

Information on Animal health situation of Ethiopia (For Malaysia government)

3. Veterinary Laboratories

3.1. Name and address of the central veterinary laboratory and name of the director

- National Animal Health Diagnostic and Investigation Centre (NAHDIC)**

✓ **Director:** Dr Mesfin Sahile Forsa

P.O.BOX: 04

Tel: +251 11 338 08 94 or +251 11 338 08 97

Fax: +251 11 338 02 20

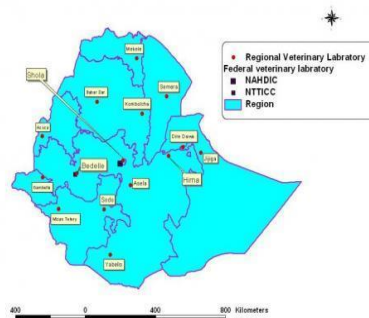
Email(Center Director): sebeta.mesfin@gmail.com

Sebeta, Ethiopia

3.2. Number of other official laboratories

- There are 15 regional veterinary laboratories in the country which are involved on diagnostic, investigation and surveillance activities.

Location of Regional Veterinary laboratories



- There country have one vaccine production centre: **National veterinary institute (NVI)**
 - Produces more than 20 vaccines for control of TADs
 - It also exports vaccine for some African countries
 - Involved in surveillance activities
- There is also National Institute for the Control and Eradication of Tse tse and Trypanosomosis (NICETT) which is responsible for surveillance, control and eradication of tse tse and trypanosomosis.

3.3. Staffing of official veterinary laboratories

SN	Name of the Laboratory	PhD	MSc	DVM	BSC	Asst Vet	Technicians	Support staff	Total
1	NAHDIC	5	16	2	15	21	3	170	232
2	Asella RVL	-	2	6	2	2	3	28	43
3	Assossa RVL	-	-	6	4	3	-	29	42
4	Bahirdar RVL	-	6	-	1	6	-	29	42
5	Bedelle RVL	-	2	5	6	2	-	34	49
6	Diredawa RVL	-	-	-	2	1	16	Pool*	19
7	Hirna RVL	-	1	4	2	5	-	-	12
8	Jijiga RVL	-	-	5	-	1	2	2	10
9	Jinka RVL	-	2	2	4	5	-	17	30
10	Kombolcha	-	2	1	4	7	-	25	39
11	Mekelle RVL	-	3	-	5	3	-	Pool*	11
12	Mizan RVL	-	-	6	1	5	-	19	31
13	Semera RVL	-	1	4	-	4	1	3	13
14	Sholla RVL	-	1	2	1	-	-	Pool*	4
15	Sodo RVL	-	2	5	6	-	5	34	52
16	Yabello RVL	-	2	4	3	2	3	Pool*	14
	Total	5	40	52	56	67	33	390	643

NB: * pool is to means they use support staffs (finance, human resource, audit) working in the regional bureau.

3.4. Diagnostic capacity of laboratories

3.4.1. Diagnostic Techniques that can be carried out in NAHDIC

SN	Disease	Tests
1	Contagious Bovine Pleuropneumonia (CBPP)	c-ELISA, CFT
2	Food and Mouth Diseases (FMD)	3ABC ELISA, LPBE
3	Avian Influenza	PCR, RT-PCR, HI
4	Newcastle Diseases (NCD)	PCR, RT PCR, HI
5	Maedi-Visna	Indirect ELISA
6	Gumboro	ELISA
7	Brucella abortus, B. ovis and B. mellitensis in cattle, sheep and goats	Rose Bengal Plate Test (RBPT), CFT,
8	Bovine Viral Diarrhoea Virus (BVDV)	ELISA
9	Bacillus anthracis, Pasteurella, E.coli, Clostridium spp., Salmonella spp. Brucella	Bacterial isolations and enumerations
10	Clostridia chovei	Direct FA test
11	Chlamydia	FAT
12	African Horse Sickness (AHS)	ELISA
13	Rift valley fever (RVF)	IgG, IGM and Inhibition ELISA
14	PPR	c-ELISA, Ag detection ELISA
15	RP	c-ELISA, Ag detection ELISA
16	Trypanosomiasis	ELISA, Thin smear, wet smear
Other tests/Examinations		
1	Post Mortem Examination	
2	Histopathology	
3	Acid fast test	Acid fast bacteria like Mycobacterium and Fungal species
4	Egg inoculation	
5	Virus/serum neutralization tests	
6	Immunoflourescent antibody test	
7	Taxonomic identification of ticks,	
8	Tsetse fly dissection	
9	Invitro egg hatch assay test	For evaluation of antihelemetic drug resistance
10	Flotation technique	For diagnosis of Nematodes, Cestodes and Protozoan oocysts
11	Sedimentation technique	For diagnosis of Trematodes (Flukes
12	Baer-man technique	For diagnosis of Dictyocaulus spp (Lung worm) and harvesting of infective stage L3 nematode larvae

NB: The lab has got an accreditation QMS: ISO 17025:2005 accredited for twelve tests by SANAS. It is designated regional support lab for the diagnosis of TAD's in the Eastern Africa Region. The lab is at BSL2 level, BSL3 level. Animal health researches, technical capacity building and support of regional veterinary laboratories are tasks of NAHDIC.

3.4.2. Diagnostic Techniques that can be carried at regional veterinary laboratories

The regional laboratory undertakes various diagnostic tests:

ELISA, RBPT, CFT, CMT (mastitis screening test), bacterial/fungal culture and isolation, PPD for BTB , various rapid/screening tests (penside test for PPR, rapid tests for salmonella and avian influenza), most parasitological techniques including hematological and entomological tests, gross pathological examination.

Diagnostic Services in Ethiopian Veterinary Laboratories

SN	Name of the Laboratory	Tests performed
1	NAHDIC	See a separate Table next page
2	Jijiga Regional laboratory	RBPT, bacterial culture, most parasitological techniques
3	Semera Regional laboratory	RBPT, bacterial culture, most parasitological techniques
4	Assossa Regional laboratory	RBPT, bacterial culture, most parasitological techniques, entomological identification
5	Bahirdar Regional laboratory	RBPT, bacterial culture, most parasitological techniques
6	Kombolcha	RBPT, bacterial culture, most parasitological techniques
7	Asella Regional laboratory	RBPT, bacterial culture and isolation, most parasitological techniques
8	Sodo Regional laboratory	RBPT, bacterial and fungal culture/isolation, rapid tests for salmonella and avian influenza, CMT, parasitological techniques including hematological and entomological tests, gross pathological examination
9	Yabello Regional laboratory	RBPT, CFT, bacterial culture and isolation, most parasitological techniques
10	Mizan Regional laboratory	RBPT, bacterial culture, most parasitological techniques
11	Mekelle Regional laboratory	RBPT, bacterial culture, PPD for BTB, CMT (mastitis screening test), most parasitological techniques, gross pathological examination
12	Hirna Regional laboratory	RBPT, bacterial culture, HPAI rapid test, most parasitological techniques
13	Bedelle Regional laboratory	RBPT, CFT, bacterial culture, most parasitological techniques,
14	Sholla Regional laboratory	PPD BTB screening test, RBPT, bacterial culture and identification, most parasitological techniques,

15	Diredawa Regional laboratory	RBPT, CFT, bacterial culture and isolation, most parasitological techniques
16	Jinka regional laboratory	RBPT, bacterial and fungal culture/isolation, parasitological techniques including hematological and entomological tests, gross pathological examination

5. Notifiable diseases

5.1. Lists of notifiable diseases of cattle

(i) Notifiable disease that must be notified immediately;

Contagious Bovine Pleuropneumonia, Foot and Mouth Disease, Anthrax, Pasteurellosis, Lumpy skin disease, Rinderpest*, Rabies, Bovine Spongiform Encephalopathy*, East Coast Fever (ECF)*, RVF*, Malignant catarrhal fever*

* disease which are not present in the country, but any suspicion should be notified.

(ii) Notifiable diseases that included on monthly disease reporting system

Enterotoxaemia, Foot-rot, Black leg, Botulism, Bovine anaplasmosis, Bovine babesiosis, Haemorrhagic septicaemia, Bovine brucellosis, Heartwater, Bovine tuberculosis, Leptospirosis, Listeriosis, Dermatophylosis, Echinococcosis/hydatidosis, Q Fever, Surra (*T. Evansi*), Toxoplasmosis, Trichinellosis, Trypanosomiasis (Tse tse transmitted), Warble infestation, Salmonella infection, etc

Disease Notification process:

In Ethiopia there are two type of notification/reporting systems in the national animal disease surveillance system (NADSS). The first component is smart-phone based a real time daily disease notification system called **ADNIS** (animal disease notification and investigation system) which is used for immediate notification of any suspicion or occurrence of a disease from the lowest level structure (sub-district). All diseases which must be notified within 12 hours are included in this system. The second component is a partial web based disease reporting system designed for monthly disease outbreak and vaccination activity reporting (DOVAR-II) by which regional laboratories collect monthly reports from districts of their working areas and enter the data into the web based system using the user account given for them and the federal epidemiology directorate monitor, follow up and control the overall system and provide regular feedback.

Regular monthly, six month and annual reports are sent for international and regional organizations (OIE and AU-IBAR).

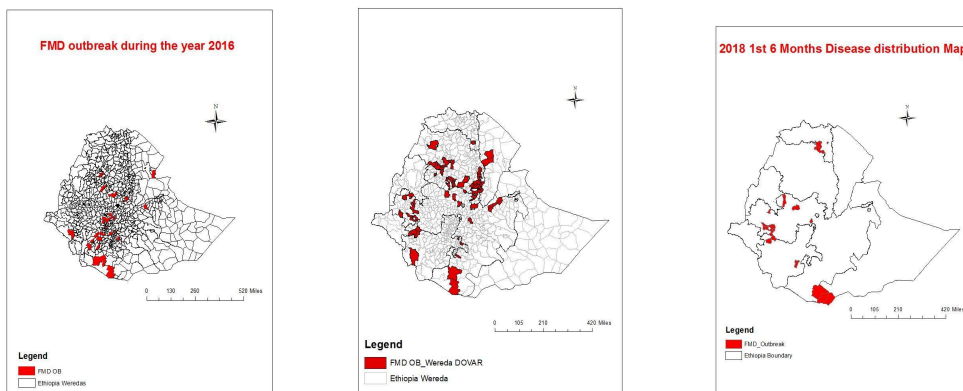
6. Disease and vaccination status

6.1. FMD

6.1.1. Number of outbreaks and serotypes of each of the diseases in the last 3 years

Year	No of outbreak	No of vaccination
2018	28	
2017	215	153,402
2016	80	49,549

The serotypes: A, O, SAT1, SAT2



6.1.3. In case FMD occurs, stamping out is undertaken in commercial farms, where as in the extensive production system, it not applicable.

- The way of dealing eventual outbreaks: first the outbreak investigation will be conducted to identify the disease causative agent to serotype level and then if it's confirmed risk based vaccination and movement restriction will be implemented.

6.1.4. Other measures in the case of FMD outbreaks

6.1.5. The tests used for confirmation of FMD are: 3ABC ELISA, LPBE tests

6.1.6. Is vaccination against FMD allowed or regulated

Yes, it is regulated and attenuated A&O bivalent, SAT2 vaccines type are being used. Regarding distribution of OIE listed (mainly the former list A) disease vaccines are provided for free from the federal government based on official request from district/zones/regions in the country. The cost of the vaccines are covered by the federal government.

6.1.7. FMD free districts:

FMD free districts are not identified. However, animals destined for export are tested by internationally accredited national laboratory, National Animal Health Diagnostic and Investigation Center (NAHDIC).

6.2. Rinderpest

- As it's well known Rinderpest is eradicated from the world, but we have contingency plan to contain the disease if reoccurrence is notified and stamping-out will be implemented.

- Included under syndromic surveillance with other TADs to be reported immediately if in case reoccurrence suspected.

6.3. Other cattle diseases

- see 5.1

6.4 indicate if FMD occur in contiguous countries

FMD is endemic in neighboring countries; Kenya, Sudan, Djibouti, Eritrea and South Sudan. In Kenya it's the top priority disease for the country.

6.5. The status, surveillance, monitoring and eradication program for Brucellosis, Anthrax, Tuberculosis, Johnes disease, Salmonellosis, Genital campylobacteriosis, IBR, Trichomonosis

- ✓ They are included on the regular surveillance and monitoring as indicated under 5.1. => they are included in national animal disease surveillance system
- ✓ Active surveillance is conducted to identify causative agent and determine disease status. National Cross sectional survey was conducted for FMD, CBPP, and brucellosis.
- ✓ FMD Strategic progressive control program has been developed to be implemented in Borena, Guji and Liben zones which are potential export source areas for livestock.
- ✓ We have also control strategy for Anthrax and Brucellosis which developed with one health approach

A. Status of Cattle diseases during 2018

Diseases	No of case	No of death	Case fatality rate
Babesiosis	15	7	46.7 %
Black leg	450	47	10.4 %
Botulism	15	4	26.7 %
CBPP	385	9	2.3 %
FMD	4644	197	4.2%
H/ water	23	14	60.9 %
Listeriosis	93	61	65.6 %
LSD	4677	141	3.0 %
MCF	20	7	35.0 %
NCD	7346	5492	74.8 %
Trypanosomosis	65	45	69.2 %

B. Status of cattle diseases during 2017

Disease	Region	No. of OBs	No. of case	No. of death	Case fatality rate	Vaccination	
						control	prophylaxis
FMD	Addis ababba	1	12	0			
	Afar	2	16	2			
	Amhara	139	3298	18			
	Oromia	52	14652	45			
	SNNPR	17	1175	0			
	Tigrai	5	35	0			
	Total	216	19188	65	0.34%	94,174	59,228
HS	Afar	7	335	106			
	Amhara	83	1503	218			
	Oromia	39	4531	857			
	SNNPR	17	732	241			
	Tigrai	3	172	74			
	Total	149	7273	1496	20.5%	283391	105,184
Black leg	Amhara	38	404	40			
	Oromia	15	231	31			
	SNNPR	12	112	13			
	Somali	5	43	2			
	Tigrai	1	1	1			
	Total	71	791	87	11%	134,680	45,460
CBPP	Afar	4	62	2			
	Amhara	1	19	4			
	Oromia	4	75	37			

LSD

SNNPR	1	2	2			
Total	10	158	45	28.5%	21,007	2,000
Amhara	87	1489	119			
Afar	22	412	36			
B/gumuz	3	203	19			
Oromia	37	2850	60			
SNNPR	8	159	6			
Somali	11	54	13			
Tigria	16	126	10			
Total	184	5293	263	5%	551,454	71,045

C. Status of cattle diseases during 2016

No	Disease	Species	No OB	Vaccination	
				Control	Prophylaxis
1	ANT	Bovine	226	472,999	4,208,445
		Caprine		40,900	408363
		Ovine		35,178	620,566
		Equine		35,944	340,988
2	BQ	Bov	270	456,463	4,153,457
3	CBPP	Bov	21	66,672	832,466
4	FMD	Bov	45	3,155	46,394
5	LSD	Bov	298	1,797,151	7,197,655