPs. -1 Dairy processor has improved conditions of cooperation with MCPs (advances for milk). - No changes registered.
Output A.3. Increased investments by men and women farmers/smallholders in milk production.	
- Number of farmers making investment in milk production (target 80% of smallholders/farmers involved in milk production).	- 40% of farmers (1,372 smallholders) involved in milk production (23% of which women) invested in milk production. 15% of farmers (526 smallholders) involved in milk production (29% of which women) invested in cattle for milk production. Amount of investments in cattle comprised 725,326 USD[18] (26% invested by women).
- Number of milking cows in the target regions (target: 5 % increased as compared to base-line).	- Number of milking cows in the target regions increased by 14.2% (compared with baseline) and comprised 12,584 head. 5.2% of increase occurred in the result of the Project interventions[19].
- Volume of milk production increased at farm (target 20 % compared with base-line).	- Volume of milk production at farm increased by 25% compared with baseline (baseline data for average milk production volumes per farm comprised 6,027 liters and 2nd year data is 7,561 litre). 15% of increase occurred in the result of the Project interventions.

[14] Milk Collection Point

[15] Baseline – there are 7 existing and operating MCPs: 3 in Goris and 4 in Sisian districts. 2 MCPs established by the support of the ACH Project never worked after the establishment due to technical problems related to provided equipment.

[16] September, 2010 – August, 2011

[17] Exchange rate as of 31.08.2011: 1USD= 367,55 AMD, Source: Central Bank of Armenia

[18] Exchange rate as of 31.08.2013: 1USD= 406,24 AMD, Source: Central Bank of Armenia

[19] As of January 2013

For Outcome B: Improved access for women and men smallholders/farmers to reliable meat market

Outputs and targets of the Project	Results as of 31.08.2013
Output B.1. Animals/meat market infrastructure improved	
- Number of traders/buyers attracted on regular basis (target 50% of meat traders existing in region, 2-3 new buyers). - Number of farmers/smallholders selling through the animal market (target 800 smallholders/farmers sex-disaggregated data). - Number of transactions (target: 1,400 deals per annum by the end of the project). - Volume of meat sold (live-weight) and cash equivalent generated (target 500 tons per annum, 1 mln USD).	- No changes registered (related to Animal Market)
Output B.2. Increased investments by men and women farmers/smallholders in meat production.	
- Number of farmers made investments in meat production (target 40% of smallholders/farmers involved in livestock).	- 32% of smallholders/farmers (1,151 farmers) involved in livestock (19% of which are women) invested in meat production. 11% of smallholders/farmers (381 farmers) involved in livestock (30% of which are women) invested in cattle for meat. Amount of investments comprised *363,289 USD*[20].
- Volume of meat production increased at farm (target 25% compared with base-line).	- Volume of meat production at farm increased by 13.5% (baseline data for average meat production volumes/ slaughtered weight/ per farm comprised 363kg. and 2nd year data is 412 kg.). 7.5% of increase occurred in the result of the Project interventions
- Number of beef cattle (target increased by 5% compared with base-line).	- Number of beef cattle increased by 11% compared with base-line and comprised 7,587 heads: 5**% of increase occurred in the result of the Project interventions.**

For Outcome C: Improved access for women and men smallholders/farmers to Farm Support Services and Inputs to increase productivity

Outputs and targets of the Project	Results as of 31.08.2013
Output C.1. Efficient veterinary services are available for women and men smallholders/farmers	
- Number of veterinary points established (target 22 Veterinary points newly established in Sisian and Goris districts: 20 in Sisian and 2 in Goris).	- 16 Veterinary points newly established in Goris and Sisian districts (6 of which were established during the second year) .
- Number of farmers used veterinary services (target 80% of farmers involved in livestock).	-77% farmers involved in livestock used veterinary services (2,758 farmers (5% of which are women)) during the 2nd year of the Project).
- Number of cattle treated (target: 40 % increase).	- Number of cattle treated in the project target area increased by 7% (baseline data is 12,871 cattle, 2nd year result is 13,793 cattle). 79% of cattle were treated through Veterinary points.
- Number of cattle lost due to cattle diseases (target: 30%	- Number of cattle lost due to cattle diseases in the project target area decreased by 57%[21].

[20] Exchange rate as of 31.08.2013: 1USD= 406,24 AMD, Source: Central Bank of Armenia

[21] Data for 2012 provided by LGs in January, 2013; data for 2013 will be available in January, 2014.

decreased).	
Output C.2. Quality/breed of cattle improved through improved access to Artificial Insemination services for women and men smallholders/farmers and animal replacement (of bad "non-productive" animals with better quality ones)	
- Number of AI points established (target 12 AI services established, of which 11 in Sisian and 1 in Goris). - Number of existing AI points improved efficiency (target 32 AI points - 12 AI in Goris and 20 in Sisian).	- 7 new AI services established in Sisian (of which 4 during the 2nd year of the Project). - 16 existing AI points improved efficiency (5 AI in Goris and 11 in Sisian).
- Number of farmers used AI services (target 80% of farmers having cows, sex-disaggregated data).	- 2nd year of the Project: 36% of farmers (1,238 farmers) having cows of which 4% female used AI services. In addition 215 farmers from non target communities (of which 20% female) used AI services.
- Number of cows inseminated (target: 100% increase).	- 2nd year of the Project: number of cows inseminated comprised 4,016 heads of which 3,326 in the project target area (increased by 17% compared with baseline).
- Number of calves born in the result of AI (target: 100% increase).	-2nd year of the Project: number of calves born in the result of AI services 2,416; in total 5,637 (increased by 171%) calves in the result of AI services during the Project period.
- Number of cows with improved quality/breed (target 15% by the end of the project).	- Number of cows with improved quality/breed comprised 12% of the total stock.
Output C.3 Quality inputs and services for fodder production are available for women and men smallholders/farmers	
- Number of Farm Support Service providers making available quality inputs and services for fodder production in target area (target 50% of providers existing in the area, 3 new ones). - Cost of services reduced (target: by 15%). - Number of farmers used farm support inputs and services (target 50% of farmers involved in livestock). - Number and value of trade transactions and services delivered by suppliers in target villages (target: trade turnover increased by 15%). - Volume of fodder produced (target: increase by 15%).	- 2 Farm Support Service providers making available quality inputs and services for fodder production in target area. - Not available - 5% of farmers (193 farmers of which 14%female) used quality inputs and new technology for fodder production. Amount of investments comprised *50,650 USD*[22] -Volume of fodder produced increased by 17% and comprised 20,800 tons[23].

For Outcome D: Capacities of women and men farmers/smallholders in animal husbandry are improved

Outputs and targets of the Project	Results as of 31.08.2013
Output D.1 Service/input providers and processors/buyers provide embedded consultancy/extension to farmers in target area	
- Number of service/input providers provided consultancy/extension services to farmers in a sustainable way (target: increase by 30%).	-In total 64 market actors (26 of which started in 2nd year of the project) provide advice and consultancy to farmers in the Project area (increased by 60%)
- Number of farmers received embedded consultancy/extension services (target 80% of farmers/stallholders involved in livestock).	-2nd year of the Project: 91% of farmers/smallholders (over 3,245 farmers) involved in livestock received /information and consultancy in the area of animal breeding/breed improvement (increased by 46%). - 472 farmers (19% of which women) improved skills and knowledge in animal husbandry through trainings, advise and exchange visits. 25% of farmers (over 880 farmers) involved in livestock received

[22] Exchange rate as of 31.08.2013: 1USD= 406,24 AMD, Source: Central Bank of Armenia

[23] Grass volumes harvested from grasslands have not been calculated.

	information and consultancy on agricultural loans (31% of which women). 97% of those farmers applied for a loan and 91% has succeeded (31% of which women). - 279 farmers (17% of which women) improved skills and knowledge in farm development planning (including financial planning).
- Number of farmers with improved farm practices	-41 % of farmers/smallholders (1,454 farmers, 22% of which are women) involved in livestock improved farm practices.
Output D.2. Advanced practices in animal husbandry are adopted by farmers.	
- Number of farmers applying new techniques and practices in animal husbandry (target 20% of farmers/smallholders involved in livestock, 30% women). - Number of new technologies adopted by target groups (target: at least 3 technologies).	- 14% of farmers/smallholders (485 farmers of which 13% are women) involved in livestock started implementing new techniques and practices in animal husbandry. -3 new technologies adopted by target groups /castration of bulls, feeding and care of calves and new technology in fodder production/.

For Outcome E: Improved access for men and women farmers/smallholders to public services related to livestock sector

Outputs and targets of the Project	Results as of 31.08.2013
Output E.1. Capacities of local self-governance bodies to support rural economic development are strengthened.	
- Functional changes at community level to organize and/or manage services such as (a) infection disease prevention, (b) Natural Resources Management (Pasture management), (c) data collection, analysis and reporting and dissemination (target: 2 changes in each targeted municipalities).	- 195 staff members of village authorities (33% of which women) improved skills in computer literacy and exploiting the Community Governance Information System (IT software) and issues related to Natural Resources (pastures) Management. - Village authorities have introduced and started using the Community Governance Information System (1 functional change) in 28 target communities. - 10 target communities improved Pasture Management (1 functional change) through development and implementation of mechanisms and procedures with set functions and responsibilities of different actors.
- Number of initiatives/projects developed and implemented by village authorities related to livestock sector development (including reflection of principles of DRR and environmental concerns within rural economic development) – (2 initiatives/projects in each target community).	- 21 pilot projects for overgrazed pastures rehabilitation or improvement of infrastructure have been implemented in 16 target communities (1 in 11 communities, and 2 in 5 community), which resulted in increased accessibility of 12,028 ha quality pastures (increase by 1,3 times compared with the baseline: baseline is 5,179, 3rd phase result is 6,849).

ANNEX 3: Mission Agenda

ARMENIA: THE PROJECT "LIVESTOCK DEVELOPMENT IN THE SYUNIK REGION"

Monday, 10.02.2014, 14:00

Meeting with SDA management, Mr. Mkrtich Ayvazyan, and project management, Ms. Karina Harutyunyan

Field visit: 12-15 February 2014

Wednesday, 12.02.2014

Brnakot community

- Visiting Cheese workshop (Milk collection point), meeting with owner/manager (Mr. Seyran Araqelyan).

- Visiting Veterinary and Artificial insemination (AI) point in Brnakot community, meeting with Veterinarian (Mr. Harutyunyan Gevorg) and farmers used AI & Vet services.

Thursday, 13.02.2014

Tolors community:

- Visiting Village Authorities of Tolors community, meeting with the Village Mayor and Staff responsible for/involved in:
  - Community Governance Information System
  - Financial Advisory Services
  - Pasture Management

Mr. Seyran Matevosyan – Accountant at Village Administration
Mr. Hovik Badalyan – Member of Community Council (member of working group on communal pastureland management and implementation)
Mr. Vardan Badalyan - Member of Community Council (member of working group on communal pastureland management and implementation)
Mr. Mher Gasparyan – Farmer (member of working group on communal pastureland management and implementation)
Mr. Garsevan Andznauryan - Herdsman (member of working group on communal pastureland management and implementation)
Ms. Gayane Grigoryan – Operator/Financial Consultant
Ms. Teymina Hovsepyan – Secretary
Mr. Serojh Vardazatyan – Farmer

Meeting with Director of Sisian Branch of Armenian National Agrarian University, Mr. Arthur R. Kostandyan *(PhD in Economics, Docent*)

15:30 -17:30 **Shaqi community**
Meeting with veterinarian (Mr. Sashik Harutyunyan) and AI technician/Manager of Farm and Veterinary Service Center in Sarnakunq, Syunik marz (Mr. Suren Vardanyan)
Meeting with Project beneficiaries/farmers involved in animal breeding.

Meeting at Village Administration
Vruyr Stepanyan – Deputy of Village Mayor
Ms. Irina Grigoryan -Financial Consultant

Friday, 14.02.2014

Harzhis community

Visiting Milk collection Point and Fodder mill in Harzhis community (meeting with manager Mr. Sedrak Hakobyan).

Village Mayor: Mr. Surik Harutyunyan

Visiting Elola *CSJC* (Milk processing company). Meeting with ELOLA management & short tour (brief overview of the company history & cooperation with the project)

Deputy Director: Mr. Rubik Hovsepyan

Qarahunj community

Brief introduction to project activities at community level, meeting with farmers/project beneficiaries and representatives of village authorities.

Village Mayor: Mrs. Lusine Avetyan
Financial Consultant: Mrs. Tcovinar Sargsyan

Saturday, 15.02.2014

Meeting with Mr. Edgar Tokhsants, (Head of laboratory, Syunik Branch of the State Food Safety Service)

Visiting Animal Market Construction area

13:00 – 14:00 – Lunch

14:30 – 17:00 – Visiting **Tatev community**
- Visiting Village Authorities Office of Tatev community, meeting with the Village Mayor and Staff responsible for/involved in:
  - Community Governance Information System
  - Financial Advisory Services

Village Mayor of Tatev community: Mr. Murad Simonyan
Financial Consultant: Ms. Greta Sahakyan
Village Mayor of **Svarants community**: Mr. Artur Margaryan

Tuesday, 25.02.2014

09:00 Debriefing in SDA office