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Project: Sustainable Management of Pastures in Georgia to Demonstrate Climate Change Mitigation and Adaptation Benefits and Dividends for Local Communities

Reccomendations for Planning Required Veterinary Services for Tush Sheep Breeders

Prepared by the Association Management Center (AMC)

Tbilisi-Akhmeta-Telavi-Dedoplistskaro

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Project Goal and Revealed Needs

This Letter of Recommendation was prepared within the project Sustainable Management of Pastures in Georgia to Demonstrate Climate Change Mitigation and Adaptation Benefits and Dividends for Local Communities implemented by the UNDP based on the study Determining and Planning Veterinary Services Needed for Tush Sheep Breeders. Within this project Biological Farming Association Elkana conducted study - Local Livelihood Assessment of Tush Shepherds Traditionally Using Territory of Vashlovani Protected Areas for Winter Pastures in Georgia. Based on the above-mentioned study findings (December 2013 –April 2014) the need for a number of veterinary aspects was identified, which showed that there was no unified veterinary service system and the issue required immediate attention.

The study suggests that:

1. sheep owners mainly carry out non-mandatory vaccinations or other preventive activities without veterinary surveillance. They buy drugs to treat their animals that may have undesirable consequence and correspondingly, sheep farmers suffer loss.
2. sheep breeders consider that they are well aware of veterinary issues and use a veterinarian's qualified care only in critical cases;
3. sheep owners complain about low-quality Russian drugs. Due to this fact they have to buy drugs twice or three times that increases expenses;
4. sheep breeders who live far from the administration center express their dissatisfaction with high expenses related to a veterinarian's transportation due to the fact that they have to ensure his/her transportation both ways.
5. many sheep farmers who live far from the administration center complain about inaccessibility of veterinary care and drugs.

The Association Management Center (AMC) within the small grant UNDP project conducted Study for Determining and Planning Veterinary Services Needed for Tush Sheep Breeders (Analysis of Study for Determining and Planning Veterinary Services Needed for Tush Sheep Breeders; attached document: RA_vetservice_ENG). The study carried out by the AMC is based on veterinary problems revealed by the study conducted by Elkana and aims to comprehensively investigate them and determine needs for veterinary care. ("Local livelihood assessment of Tush Shepherds traditionally using Territory of Vashlovani Protected Areas for winter pastures", attached document: TS_livelyhood_vashlovani_ENG).

The study was carried out in Kakheti Region in November, 2014. Interviews were conducted with 56 Tush sheep owners and shepherds who own the sheep (there are totally 97 sheep owners according to 2014 data of Tush Sheep Breeders' Association) using Vashlovani Protected Areas. They have 40897 sheep (the total number of the sheep owned by Tush sheep farmers is 70000-80000) and are accommodated in huts located in the protected areas and its surrounding territory (there are totally 70 Tush sheep breeders' huts in Vashlovani Protected Areas and surrounding territory).

Meetings were held with stakeholders: representatives of Akhmeta, Telavi and Dedoplistskaro municipalities, governmental and non-governmental organizations, donor organizations. The purpose of the meetings was to involve different parties in the discussion, highlight veterinary problems and their role and participation. The meetings revealed the following needs of the parties:

- 1) raising sheep breeders' awareness on state-funded program, issues related to fighting against animal diseases and private preventive activities;

- 2) ensuring sheep breeders' good organization and demarcation of pastures and sheep movement routes;
- 3) tightening and controlling food safety requirements, ensuring interinstitutional coordination of activities;
- 4) the need for a veterinarian in Kasristskali who will provide services to Tush sheep breeders;
- 5) Improvement of veterinarians' working conditions;
- 6) the need for young veterinarians.

The conducted studies and meetings with stakeholders suggest that veterinary infrastructure and service packages should be developed to solve Tush sheep breeders' veterinary problems. Namely, at the initial stage it is necessary to implement private preventive activities for small cloven-hoofed animals during a whole year:

- 1) treat animals on helminthes;
- 2) vaccinate animals against parasites;
- 3) vaccinate animals against braxy;
- 4) vaccinate animals against piroplasmosis;
- 5) treat animals on external parasites.

Moreover, there is the need for proper planning and management of activities covered under the state-funded program and private preventive activities, which must be administered by one supervisory veterinary center.

The legal form of relationship between sheep farmers and the veterinary center will be based on the agreement concluded by the parties. Therefore, the organization will have competence to issue animal health certificates.

Veterinarians were interviewed to determine issues related to provision of preventive and other types of veterinary services, veterinarians' working practice, competence and their preparedness for providing organized care. Interviews were conducted with 20 practicing veterinarians that revealed the need to tackle the issue related to disease prevention. Moreover, the veterinarians expressed their preparedness who have enough competence to provide Tush sheep breeders with veterinary care (Research Analysis for Identifying Veterinary Needs and Planning Veterinary Service for Tush Shepherds. Attached document: RA_vetservice_ENG).

During the interviews the issue of veterinary infrastructure development was raised. For this purpose, the AMC organized a joint meeting attended by representatives of the three municipalities, namely, representatives of Sakrebulo (council), Gamgeoba (executive body of municipality), Telavi Majoritarian MP's Office, the National Food Agency, Information-Consultation Service under the Ministry of Agriculture, Tusheti Protected Landscape Administration Office, Tusheti National Park Administration, one of the Tush sheep breeders, Tush Sheep Breeders' Association, Caucasus Environmental NGO Network (CENN), the Head of Kakheti Regional Veterinarians' Association, Gesellschaft für Internationale Zusammenarbeit (GIZ) and UNDP. The study findings were presented in two directions to the meeting participants: (1) sheep breeders' veterinary problems and needs and overall situation in veterinary practice, (2) veterinarians' activity and practice and their qualification level to solve the current veterinary problems. The meeting also aimed at discussing issues related to the parties' participation and resource mobilization to solve sheep breeders' veterinary problems.

The meeting participants reviewed the existing infrastructure in the municipalities and mentioned that in fact there was no veterinary clinic and it required development of material-technical basis and infrastructure to ensure such facility for Tush sheep farmers. The discussion revealed the following needs:

1. Main building for veterinary center.

The center should be located in Kvemo Alvani including consultation service, pharmacy, veterinary laboratory, clinic, training center, artificial insemination center, husbandry and breeding center, etc.

The location for the veterinary center was identified according to the following criteria: (1) available premises; (2) minimum space -40 m², (3) number of rooms, 1 room for office work, consultations, meetings and trainings, 1 room for veterinary pharmacy, 1 room for veterinary clinic and 1 water closet, (4) closeness to Omalo and Karistskali; (5) access of farmers and sheep breeders to the center; (6) besides providing care to sheep breeders, the center should also render other services to ensure its financial sustainability.

Akhmeta Municipality representatives expressed their willingness to find free premises in Kvemo Alvani or Akhmeta. Representatives of Telavi Municipality expressed their doubt about economic sustainability of the center in Alvani and Akhmeta. They also expressed readiness to allot premises for the veterinary center in Telavi that would have more turnover than in Kvemo Alvani.

The parties agreed to establish a veterinary center in Kvemo Alvani or Akhmeta due to the fact that the purpose of the project is to improve veterinary service quality and availability for Tush sheep breeders (please, find the attached report of the meeting: STW_Outcomes_ENG).

2. Two veterinary facilities in Karistskali and Omalo including the territory for collecting animals and resting place.

Due to the fact that Tush sheep breeders migrate and spend four months on winter pastures and four months- on spring pastures, it is recommended to arrange veterinary facilities including resting and animal collection places in outlying districts. Two veterinary facilities should be established in Omalo and Karistskali. Historically, in these territories there were veterinary facilities that functioned seasonally and sheep breeders had access to veterinary care. Today there is neither veterinary facility nor mobile service rendering veterinary services to sheep breeders during seasonal migration. The interviews with veterinarians suggest that when veterinarians provide services on winter and spring pastures they have to stay overnight there. It is recommended to restore veterinary facilities and ensure simple conditions for veterinarians to spend the night there and also provide services to sheep breeders. The station will be properly equipped to adhere to relevant storage conditions. The veterinary facility will have enough space to collect and treat sheep on site.

Due to the fact that Karistskali and Omalo belong to Akhmeta, representatives of Akhmeta Municipality expressed willingness to find premises in these territories to restore veterinary facilities and ensure provision of complete care.

3. Two mobile veterinary groups comprising five people and two vehicles equipped according to veterinary standards.

Contracted sheep breeders need services provided by mobile groups during migration. Veterinarians do not use their own vehicles to go to sheep breeders. The sheep farmers are ready to pay their transportation costs if they need veterinary care. The meeting participants mentioned that two properly equipped vehicles and two mobile veterinary groups were required to provide complete care.

4. Special equipment to liquidate infection.

5. Sheep collector.

6. Communications to ensure streamlined functioning of the three premises: road, gas, electricity, water, Internet, etc.

The joint opinion of the meeting participants was to transfer veterinary service infrastructure established in three municipalities to Kakheti Regional Veterinarians' Association. Ownership form and status will be determined according to specific material or intellectual property. In view of the fact that the premises have not been identified, it is difficult to discuss the legal form of transfer.

Kakheti regional Veterinarians' Association that was established in 2010 unites more than 20 practicing veterinarians. The association members have conducted a number of theoretical and practical trainings. The organization participated in different projects including sheep breeders' trainings and purchasing sheep collector under a grant. In 2014 the association began providing one-year complete preventive services to owners of major cloven-hoofed animals. Today 457 major cloven-hoofed animals are under veterinary supervision of the association.

Development Plan for Introducing and Implementing Veterinary Service

The AMC elaborated the development plan to ensure availability of veterinary services for Tush sheep breeders and a draft estimate to introduce and implement the system that will facilitate activity planning. This document includes detailed estimate for development of material-technical basis and rehabilitation needed for veterinary service provision (Annex 1). The total budget is 203,395 GEL. The next 6 paragraphs describe activities, their costs and timeframe for implementation.

1. Veterinary center in Kvemo Alvani

It is recommended to establish a veterinary center at the perimeter of sheep movement route between Omalo and Kasristskali to ensure provision of veterinary care. It should be located in Kvemo Alvani. The center will include: (1) a veterinary clinic to treat minor veterinary diseases; (2) a pharmacy to store and sell veterinary drugs, animal food and care products. Stock of drugs for preventive services will also be stored in the pharmacy; (3) place for consultations, meetings and trainings that will raise sheep breeders' awareness. The total space of the veterinary center must not exceed 40 m². The number of rooms should not be no less than 4 including water closet.

The veterinary center will render the following on-site services to ensure financial sustainability:

- provide farmers with consultations on animal care;
- treat minor animal diseases;
- treat traumas and external damages;
- perform surgeries;
- sell quality veterinary drugs and other products.

The AMC prepared a complete estimate including material-technical equipment for a veterinary center and average pricing. The estimate also includes expenses related to building rehabilitation for commissioning. The total cost of rehabilitation and material-technical equipment including drugs for pharmacy amounts to **66,615** GEL and implementation timeframe is **6** month. For more information about pricing please, see Annex 1.

2. Veterinary facilities including animal collecting and resting places in Kasristskali and Omalo

It is recommended to arrange veterinary facilities, animal collection and resting places in the outlying districts. One veterinary facility will function in Omalo for approximately 4 months during sheep breeders' migration to summer pastures and the other – in Kasristskali for another 4 months – during migration to winter pastures.

The veterinary facilities will provide preventive care to contracted sheep farmers. There should be proper conditions in the facilities for veterinaries to render services and spend the night. The veterinary facilities will be properly equipped and have enough space for sheep collection and treatment, if necessary.

The AMC elaborated an estimate including a list of material-technical equipment and average pricing for two veterinary facilities and also building rehabilitation expenses related to building rehabilitation for commissioning. The total cost of rehabilitation of both buildings and their material-technical equipment is **65,180** GEL and timeframe for rehabilitating and equipping is **6** months. For more detailed information about pricing please, see Annex 1.

3. Mobile veterinary group with a vehicle equipped according to veterinary standards

To ensure provision of veterinary services to contracted sheep breeders during seasonal migration period, one off-road vehicle (Pickup, 4X4) properly equipped and a mobile group of two people will be enough at the initial stage. The total price of the vehicle and equipment is 61,600 GEL. For more detailed information about pricing please, see Annex 1.

4. Special equipment to liquidate infection (pathological agents)

Special equipment will ensure liquidation of infection and prevention of the spread of disease through disinfection. The equipment cost is 10,000 GEL. For more detailed information about pricing please, see Annex 1.

5. Sheep collector

Sheep collector is required for sheep shearing and veterinary manipulations, specifically, preventive activities. The Regional Veterinarians' Association has this device. Therefore, its cost is excluded.

6. Veterinarian's salary and fixed operating expenses

It is recommended to begin provision of services to Tush sheep breeders to ensure functioning of a veterinary center including a pharmacy, two satellite veterinary facilities (Omalo and Kasristskali) and a mobile clinic. For this purpose, three veterinarians should be involved in the project: (1) one veterinarian in central veterinary facility and pharmacy and (2) two veterinarians for providing mobile service. Veterinarians will be paid based on provided preventive care per contracted sheep. The veterinarian working in a pharmacy will have fixed salary.

Moreover, fixed operating expenses related to the veterinary center and stations should be taken into consideration: utility costs (gas, electricity, water, etc.); communication costs (telephone and Internet); stationary costs (cartridge, paper, etc.); vehicle depreciation/service and fuel cost. The organization also needs circulating capital for a pharmacy -5000 GEL and expenses related to drugs for treatment and transportation.

To ensure sustainability of the veterinary center and stations and their full functioning, it should be business-oriented. It is recommended to spend income on development of the Veterinarians' Association as well as introduction of new services. The AMC developed the Structure of Projected Costs, Sales and Incomes that includes calculation of fixed and variable costs to ensure streamlined business operation (please, see Annex 2).

The AMC also provided pricing of annual preventive activities per animal for small and major cloven-hoofed animals. The association should contract 10,000 small and 100 major cloven-hoofed animals to ensure economic justification of annual preventive care costs. The annual cost for preventive veterinary service per small cloven-hoofed animal will be 7.7 GEL and per major cloven-hoofed animal – 29.50 GEL (please, see price calculation table, Annex 3(a) and 3 (b)). Service fee may increase or decrease according to the exchange rate, drug prices changed by

provider and fuel price. Preventive service fee and the Structure of Projected Costs, Sales and Incomes are calculated according to December 1, 2014 data.

In order to solve veterinary problems among Tush sheep breeders, streamlined and available care should be ensured. It is recommended to raise sheep breeders' awareness as well as support the service provider to carry out organizational and administrative activities. Marketing activities should be properly planned and implemented that will facilitate elaboration of veterinary service packages, stimulate service provision and increase sales. Moreover, it is recommended to ensure technical support to treat diseases, ensure drugs and improve practice.

Project Outcomes

Development of veterinary infrastructure and transfer of material-technical basis to the Veterinarians' Regional Association according to the above-mentioned plan will ensure

1. improvement of access of Tush breeders to veterinary services on site as well as during seasonal migration;
2. provision of veterinary services in organized and formal way that will ultimately become streamlined and constant;
3. proper planning, timely and quality implementation of annual preventive activities according to standards determined by the veterinary calendar;
4. drug quality control including its origin and storage requirements;
5. veterinary service packages at competitive prices whose terms and conditions are acceptable for sheep breeders;
6. keeping formal recordings of provided veterinary services among them all manipulations carried out on small cloven-hoofed animals and issuing animal health certificates;
7. raising sheep breeders' awareness;
8. improvement of veterinary practice and increase veterinary service quality;
9. improvement veterinary consultation service;
10. proper planning of mandatory and private vaccinations including properly determined intervals between manipulations and unified registration and supervision according to standards of the veterinary calendar.
11. replacement of old bathing practice with up-to-date preventive methods that will prevent environmental pollution;
12. reduction of disease risks among sheep and sheep loss caused by disregard for preventive measures.

Costs Related to Material-technical Basis and Rehabilitation Needed for Veterinary Service Provision				
#	Costs Related to Veterinary Center	Unit Number	Unit Price GEL	Total, GEL
<i>Veterinary Equipment</i>				
1	Percussion hammer, 145 g	2	37.57	75.14
2	Fleximeter; 18.5b1.5cm	2	10	20.00
3	Pig fixator	2	77	154.00
4	Bull ring pincers; 57 mm	2	14	28.00
5	Blunt angled scissors; 17.5 cm	2	62	124.00
6	Hoof tester; 21 cm	2	110	220.00
7	Ermold needle holder; 17 cm	2	100	200.00
8	Dog ear fixation forceps; 14 cm	2	25	50.00
9	Balling gun; 19 mm	3	100	300.00
10	Nipple-balloon catheter; 9.5 cm	2	9	18.00
11	Nipple lancet; 12.5 cm	2	23	46.00
12	Nipple expansion device 12 cm	2	15	30.00
13	Castration pincers; 32 cm (horse)	2	520	1,040.00
14	Castration pincers for laparoscopy; 48 cm	2	220	440.00
15	Calf rope holder	2	20	40.00
16	Eye-hook; 8 cm	2	30	60.00
17	Eye-hook; 10 cm	2	35	70.00
18	Sharp hook	2	130	260.00
19	Wire hook; 50 cm	2	50	100.00
20	Gynecological holder; 53 cm	2	65	130.00
21	Chain handle, nickel plated	2	60	120.00
22	Shank chain fixator; 150 cm	2	55	110.00
23	Hauptner test board	2	7	14.00
24	Hauptner test liquid; 1 l	2	15	30.00
25	Needle holder 16 cm.	3	29.9	89.70
26	Needle holder 20 cm	3	34.5	103.50
27	Vascular clamp 20 cm	3	33.4	100.20
28	Cardiovascular clamp 16 cm	3	22.6	67.80
29	Cardiovascular clamp 13 cm	3	13.0	39.00
30	Dressing tweezers	3	27.4	82.20

31	Surgical scissors 17 cm	3	19.0	57.00
32	Surgical scissors 14 cm	3	17.5	52.50
33	Lancet holder	3	11.0	33.00
34	Scalpel blade	3	0.3	0.90
35	Scalpel blade	3	5.0	15.00
36	Surgical tweezers 15 cm	3	8.9	26.70
37	Surgical tweezers 20 cm	3	11.0	33.00
38	Surgical tweezers 25 cm	3	15.0	45.00
39	Sterile syringe 100	3	4.0	12.00
40	Sterile syringe 60	3	2.5	7.50
41	Surgical instrument set	2	1300	2,600.00
42	Gynecological instrument set	2	850.0	1,700.00
43	Stethoscope	3	17.8	53.25
44	Fluid suction pump (field surgery)	2	186.0	372.00
45	Electric suction unit (surgery)	2	480.0	960.00
46	Kidney dish, stainless steel (large)	2	15.0	30.00
47	Kidney dish, stainless steel (small)	2	5.0	10.00
48	Cuvette for surgical instruments 30X40	2	18.0	36.00
49	Cuvette for surgical instruments 24X30	2	15.0	30.00
50	Needle for injection in omasum	3	2.4	7.20
51	Cabinet for tools	1	900.0	900.00
52	Box (2 drawers) for table instruments	1	320.0	320.00
53	Manipulation table	1	500.0	500.00
54	Fleximeter 18.5X1.5	3	10.5	31.46
55	Fleximeter 15X2.5	3	9.5	28.43
56	Half-crooked needle	2	49.3	98.62
57	Hoof cutting pincers	3	74.2	222.66
58	Oval rasp	3	25.7	77.07
59	Urinary catheter	3	94.0	281.87
60	Veterinary uniform	6	50.0	300.00
61	Raincoat	6	30.0	180.00
62	Rubber boots	6	30.0	180.00
63	Single-use gloves for rectal examination	100	0.5	50.00
64	Standard single-use gloves	10	3.0	30.00
65	Infrared thermometer	3	100.0	300.00

66	Automated syringe	5	40.0	200.00
67	Automated syringe for oral use	5	40.0	200.00
68	Removable needle (automatic syringe)	2	100.0	200.00
69	Sterile boxes (to store instruments and consumables)	3	70.0	210.00
70	Shaving machine	1	581.9	581.90
71	Ultrasound device	1	8000	8,000.00
72	Blood analysis system 3000	1	4950	4,950.00
73	Detector (for detecting foreign body)	1	1000	1,000.00
74	Dry air sterilizer	1	1200	1,200.00
75	Drug scales	1	100.0	100.00
76	Consumables (bandage, cotton wool, dressing, disposable syringes, etc.)	10	10.0	100.00
Total				30,484.61
Veterinary drugs				
1	Seasonal drugs (Spring, Autumn)			5,000.00
Total				5,000.00
Mobile veterinary service				
1	Off-road vehicle (Pickup, 4X4)	1	55000	55,000.00
2	Portable refrigerator	4	300	1,200.00
3	Equipment for vehicle (refrigerator, shelves, fixators, cage, 12-volt transformer)	1	5000	5,000.00
4	Special equipment to liquidate infection	1	10000	10,000.00
5	Marketing (stickers)	1	400	400.00
Total				71,600.00
Equipment				
1	Refrigerator, closed	1	800	800.00
2	Refrigerator, open	2	700	1,400.00
3	Counter	1	1500	1,500.00
4	Tables	7	90	630.00
5	Chairs	30	40	1,200.00
6	Shelves	5	200	1,000.00
7	Cabinet	4	300	1,200.00
8	Computer	1	800	800.00
9	Printer	1	400	400.00
10	Projector	1	1000	1,000.00
11	Screen	1	300	300.00
12	Hanging board	1	400	400.00

13	Stationary	1	500	500.00
14	Rehabilitation of a veterinary center	1	20000	20,000.00
Total				31,130.00
Total cost of a veterinary center				<u>138,214.61</u>
#	Costs related to resting place and veterinary facilities	Unit Number	Unit Price GEL	Total GEL
1	Veterinary facility rehabilitation	2	30000	60,000.00
2	Bed	8	300	2,400.00
3	Table	4	200	800.00
4	Wardrobe	2	400	800.00
5	Chair	8	60	480.00
6	Generator	1	700	700.00
Total				<u>65,180.00</u>
Total cost of a veterinary center and veterinary facilities				<u>203,394.61</u>

Structure of Projected Costs, Sales and Incomes						
Costs:	Units		Amount, GEL	Number		Total, GEL
Utility:						
Veterinary center and 2 veterinary clinics	1	Month	300.00	12	Months	3,600.00
Salaries:						
Pharmacist and Office Manager	1	Month	400.00	12	Months	4,800.00
Veterinarian 1 service provided for small cloven-hoofed animal	1	Head	0.50	5000	Heads	2,500.00
Veterinarian 2 service provided for small cloven-hoofed animal	1	Head	0.50	5000	Heads	2,500.00
Veterinarian 3 service provided for major cloven-hoofed animal	1	Head	6.00	100	Heads	600.00
Drugs:						
Transportation of drugs	1	Road	70.00	6	Roads	420.00
Drugs and consumables cost for small cloven-hoofed animal	1	Head	3.51	10000	Heads	35,100.00
Drugs and consumables cost for small cloven-hoofed animal	1	Head	19.20	100	Heads	1,920.00
Drugs and consumables loss for small cloven-hoofed animal	1	Head	0.35	10000	Heads	3,500.00
Drugs and consumables loss for small cloven-hoofed animal	1	Head	1.92	100	Heads	192.00
Vehicle depreciation and fuel:						
Vehicle depreciation	1	Head	0.72	10000	Heads	7,200.00
Fuel	1	Head	1.43	10000	Heads	14,300.00
Stationary	1	Month	60.00	12	Month	720.00
Communication	1	Month	30.00	12	Month	360.0
Total expenses						77,712.00
Sales						
Service						
Major cloven-hoofed animal		Head	7.50	10000	Heads	75,000.00
Small cloven-hoofed animal		Head	29.50	100	Heads	2,950.00
Pharmacy income		Month	400.00	12	Month	4,800.00
Total sales						82,750.00
Incomes						5,038.00

Annual Preventive Veterinary Services for Sheep							
Activity	Diseases Prevented within Activity	Drug	Dosage	Dosage Unit	Annual Frequency of Activity	Drug price (1 headX50kg)	Consumables Price (syringe, gloves, nosebag)
<u>Vaccination against infectious diseases</u>	Braxy (malignant swelling of abomasum)	CEVAC COGLAVAX	2	ml	2	0.53	0.6
	Bacterial Dysentery of calf and lamb						
	Hemorrhagic enteritis in adolescent sheep						
	Necrotic hepatitis						
	Enterotoxaemia in adult sheep						
	Gas gangrene						
	Tetanus						
<u>Dehelminthization (orally)</u>	Fascioliasis	Pistoclozanidi 500 mg.	1	pill	2	0.28	0.2
	Dictyocaulus						
	Dicrocoeliasis						
	Moneziosis						
<u>Vaccination against endo and ecto parasites (dehelminthization through injection)</u>	Nematodes	Vilmecitin	1	ml	2	0.28	0.6
	Lungworms						
	Eyeworms						
	Mites						
	Fleas						
<u>Vaccination against protozoan diseases</u>	Piroplasmosis	Pirotex	1.5	ml	2	0.29	0.6
	Trypanosomiasis						
	Babesiosis						
	Femosporidiosis						
	Fransalleosis						
	Netalosis						

<u>Disinfection of animal stall</u>	Liquidation of microorganisms and parasites	Dexid 400	1	l.	1	0.04	0.1
Total					9	1.41	2.1

Annual Preventive Service Fee per Sheep	
Cost	Total
Drugs and consumables cost	3.51
Drugs and consumables loss	0.35
Vehicle depreciation	0.72
Fuel cost	1.43
Veterinarian's salary (gross)	0.50
Total cost	6.51
Service fee, GEL	7.50

Annex 3 (B)

Annual Preventive Veterinary Services for Livestock							
Activity	Diseases Prevented within Activity	Drug	Dosage	Dosage Unit	Annual Frequency of Activity	Drug price (1 headX50kg)	Consumables Price (syringe, gloves, nosebag)
<u>Vaccination against infectious diseases</u>	Emphysematous carbuncle	Raksha	3	ml	1	0.67	0.3
	Pasteurellosis						
<u>Dehelminthization (orally)</u>	Fasciolosis	Pistoclozanidi 1500mg	4	bolus	2	2.80	0.2
	Dictyocaulus						
	Dicrocoeliasis						
	Monesiosis						
<u>Vaccination against endo and ecto parasites</u>	Nematodes	Vilmectin	8	ml	20	2.33	0.6
	Lungworms						
	Eyeworms						
	Mites						
	Fleas						
<u>Treatment on ecto parasites</u>	Mites	Ectosules	10	ml	2	9.00	0.2
	Fleas						
<u>Vaccination against protozoan diseases</u>	Piroplasmosis	Pirotex	12	ml	2	2.00	0.6
	Trypanosomiasis						
	Babesiosis						
	Femosporidiosis						

	Fransailleosis						
	Netalosis						
<u>Disinfection of animal stall</u>	Liquidation of microorganisms and parasites	Dexid 400	1	1.	1	0.40	0.1
Total					10	17.20	2

Annual Preventive Service Fee per Cattle Head	
Cost	Total
Drugs and consumables cost	19.20
Drugs and consumables loss	1.92
Veterinarian's salary (gross)	6.00
Total expenses	27.12
Service fee	29.50
Organization's profit	2.38