Field survey of major infectious and reproductive diseases responsible for mortality and productivity losses of ruminants amongst Nigerian Fulani pastoralists. Bolajoko *et al*

QUALITATIVE DATA

The following qualitative data (annonymized) was collected from field survey discussions and contributions from key informants.

RESPONDENT 1

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic lossdue to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral:LSD;FMD Bacterial:CBPP;HS;BQ Parasites: TRYPANOSOMOSIS (TRYPS); FASCIOLOSIS	LSD-20%; FMD-40% CBPP-40% 'HS-40%, BQ-30% TRYPS-30%; FASCIOLOSIS -10%	60%; 80% 90% 70% 100% (seasonal)	100% 100% 100% 100%	50% 70% 60% 40%	50% 70% 60% 40%	FIELD LARGE ANIMAL CLINICIANS IN OYO STATE
	Beef cattle Viral:	LSD-20%;FMD-40%'BVD-30%	60%;80%; 70%	100% 100%	50% 50% 50%	50% 50% 50%	FIELD LARGE ANIMAL CLINICIANS IN OYO STATE

	Bacterial: CBPP HS, BQ Parasites:TRYPS	CBPP-40%;HS 40%; 30% TRYPS-30%; FASCIOLOSIS - 10%	70%;70%;70% 100% (seasonal)	100% 100% 100%	60%; 40%	60% 40%	FIELD LARGE ANIMAL CLINICIANS IN OYO STATE
Sheep	Viral: SHEEP POX PPR Bacterial:MANHEMIOSIS Parasites:HAEMONCHOSIS	20%; 30% 30% 50%(Seasonal)	40%;50% 40%	100% 100% 100%	50% 70% 40%	50% 70% 40%	FIELD SMALL RUMINANT CLINICIANS IN OYO STATE
Goat	Viral: PPR Bacterial:MANHEMIOSIS Parasites:PIMPLY GUT	90% 60% <10%	100% 70% 40%	100% 100% 100%	80% 60% <10%	80% 60% <10%	FIELD SMALL RUMINANT CLINICIANS IN OYO STATE

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major reproductive diseases (of economic importance)	Pathologies responsible for each reproductive disease you have listed	Mortality rates for each disease in the dam (%)	Mortality ratesfor each disease in the young (%)	Prevalence rates of each disease in dam (%)	Prevalence rates of each disease given in young (%)	Population at risk in dam (proportion/ %)	Population at risk in young (proportion/ %)	Economic loss due each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral:BVD, Bacterial: LEPTOSPIROSIS; BRUCELLOSIS;CAMPYLOBACTERIOSIS Parasites										
	Beef cattle Viral: Bacterial:										

	Parasites:										
Sheep	Viral: Bacterial: Parasites:										
Goat	Viral: Bacterial: Parasites:										

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1 Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? No
2 If so which ones? Nil
3 For which diseases? Occasionally, CBPP vaccination campaign is organized in haphazard pattern in a few Local Government Areas
4 Annual, bi-annual, other? Not periodical. Once in a long unpredictable while.
5 Consist of: vaccination? Treatment? Other (like hygienic measures, culling, stamping out?)
6 If vaccination: which vaccines? Produced within Nigeria?Imported vaccines?(from which companies?) CBPP vaccines from NVRI,Vom.

7 Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s)) No . a few Local Government Areas

8 Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? CBPP could be administered but Not without veterinary supervision

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline** **(up to 2022)**
Cattle /zebu	-Exotic breed -Local breed: -Local breed: -Local breed: -Number of commercial farms: -Number of Smallholder farms:				
Dairy cattle	Exotic breed Cross bred: Local breed: Local breed: Local breed: -Number of commercial farms: -Number of Smallholder farms:				

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep				
Goats				

WHERE YOU WORK: NVRI, Ibadan Outstation Laboratory, Ibadan.

DATE: 6/8/2017

Thank you for your kind contribution.

RESPONDENT 2

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic loss due to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral: 1. Foot and Mouth Disease 2. Lumpy Skin Disease Bacterial: 1. Dermatophilosis 2. Black quarter	 30 20 5 30	 100 100 90 50	 100 100 90 50	 20 30 80 30	 20 30 80 30	 Personal field experience Personal field experience Personal field experience Personal field experience

	Parasites: 1. Helminthosis 2.	30	50	90	50	50	Personal field experience
	Beef cattle Viral: Bacterial: Parasites:						
Sheep	Viral: PPR Bacterial: Parasites:	80	80	100	80	80	Personal field experience
Goat	Viral: Same as for sheep Bacterial:						

	Parasites:						

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	**Major reproductive diseases (of economic importance)**	**Pathologies responsible for each reproductive disease you have listed**	**Mortality rates for each disease in the dam (%)**	**Mortality rates for each disease in the young (%)**	**Prevalence rates of each disease in dam (%)**	**Prevalence rates of each disease given in young (%)**	**Population at risk in dam (proportion/ %)**	**Population at risk in young (proportion/ %)**	**Economic loss due each disease given at herd level (%)**	**Economic loss due each disease given at farmers level (%)**	**General remarks & sources of information given.**
Cattle	Dairy cattle Viral: Bacterial: Parasites										
	Beef cattle Viral: Bacterial:										

	Parasites:										
Sheep	Viral: Bacterial: Parasites:										
Goat	Viral: Bacterial: Parasites:										

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1. Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? **Yes**
2. If so which ones? **Annual Vaccination campaigns**
3. For which diseases? **CBPP, PPR**
4. Annual, bi-annual, other? **Annually**
5. Consist of: vaccination? **Yes** Treatment? **Yes but most farmers do it on their own.** Other (like hygienic measures, culling, stamping out?) **Stamping out especially when some highly infectious and contagious diseases especially Tuberculosis are diagnosed.**

6 If vaccination: which vaccines? **CBPP, PPR** Produced within Nigeria? **Yes, NVRI, Vom vaccines** Imported vaccines? (from which companies?)

7 Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s)) **In most cases States and Local Government Areas organize it for farmers under their jurisdiction**

8 Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? **All diseases especially when outbreaks occur. This should be under the supervion of a Veterinarian or Local Government Animal Health Personnel.**

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline** **(up to 2022)**
Cattle /zebu	-Exotic breed -Local breed: -Local breed: -Local breed: -Number of commercial farms: -Number of Smallholder farms:				
Dairy cattle	Exotic breed Cross bred: Local breed: Local breed:				

	Local breed: -Number of commercial farms: -Number of Smallholder farms:				

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep				
Goats				

WHERE YOU WORK: Extension Division, NVRI, Vom

DATE: 6/8/2017

Thank you for your kind contribution.

RESPONDENT 3

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic loss due to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Viral: FMD Bacterial: TB DERMATOPHILOSIS Parasites: LIVER FLUKE HAEMONCHOSIS COCCIDIOSIS KIRCHI	 20 20 5 10 10 30* 5	 17 5 25 30 20 10 (seasonal)				**CLINICAL RECORDS FOR OFFA AND OYUN LGAS OF KWARA STATE;** **CLINICAL EXPERIENCE:**
Sheep	Viral: Orf Virus Sheep pox PPR	 10 5 40*					**SAME AS ABOVE**

	Bacterial: TB Parasites: PIMPLY GUT HAEMONCHOSIS	 20 5 10					
Goat	Viral: PPR Bacterial: MASTITIS Parasites: MYIASIS	 **40*** 5 20*					**SAME AS ABOVE**

*If left untreated

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	**Major reproductive diseases (of economic importance)**	**Pathologies responsible for each reproductive disease you have listed**	**Mortality rates for each disease in the dam (%)**	**Mortality rates for each disease in the young (%)**	**Prevalence rates of each disease in dam (%)**	**Prevalence rates of each disease given in young (%)**	**Population at risk in dam (proportion/ %)**	**Population at risk in young (proportion/ %)**	**Economic loss due each disease given at herd level (%)**	**Economic loss due each disease given at farmers level (%)**	**General remarks & sources of information given.**
Cattle	Dairy cattle Viral: BVD/MD; BOVINE HERPES VIRUS 1; IINFECTIOUS PUSTULAR										**SAME AS ABOVE**

	VULVOVAGINITIS. **BACTERIAL:** SALMONELLA dublin, S. typhimurium BACILLUS lichenformis BRUCELLA ABORTUS; ALSO B. MELITENSI **PARASITES:** T. gondi Campy infctn Lepto Besnoitia										
Sheep	Actinomyces Pyogenes, Listeria + all of the above										**SAME AS ABOVE**
Goat	Viral: Bacterial: Parasites:										**SAME AS ABOVE**

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1 Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? NO
2 If so which ones?
3 For which diseases?
4 Annual, bi-annual, other?
5 Consist of: vaccination? Treatment? Other (like hygienic measures, culling, stamping out?)
6 If vaccination: which vaccines? Produced within Nigeria? Imported vaccines? (from which companies?)
7 Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s))
8 Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? **ANTHRAX, BLACK QUARTER, HEPATITIS ETC**.

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline (up to 2022)**
Cattle /zebu	-Exotic breed -Local breed: -Local breed: -Local breed: -Number of commercial farms: -Number of Smallholder farms:				
Dairy cattle	Exotic breed Cross bred: Local breed: Local breed: Local breed: -Number of commercial farms: -Number of Smallholder farms:				

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep				
Goats				

WHERE YOU WORK: KWARA STATE MINSTRY OF AGRICULTUTE AND NATURAL RESOURCES

DATE: 06-08-2017

Thank you for your kind contribution.

RESPONDENT 4

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic loss due to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral: FMD Bacterial: Collibacillosis Parasites: Helminthosis						
	Beef cattle Viral: FMD Bacterial: Collibacillosis Parasites: Hydatidosis						
Sheep	Viral: PPR; Orf, Sheep pox Bacterial: Lamb Dysentry						

	Parasites: Hemonchosis						
Goat	Viral: Orf, PPR Bacterial: CCPP Parasites: Helminthosis, Mange						

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	**Major reproductive diseases (of economic importance)**	**Pathologies responsible for each reproductive disease you have listed**	**Mortality rates for each disease in the dam (%)**	**Mortality rates for each disease in the young (%)**	**Prevalence rates of each disease in dam (%)**	**Prevalence rates of each disease given in young (%)**	**Population at risk in dam (proportion/ %)**	**Population at risk in young (proportion/ %)**	**Economic loss due each disease given at herd level (%)**	**Economic loss due each disease given at farmers level (%)**	**General remarks & sources of information given.**
Cattle	Dairy cattle Viral: Bacterial: Parasites										
	Beef cattle Viral: Bacterial: Parasites:										
Sheep	Viral: Bacterial:										

	Parasites:										
Goat	Viral: Bacterial: Parasites:										

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1 Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? YES
2 If so which ones? FLD, State Departments of Veterinary Serviccs
3 For which diseases? All
4 Annual, bi-annual, other? Monthly and Annually
5 Consist of: vaccination? YES Treatment? YES Other (like hygienic measures, culling, stamping out?) YES
6 If vaccination: which vaccines? PPR, CBPP, Rabies Produced within Nigeria? YES Imported vaccines? (from which companies?)
7 Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s)) STATE-WISE
8 Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? CBPP

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline (up to 2022)**
Cattle /zebu	-Exotic breed -Local breed: -Local breed:				

	-Local breed: -Number of commercial farms: -Number of Smallholder farms:				
Dairy cattle	Exotic breed Cross bred: Local breed: Local breed: Local breed: -Number of commercial farms: -Number of Smallholder farms:				

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep				
Goats				

WHERE YOU WORK: Min of Animal Health Sokoto

DATE:04/08/17

Thank you for your kind contribution

RESPONDENT 5

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic loss due to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral: **COW POX** Bacterial: **CBPP** Parasites: **HELMINTHIASIS**	**3%** **2%** **5%**	**16%** **27%** **44%**	**ADULTS** **ADULTS** **ALL**			**WIKIPEDIA, RELEVANT LITERATURES ON DISEASES OF RUMINANTS**
	Beef cattle Viral: **FOOT AND MOUTH DISEASE** Bacterial:**TUBERCULOSIS** Parasites: **TRYPANOSOMOSIS**	**12%** **12%** **34%**	**22%**	**ADULTS** **ALL** **ALL**			**SOKOTO JOURNAL OF VETERINARY SCIENCES**
Sheep	Viral: **ORF**						

	Bacterial: **LISTERIOSIS** Parasites: **FASCIOLIASIS**						
Goat	Viral: **PESTE DES PETIT RUMINANTE** Bacterial: **ENTEROTOXAEMIA** Parasites: **HELMINTHOSIS**						**ABDULKADIR: INFECTIUOS DISEASES OF LIVESTOCK**

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	**Major reproductive diseases (of economic importance)**	**Pathologies responsible for each reproductive disease you have listed**	**Mortality rates for each disease in the dam (%)**	**Mortality rates for each disease in the young (%)**	**Prevalence rates of each disease in dam (%)**	**Prevalence rates of each disease given in young (%)**	**Population at risk in dam (proportion/ %)**	**Population at risk in young (proportion/ %)**	**Economic loss due each disease given at herd level (%)**	**Economic loss due each disease given at farmers level (%)**	**General remarks & sources of information given.**
Cattle	Dairy cattle Viral: **FOOT AND MOUTH DISEASE** Bacterial:**BRUCELLOSIS** Parasites **THELEIZI**										

	A										
	Beef cattle Viral: **BOVINE VIRAL DIARRHEA** Bacterial: **CLOSTRIDIAL DISEASE (BLACK LEG)** Parasites: **CYSTICERCOSIS**										
Sheep	Viral:**SHEEP POX** Bacterial: **CAMPYLOBACTERIOSIS** Parasites: **FASCIOLIASIS**										
Goat	Viral: **SCRAPIE** Bacterial:**BR**										

	UCELLOSIS Parasites: **CHLAMYDIASIS**										

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1. Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? **YES**
2. If so which ones? **ANNUAL VACCINATION**
3. For which diseases? **AGAINST CBPP, PPR AND BLACK LEG**
4. Annual, bi-annual, other? **ANNUAL**
5. Consist of: vaccination? Treatment? Other (like hygienic measures, culling, stamping out?)
6. If vaccination: which vaccines? Produced within Nigeria?Imported vaccines?(from which companies?) **FROM NVRI MOSTLY**
7. Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s)) **NO**
8. Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? **PPR**

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle SOURCE: O.A. Lawal-Adebowale (2012). Dynamics of Ruminant Livestock Management in the Context of the Nigerian Agricultural System, Livestock Production, Dr. Khalid Javed (Ed.), InTech, DOI: 10.5772/52923. Available from: https://www.intechopen.com/books/livestock-production/dynamics-of-ruminant-livestock-management-in-the-context-of-the-nigerian-agricultural-system

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline (up to 2022)**
Cattle	-Exotic breed				

/zebu	-Local breed: -Local breed: -Local breed: -Number of commercial farms: -Number of Smallholder farms:	**13.9**			
Dairy cattle	Exotic breed Cross bred: Local breed: Local breed: Local breed: -Number of commercial farms: -Number of Smallholder farms:				

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep	**22.1**			
Goats	**34.5**			

WHERE YOU WORK: FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT

DATE: 8/8/2017

Thank you for your kind contribution

RESPONDENT 6

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic loss due to each disease given at herd level (%)	Economic loss due each disease given at farmers' level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral: Bacterial: Parasites:						
	Beef cattle Viral: Bacterial: Parasites:						
Sheep	Viral: Bacterial: Parasites:						
Goat	Viral: Bacterial:						

	Parasites:						

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	**Major reproductive diseases (of economic importance)**	**Pathologies responsible for each reproductive disease you have listed**	**Mortality rates for each disease in the dam (%)**	**Mortality rates for each disease in the young (%)**	**Prevalence rates of each disease in dam (%)**	**Prevalence rates of each disease given in young (%)**	**Population at risk in dam (proportion/ %)**	**Population at risk in young (proportion/ %)**	**Economic loss due each disease given at herd level (%)**	**Economic loss due each disease given at farmers level (%)**	**General remarks & sources of information given.**
Cattle	Dairy cattle Viral: Bacterial: Parasites										
	Beef cattle Viral: Bacterial: Parasites:										
Sheep	Viral: Bacterial: Parasites:										
Goat	Viral: Bacterial: Parasites:										

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1. Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? **Yes**
2. If so which ones? **Federal Department of Veterinary and Pest Control Services**
3. For which diseases? **CBPP & PPR**
4. Annual, bi-annual, other? **Annually**
5. Consist of: vaccination? **Yes** Treatment? Other (like hygienic measures, culling, stamping out?)
6. If vaccination: which vaccines? **CBPPV & PPRV**, Produced within Nigeria? **Yes** Imported vaccines? **No** (from which companies?) **NVRI**
7. Is (are) program(s) covering the whole country, or only regions or areas? **Whole Country in collaboration with States** (Which region(s), which area(s))
8. Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? **Both**

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline (up to 2022)**
Cattle /zebu	-Exotic breed -Local breed: -Local breed: -Local breed: -Number of commercial farms: -Number of Smallholder farms:	19.8 (*)			
Dairy cattle	Exotic breed Cross bred: Local breed: Local breed: Local breed: -Number of commercial farms: -Number of Smallholder farms:				

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep	43.4 (*)			
Goats	76.1 (*)			

(*) Projection from the National Agricultural Sample Survey, 2011

WHERE YOU WORK: Federal Department of Veterinary and Pest Control Services

DATE: 3rd August, 2017

Thank you for your kind contribution.

RESPONDENT 7

National Veterinary Research Institute, Vom, Nigeria

NATIONAL VETERINARY RESEARCH INSTITUTE, VOM, NIGERIA

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic lossdue to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral: FMD Bacterial: B.m Cellosis Parasites: Helminthiasis						
	Beef cattle Viral: FMD Bacterial: Haemorrhagic Septicemia Parasites: Helminthiasis						
Sheep	Viral: PPR Bacterial: Mastitis Parasites: Helminthiasis						

Goat	Viral: PPR Bacterial: mastitis Parasites: Helminthosis							

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major reproductive diseases (of economic importance)	Pathologies responsible for each reproductive disease you have listed	Mortality rates for each disease in the dam (%)	Mortality ratesfor each disease in the young (%)	Prevalence rates of each disease in dam (%)	Prevalence rates of each disease given in young (%)	Population at risk in dam (proportion/ %)	Population at risk in young (proportion/ %)	Economic loss due each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral: Brucellosis Bacterial: Parasites Helminthiasis										
	Beef cattle Viral: [illegible] Bacterial: Brucellosis Parasites: Helminthiasis										
Sheep	Viral: Bacterial: Parasites:										
Goat	Viral:										

	Bacterial: Parasites:										

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1 Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? Yes
2 If so which ones? CBPP, FMD, PPR, Bovine TB, Septicemia, Foot Rot, Helminthiasis, Babesiosis
3 For which diseases? CBPP, PPR, Helminthiasis, Foot Rot, Babesiosis
4 Annual, bi-annual, other? Annual Vaccination, Routine Tx.
5 Consist of: vaccination? Yes Treatment? Other (like hygienic measures, culling, stamping out?)
6 If vaccination: which vaccines? Produced within Nigeria? NVRI, ~~Imported~~ Vom Imported vaccines? (from which companies?) Alcea / Regrins
7 Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s))
8 Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? None

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline (up to 2022)**
Cattle /zebu	-Exotic breed -Local breed: -Local breed: -Local breed: -Number of commercial farms: -Number of Smallholder farms:	9.5			
Dairy	Exotic breed				

cattle	Cross bred:
	Local breed:
	Local breed:
	Local breed:
	-Number of commercial farms:
	-Number of Smallholder farms:

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep	41.2			
Goats	24.5			

WHERE YOU WORK: FEDERAL DEPT. OF VET. SERVICES FED. MIN. OF AGRIC LAND OFFICE

DATE: 4th/ 8/ 2017

Thank you for your kind contribution.

RESPONDENT 8

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic loss due to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle Viral: Bacterial:Brucellosis Parasites:						
	Beef cattle Viral: Bacterial:CBPP,FMD Parasites:Helminthosis						
Sheep	Viral: PPR Bacterial: Parasites:Helminthosis						

Goat	Viral: PPR Bacterial: Parasites: Helminthosis						

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	**Major reproductive diseases (of economic importance)**	**Pathologies responsible for each reproductive disease you have listed**	**Mortality rates for each disease in the dam (%)**	**Mortality rates for each disease in the young (%)**	**Prevalence rates of each disease in dam (%)**	**Prevalence rates of each disease given in young (%)**	**Population at risk in dam (proportion/ %)**	**Population at risk in young (proportion/ %)**	**Economic loss due each disease given at herd level (%)**	**Economic loss due each disease given at farmers level (%)**	**General remarks & sources of information given.**
Cattle	Dairy cattle Viral: Bacterial: Campylobacteriosis Parasites										
	Beef cattle Viral: Bacterial: Parasites:										
Sheep	Viral: Bacterial:										

	Parasites:										
Goat	Viral: Bacterial: Parasites:										

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1 Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? NO but a proposal in advance for PPR
2 If so which ones?
3 For which diseases?
4 Annual, bi-annual, other?
5 Consist of: vaccination? Treatment? Other (like hygienic measures, culling, stamping out?)
6 If vaccination: which vaccines? PPR Produced within Nigeria? YES Imported vaccines? NO (From which companies?)
7 Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s))
8 Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? PPR

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YEAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline (up to 2022)**
Cattle /zebu	-Exotic breed -Sokoto Gudali: -Bunaji: -Red Bororo	1,023,598 2,818,211 10,117,681 2,687,404	NA NA NA NA	NA	Contact NBS

	-Muturu -Ketaku -Ndama -Adamawa gudali -Wadara -Kuri -Number of commercial farms: -Number of Smallholder farms:	71,099 1,913 30,961 963,297 1,077,714 79,521 **5670** NA			
Dairy cattle	Exotic breed Cross bred: Local breed: Local breed: Local breed: -Number of commercial farms: -Number of Smallholder farms:				

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/farm)	**Population growth/decline (up to 2022)**
Sheep			NA	NBS
Goats				

WHERE YOU WORK: FMARD Dept of Veterinary & PCS

DATE:03/08/2017

Thank you for your kind contribution

RESPONDENT 9

National Veterinary Research Institute, Vom, Nigeria

Report on major infectious and reproductive diseases in cattle, sheep and goats in Nigeria

1. MAJOR INFECTIOUS DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major infectious diseases (of economic importance)	Mortality rates of each disease given (%)	Prevalence rates of each disease given (%)	Population at risk (proportion/%)	Economic loss due to each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of information given.
Cattle	Dairy cattle	20%	20	Calves (20%)	20%	30%	Personal experience
	Viral: FMD	10%	15%	– 25%	20%	30%	
	LSD						
	Bacterial: Anthrax	20%	(15%)	– 15%	20%	30%	
	CBPP						
	Parasites: Babesios	20%	20%	15%	20%	25%	
	Beef cattle						
	Viral: FMD	20%	15%	Calves (15%)	20%	30%	
	Bacterial: Haemorrhagic septicaemia	20%	10%	20%	20%	30%	
	Parasites: Helminthosis	10%	25%	25%	20%	20%	
Sheep	Viral: PPR	20%	(20%)	(Lambs) 20%	20%	20%	
	Bacterial: Pasteurellosis	15%	30%	15%	20	20%	
	Parasites: Helminthosis	30%	15%	20%	15	20%	

Goat	Viral: PPR	20%	20%	20%	15%	25%	
	Bacterial: Pasteurellosis	15%	25%	20%	20%	20%	
	Parasites: Helmiothosis	25%	20%	20%	15%	20%	

2. MAJOR REPRODUCTIVE DISEASES OF CATTLE, SHEEP AND GOAT

Species	Major reproductive diseases (of economic importance)	Pathologies responsible for each reproductive disease you have listed	Mortality rates for each disease in the dam (%)	Mortality rates for each disease in the young (%)	Prevalence rates of each disease in dam (%)	Prevalence rates of each disease given in young (%)	Population at risk in dam (proportion/ %)	Population at risk in young (proportion/ %)	Economic loss due each disease given at herd level (%)	Economic loss due each disease given at farmers level (%)	General remarks & sources of informatio given.
Cattle	Dairy cattle Viral: ~~Foot Mouth~~	—	—	—	—	—	—	—	—	—	
	Bacterial: Brucellosis, Placentitis (Abortion)		10%	20%	20%	10%	10%	10%	15%	10%	
	Parasites: Trichomoniasis (-)		10	20	15	15	10	10	10	10	
	Beef cattle Viral:										
	Bacterial:	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Parasites:										
Sheep	Viral:										
	Bacterial: Brucellosis (-)	—	20	10	10	20	10	10	10	10	
	Parasites:	—	—	—	—	—	—	—	—	—	
Goat	Viral:	—									

	Bacterial: Parasites:	—									

3.1 OTHER GENERAL INFORMATION

Instructions: (1) TYPE YES OR NO AS APPLICABLE. (2) LIST OR TYPE THE RESPONSE WHERE APPLICABLE.

1 Do Government (or other organizations) programs exist to control major cattle, sheep and goat diseases? NO
2 If so which ones? —
3 For which diseases? —
4 Annual, bi-annual, other? —
5 Consist of: vaccination? Treatment? Other (like hygienic measures, culling, stamping out?)
6 If vaccination: which vaccines? Produced within Nigeria? Imported vaccines? (from which companies?)
7 Is (are) program(s) covering the whole country, or only regions or areas? (Which region(s), which area(s)) —
8 Which ones of these diseases can be controlled directly by animal owners, i.e. by procuring directly the vaccine and using it without need to wait for official vaccination programs? NONE

3.2 LIVESTOCK POPULATIONS IN NIGERIA (WITH THEIR SOURCE AND YAR)

Cattle

species	**Different Breed**	**Total** (in millions)	**Commercial farms** (average number/farm)	**Smallholder farms** (average number/farm)	**Population growth/decline (up to 2022)**
Cattle /zebu	-Exotic breed -Local breed: -Local breed: -Local breed: -Number of commercial farms: -Number of Smallholder farms.	— — — — — —			

Dairy cattle	Exotic breed Cross bred: Local breed: Local breed: Local breed: -Number of commercial farms: -Number of Smallholder farms:	— — — —			

Sheep and goats

Species	Total number (in millions)	Commercial farms (average number/farm)	Smallholder farms (average number/ farm	**Population growth/decline (up to 2022)**
Sheep	—			
Goats	—			

Thank you for your kind contribution

DATE: 11 — 8 — 2017

WHERE YOU WORK: FCA + [illegible]