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**TARGETED PPR VACCINATION AND SUPPORTIVE IN
THE TREATMENT IN THE EASTERN REGIONS OF
SOMALILAND**

WITH COLLABORATION OF SAHSP S/LAND



TARGETED PPR VACCINATION AND SUPPORTIVE TREATMENT IN THE EASTERN REGIONS OF SOMALILAND

Date: 18 July 2009

Introduction:

Peste des Petits Ruminants (PPR): PPR, also known as Goat Plague, is a disease of goats, sheep, and other taxonomically related species. It is caused by a *morbillivirus* in the family *Paramixoviridae* (Gibbs *et al.*, 1979; Gilbert & Monnier, 1962; Hamdy *et al.*, 1976; Johnson & Ritchie, 1968). It is clinically and pathologically similar to Rinderpest (RP), and is the most economically important viral disease of small ruminants in the areas where it occurs.

In the field PPR virus causes disease in goats and sheep but not in cattle or pigs, although these latter species can be infected sub clinically by experimental inoculation (Mornet *et al.*, 1956a; Mornet *et al.*, 1956b; Nawathe & Taylor, 1979). Goats are usually considered to be more susceptible than sheep (Aklaku, 1980; Bourdin, 1973), but this is not always the case (Bonniwel, 1983; Perl *et al.*, 1994). The disease is characterized by: high fever, discharges from nose, eyes, and mouth; profuse diarrhea; pneumonia; and, oral erosion with high morbidity and mortality rates.

Project Background

Samples (serum, biological materials and postmortem specimen) collected on suspected Peste de Petits Ruminants (PPR) outbreaks from animals with typical clinical signs by SAHSP and MoL, first in Awdal region 2005 with subsequent spread to Sahil and Maroodi jeeh in 2008 western regions of Somaliland, having analyzed samples at Muguga reference laboratory in Kenya, the result was positive for PPR both cELISA and PCR tests.

The disease has caused the death of a large number of animals, especially of goat and sheep, these losses has affected the livelihoods of many pastoral communities in these areas in terms of production, livestock trade and income.

SAHSP and MoL are planned to intervene through targeted vaccination to prevent further spread of the disease to the neighbouring eastern regions. The current targeted PPR vaccination will be carried out in pastoral areas of Togdheer, Sool, and Sanaag provinces of

Somaliland with special emphasis on areas not accessed during last year PPR vaccination (September 2008), in an effort of preventing further spread of the disease.

A total of 300,000 doses of PPR vaccines were available for this exercise. In addition selective targeted treatments were conducted in the districts situated in the areas of PPR vaccination exercise.

Source of the vaccine:

Lyophilized freeze dried virus vaccine PPR strain cultured on vero- cells in 20 ml vials accompanied with reconstitution and dilution sterile saline water in 100 ml bottles. A total of 300.000 doses of lyophilized vaccine were obtained from National Veterinary Institute, Debrezeit, Ethiopia

Objectives:

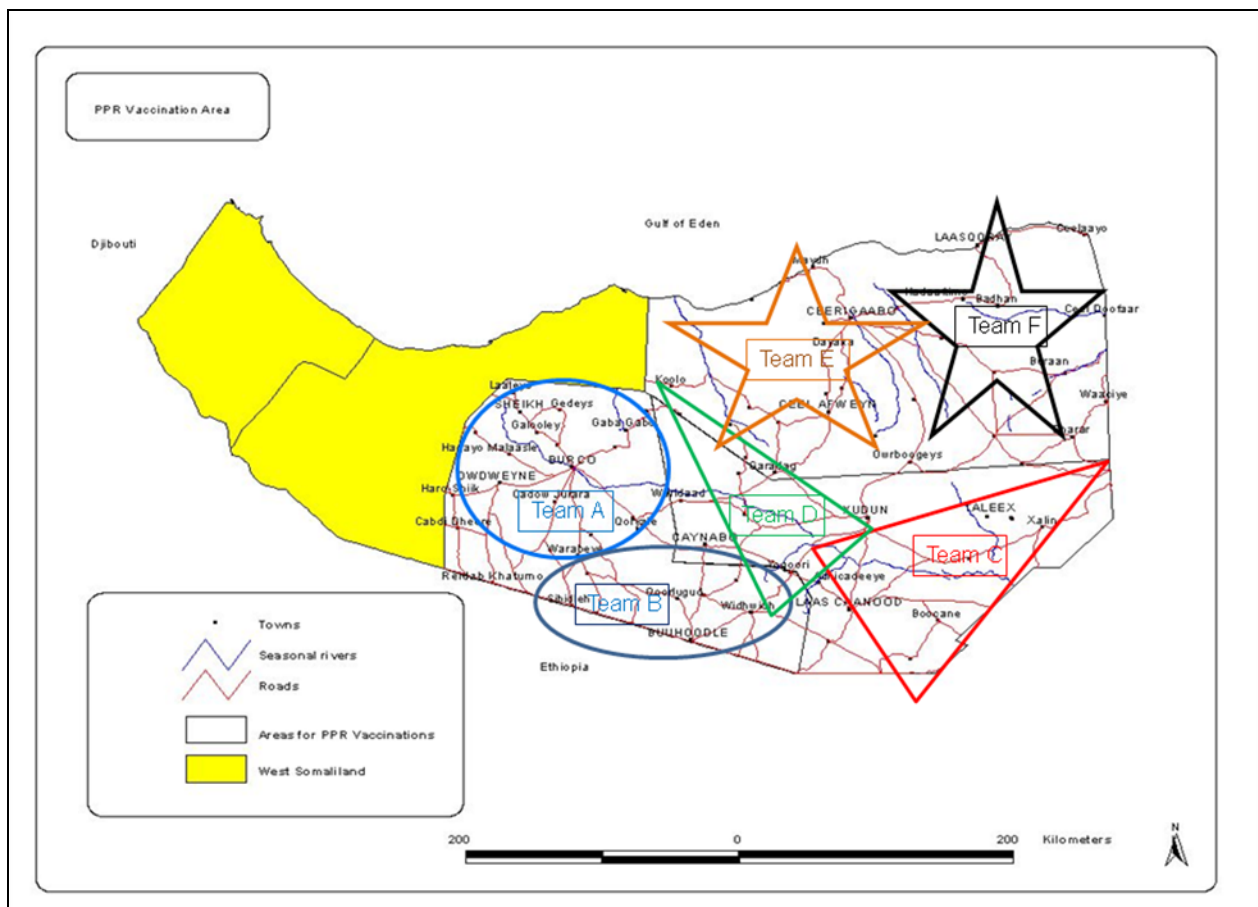
- To carry out targeted vaccination against PPR for shoats in the pastoral areas of Togdheer, Sool and Sanag regions of Somaliland.
- To conduct selective supportive treatments against local endemic diseases in the areas of vaccinations.
- To collect serum samples from local Goat and sheep flocks pre and post vaccinations
- To gather current disease information data for Somaliland EDMU

Expected output:

- ✓ Immunity protection of local flocks against PPR enhanced
- ✓ Health status of local livestock improved
- ✓ Antibodies level of local goat and sheep flocks against PPR assessed
- ✓ Disease information data for Somaliland EDMU updated

Methodology:

Six (6) teams were organized by the Somaliland ministry of livestock in consultation with SAHSP, the teams were selected from private veterinary associations of SOLNAVA and ULPA with previous experience in livestock vaccination, Public veterinarians were also included in teams as team leaders and supervisors, two EDMU officers and one lab technicians were also included for data and serum sample collection purposes, all team members were contracted for



(30) days of field vaccination activity by Somaliland MoL. Teams were authorized to conduct targeted vaccination in pastoral areas of eastern regions of Somaliland using freeze dried PPR vaccine obtained from Debre Zeit National Veterinary Institute, Ethiopia. Each team was expected to vaccinate 50,000 heads of sheep and goats as well as selective targeted treatments were conducted in the districts situated in the areas of PPR vaccination.

Two teams were allocated per region as follows, teams A and B for Togdheer, C and D for Sool while teams E and F for Sanaag region (see attached map for allocated area per team), each team comprises of 5 SVPs (1 team leader, 1 recorder and 3 vaccinators). Since ten SVPs were contracted per region it's agreed that two from the EDMU and 1 from the lab should be part of the team members. Each site 15 – 17 serum samples were collected during the vaccination in order to assess immunity status of local flocks.

3.2 Training

A one day Training will be conducted jointly by SAHSP, and MoL in Hargeisa. The training was focused on the vaccination techniques and rationale use of veterinary drugs, and guided as follows.

- *Dosage and Administration*
- *Characteristics of the vaccines*
- *Duration of immunity*
- *Stability*
- *Storage*
- Presentations
- Instruction use for the vaccine

4. ACHIEVEMENTS:

The four vaccination teams completed the massive vaccination activities on 22nd August 2009. Based on information obtained through visited sites in Togdheer, Sool and Sanag regions on the vaccination and treatment of sheep and goats against PPR, a total of 82 locations were visited. The GPS coordinates were recorded at each site sampled in Togdheer, Sool and Sanag regions. At each location a semi-structured interview was conducted and questionnaires were completed. Diseases mostly reported by the pastoralists were sheep/goat pox, CCPP, pneumonia (Qufac) and Helminthes for small ruminants, while for cattle and camels, the diseases reported were: Dhukaan, (*Trypanosomosis*), Dhugato (pneumonia) and Tick born diseases.

During the vaccination activity in Togdheer, Sool and Sanag regions the teams have encountered many pastoralists who complained endemic about diseases and the teams were also engaged in treating the sick animals. At each location or site visited, the teams thoroughly examined and treated the sick animals presented by the pastoralists.

The vaccination of sheep and goats against PPR in eastern regions of Somaliland was completed effectively and many of pastoralists in Togdheer, Sool and Sanag regions had appreciated the efforts supported by SAHSP II. The targeted population was initially 300,000 (three hundred thousand) heads of small ruminants, but unfortunately in some areas the

pastoralists refused to vaccinate their animals. This was mainly in the areas around Hudun, Ainaba and Oog areas.

Table 1 Number of Vaccinated in each region

Teams	Region	Sheep	goats	TOTAL
B	Togdheer	16707	24348	41055
A	Togdheer	17728	20428	38156
C	Sool	20890	19210	40100
D	Sool	29049	19159	48208
E	Sanag	38045	11089	49134
F	Sanag	28,338	16,732	45070
Total		150,757	110,966	261,723

The overall result shows that out of 300,000 targeted sheep and goats for PPR vaccination, teams had successfully achieved to cover (261,723 of shoats) 87% of the PPR vaccination campaign (Table 1). The teams were also engaged in treatment activity for de-worming, tick control and treatment against various ailments and diseases including; pneumonias, contagious necrotic skin disease of camels, gastro-enteritis, wounds and abscesses. The overall teams worked in the three regions (Togdheer, Sool and Sanag) treated a total of 370, 262 mainly sheep and goats where as teams also treated camels, cattle and donkeys (Table 2).

Table 2 Number of animal treated in each region

Teams	Region	cattle	camels	sheep	Goats	donkey s	Total
B	Togdheer	8	1525	22979	17376	48	41936
A	Togdheer		711	16467	18780		35958
C	Sool	13	92	7012	9050	33	16200
D	Sool	64	3054	32022	20999	149	56288
E	Sanag	715	618	38473	11047 3	182	150461
F	Sanag	623	1746	36898	30152		69419
Total		1423	7035	137384	188050	412	370262

Annex 1 Sites visited during PPR vaccination

Togdheer region (Team A and B)

S/ N	DISTRICT	VILLAGE
1.	Burao	Qoyta
2	Burao	Karasharka
3	Burao	Warcibraan
4	Burao	Beeli-eeday
5	Burao	Balanbaal
6	Burao	Qoriyaale
7	Burao	Xood
8	Burao	Gumburlibaax
9	Burao	Booraamo
10	Burao	Kalbarre
11	Burao	Ceeldheere
12	Burao	Boodhley
13	Burao	Ilkacaddays
14	Burao	Laasaha-qadhaadh
15	Burao	Xayira
S/ N	DISTRICT	VILLAGE
1.	Ood-weyne	Qolqol
2	Ood-weyne	Dooxada-gubato
3	Ood-weyne	Abdi farax
4	Ood-weyne	Teenyo-laaye
5	Ood-weyne	Duurcad
6	Ood-weyne	Balli-muuse
7	Ood-weyne	Gudubi
8	Ood-weyne	Ceel-xume
9	Ood-weyne	Jeenya-laaye

Sool Region (Team C and D)

S/ N	DISTRICT	VILLAGE
1.	Ainaba	Wadaama-gooye
2	Ainaba	Kiridh
3	Ainaba	Laas-geel-jire
4	Ainaba	Gobley
5	Ainaba	Habari-heshay
6	Ainaba	Ceel-dhaab
7	Ainaba	Kaam-barwaaqo
8	Ainaba	Hali-bixisay
9	Ainaba	Oog
10	Ainaba	Gawsa-weyne
11	Yagoori	Yeyle
12	Yagoori	Afka-libawga
13	Yagoori	Huftiro
14	Yagoori	Tuulo-samakaab
15	Yagoori	Dusmo
16	Laas-anod	Dhuxun
S/ N	DISTRICT	VILLAGE
1.	Yagoori	Yeyle
2	Buuhoodle	Sool-joogto
3	Egag	Libawga
4	Widh-widh	Dhalame
5	Widh-widh	Gucundhaale
6	Widh-widh	Horufadhi
7	Egag	Ariweyne
8	Egag	Egag

S/ N	DISTRICT	VILLAGE
1.	Eil-afweyn	Fadhigaab
2	Eil-afweyn	Geedo-qadhaadhle
3	Eil-afweyn	Dhabar-dalool
4	Eil-afweyn	Ababa
5	Eil-afweyn	Daray-lamood
6	Eil-afweyn	Suf-dheer
7	Eil-afweyn	Eil-afweyn
8	Eil-afweyn	Kal-sheikh
9	Eil-afweyn	Arab-yar
10	Eil-afweyn	Dhagax-weyn
11	Eil-afweyn	Maduna
12	Eil-afweyn	Hayasa
13	Eil-afweyn	Baxsi-gal
14	Eil-afweyn	Caday-musbaax
15	Erigavo	Kalmac

**Sanag Region
(Team E and F)**

S/ N	DISTRICT	VILLAGE
1.	Badhan	Xin-galool
2	Badhan	Dalad
3	Badhan	Kibir-weyn
4	Badhan	Ceel-buh
5	Badhan	Oodla'
6	Badhan	Waqdariya
7	Badhan	Qoryo-gubato
8	Badhan	Danweyne
9	Badhan	Burelal
10	Badhan	Shir-guud
11	Erigavo	Shaxan
12	Erigavo	Marawade
13	Erigavo	Dadab-yare
14	Erigavo	Xididlehe
15	Erigavo	Kulunbi
16	Erigavo	Bal-guraad
17	Erigavo	Yucub
18	Erigavo	Af-shanlo
19	Erigavo	Degbo

Annex 2 Team members

<i>No</i>	<i>Name</i>	<i>Team Id</i>	<i>Region</i>	<i>Position</i>	<i>Organization</i>
<i>1</i>	<i>Farah Muse saleban</i>	<i>A</i>	<i>Togdheer</i>	<i>Team leader</i>	<i>MoL</i>
<i>2</i>	<i>Ahmed Mohamed Adan</i>				<i>MoL</i>

3	<i>Hussein Mohamed Ali</i>				<i>MoL</i>
4	<i>Kadra Ali Hassan</i>				<i>EDMU</i>
5	<i>Mustaf Ahmed Mohamed</i>				<i>Lab</i>
6	<i>Mohamed Jama Dubad</i>	B	<i>Togdheer</i>	<i>Team leader</i>	<i>ULPA</i>
7	<i>Abdilahi</i>				<i>ULPA</i>
8	<i>Adan Timir Mohamed</i>				<i>ULPA</i>
9	<i>Mohamed Jama Da,ad</i>				<i>ULPA</i>
10	<i>Said Omar Jibril</i>				<i>ULPA</i>
11	<i>Bashir H Ahmed</i>	C	<i>Sool</i>	<i>Team leader</i>	<i>MoL</i>
12	<i>Abdilahi Ibrahim Yabaal</i>				<i>MoL</i>
13	<i>Hassan Ali Buraale</i>				<i>MoL</i>
14	<i>Mohamed H Abdi</i>				<i>MoL</i>
15	<i>Abdirahman Ali Mohamed</i>				<i>SOLNAVA</i>
16	<i>Ahmed Ismail Ahmed</i>	D	<i>Sool</i>	<i>Team leader</i>	<i>MoL</i>
17	<i>Mowlid Osman Hersi</i>				<i>EDMU</i>
18	<i>BulBul Mohamed Duale</i>				<i>SOLNAVA</i>
19	<i>Ismail Omar Farah</i>				<i>SOLNAVA</i>
20	<i>Abdilahi Hussein Osman</i>				<i>SOLNAVA</i>
21	<i>Abdi Hussein Aynaan</i>	E	<i>Sanag</i>	<i>Team leader</i>	<i>ULPA</i>
22	<i>Abdihakim Muse Saqadhi</i>				<i>ULPA</i>
23	<i>Mohamed Farah Siddiq</i>				<i>ULPA</i>
24	<i>Abdilahi Osman Gahnug</i>				<i>ULPA</i>
25	<i>Mohamed Adan Dubad</i>				<i>ULPA</i>
26	<i>Ismail Salah Ahmed</i>	F	<i>Sanag</i>	<i>Team leader</i>	<i>MoL</i>
27	<i>Yassin Salah Abdi</i>				<i>MoL</i>
28	<i>Dalmar Abdi Diiriye</i>				<i>MoL</i>

29	<i>Osman Jama Ali</i>				<i>MoL</i>
30	<i>Yusuf Hussein</i>				<i>MoL</i>
<i>Supervisors</i>					
1	<i>Abdi rahman Mohamed Adan</i>				<i>MoL</i>
2	<i>Ahmed Hassan Bile</i>				<i>MoL</i>
3	<i>Abdirahman A Salah</i>				<i>SAHSP</i>
4	<i>M Hassan Ali</i>				<i>SAHSP</i>

Annex 3 Training time table for PPR vaccination in Somaliland

Time	Activity	Resource Person
8:00-8:30	Opening Speech	DG of MoL (Dr M A Giire)
8:30-9:00	Presentation on PPR	Dr A Salah
9:00-9:30	General outline of PPR vaccination. Vaccination techniques & rationale use of vet drugs (treatment procedures).	Dr M H Ali
9:30-10:00	Filling daily vaccination forms & questionnaires	Drs M H Ali & A Salah
10:00-10:30	Tea Break	
10:30-11:00	Review of the filled questionnaires	Drs A Salah & M H Ali
11:-11:30	Use of GPS, entering coordinates, reading coordinates and navigation	Drs A Salah & M H Ali
11:30-12:30	Vaccination Work plan	DVS(Dr. A.A Mohamed)

12:30-1:30	Lunch and prayer	
1:30-2:00	Payment procedure	MoL & SAHSP
2:00-2:30	Signing contracts	MoL & SAHSP
2:30-3:30	Handing over of vaccination materials & equipment	SAHSP & MoL
3:30-4:00	Tea break and prayer	
4:00-5:00	Departure to the field	MoL & SAHSP