ANNEX 2

Scenarios herd numbers and treatment schedule

This Annex contains reports indicating for each module the typical types and number of veterinary treatments per age category of the herd. For each module two scenarios of herd numbers are presented (Pos/Neg).

Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

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Happy cows, happy farmers

Scenario: below standards

Dairy farmer:	SNV Kenya
Modular Dairy Barn	20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**20**	*cows*
Duration dry period:	65	*days*
Calving Interval:	460	*days*
Replacement rate:	25%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:
Inseminations per pregnancy:	3
Culling until day 55:	10%
Cows not being bred:	5%
Clinical mastitis incidence (per year):	30%
Metabol.probl. at calving parity 2+:	35%
Metabol.probl. ≤14 days after calving:	20%
Metritis ≤14 days after calving:	25%
Foot treatments:	200%
Other diseases/problems:	5%
Fertility/pregnancy check:	150%
Synchr.breeding/oestrus treatments:	25%
Vaccinations per lactation(*1.*):	2 *number*
Vaccination introduction heifer:	0 *number*

1.: vaccination can be given as group treatments

Numbers:	*NB.: these numbers are averages*
Total lactating+dry cows:	**22**
Total lactating+dry+intro heifers:	**23**
Replacement heifers per year:	**6**

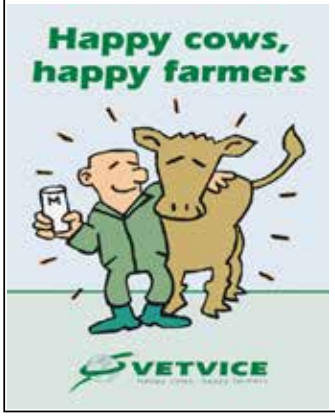
Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	20	20	22
Dry cows present:	2	2	3
Introduction heifers present:	0	0	1
Calvings:	17	0	1
Calvings of adult cows (P2+):	12	0	0
Calvings of heifers (P1):	6	0	0
Birth help adult cow:	1	0,0	0
Birth help heifer:	3	0,1	0
Heavy birth/calving assistance heifer:	2	0,0	0
C-sections (caesarians):	0	0,0	0

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	11	0,2	0,2		1,0
Introduction of heifer (heifer check):	7	0,1	0,1		1,0
Oestrus cases:	57	1,1	0,0	>	0,0
Inseminations milking herd:	40	0,8	0,8		1,0
Cases of clinical mastitis:	7	0,1	0,4		3,0
Metabolic problems at calving:	4	0,1	0,1		1,0
Metabolic problems in early lactation:	3	0,1	0,1		2,0
Metritis <14 d pp:	4	0,1	0,1		1,0
Foot problems:	32	0,6	0,6		1,0
Fertility/pregnancy check:	23	0,4	0,4		1,0
Synchr.breeding/oestrus treatments:	5	0,1	0,2		2,0
Other diseases cases:	1	0,0	0,0		3,0
Vaccinations(*1.*):	32	0,6	0,6		1,0
Total:	225	4	3,7		

	Fill in:	
Born dead (DOA):	10%	
Mortality < 10 days:	8%	
Mortality 10 days <> weaning:	4%	
Mortality after weaning:	5%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	2	*ins/conc*
Insemination period:	18 tm 22	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

Numbers scenario 1: raising all female calves

	Number per week		**Fill in:**
Total heads of young stock:	average	peak	peak factor
Calvings in individual housing:	1	1	2
-of which bull calves:	0	1	2
-of which heifer calves:	0	0	2
Heifer calves moved to group housing:	0	0	2
Heifer calves on milk in group:	1	2	1,5
Weaned calves to 6 months of age:	2	3	1,3
# 6 to 12 months of age:	3	4	1,2
# 12 months to introduction:	6	7	1,1
# in insemination group (4 months):	2	3	1,2
# pregnant heifers (AFC-7 months):	4	4	1,1
# not conceived:	0	0	1,5
Total young stock ≥14 days of age:	12	14	1,1
# transported introduction heifers:	0,1		



Numbers scenario 2: raising for replacement only

	Number per week		
Total heads of young stock:	average	peak	Piekfactor
Calvings in individual housing:	1	1	2
-of which bull calves:	0	1	2
-of which heifer calves:	0	0	2
Heifer calves moved to group housing:	0	0	2
Heifer calves on milk in group:	1	2	1,5
Weaned calves to 6 months of age:	2	2	1,3
# 6 to 12 months of age:	3	4	1,2
# 12 months to introduction:	6	6	1,1
# in insemination group (4 months):	2	2	1,2
# heifers 0-7 months pregnant:	3	4	1,1
# not conceived:	0	0	1,5
Total young stock ≥14 days of age:	11	13	1,1
# transported introduction heifers:	0,1	0	2

Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

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Scenario: good

Dairy farmer:	SNV Kenya
Modular Dairy Barn	20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**20**	*cows*
Duration dry period:	56	*days*
Calving Interval:	420	*days*
Replacement rate:	20%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:	
Inseminations per pregnancy:	2,5	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	25%	
Metabol.probl. at calving parity 2+:	25%	
Metabol.probl. ≤14 days after calving:	15%	
Metritis ≤14 days after calving:	15%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(*1.*):	2	*number*
Vaccination introduction heifer:	0	*number*

1.: vaccination can be given as group treatments

Numbers:	*NB.: these numbers are averages*
Total lactating+dry cows:	**22**
Total lactating+dry+intro heifers:	**22**
Replacement heifers per year:	**4**

Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	20	20	22
Dry cows present:	2	2	3
Introduction heifers present:	0	0	0
Calvings:	18	0	1
Calvings of adult cows (P2+):	14	0	1
Calvings of heifers (P1):	4	0	0
Birth help adult cow:	1	0,0	0
Birth help heifer:	2	0,0	0
Heavy birth/calving assistance heifer:	1	0,0	0
C-sections (caesarians):	0	0,0	0

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	13	0,3	0,3		1,0
Introduction of heifer (heifer check):	6	0,1	0,1		1,0
Oestrus cases:	55	1,0	0,0	>	0,0
Inseminations milking herd:	37	0,7	0,7		1,0
Cases of clinical mastitis:	6	0,1	0,3		3,0
Metabolic problems at calving:	3	0,1	0,1		1,0
Metabolic problems in early lactation:	3	0,1	0,1		2,0
Metritis <14 d pp:	3	0,1	0,1		1,0
Foot problems:	35	0,7	0,7		1,0
Fertility/pregnancy check:	25	0,5	0,5		1,0
Synchr.breeding/oestrus treatments:	5	0,1	0,2		2,0
Other diseases cases:	1	0,0	0,1		3,0
Vaccinations(*1.*):	35	0,7	0,7		1,0
Total:	224	4	3,7		

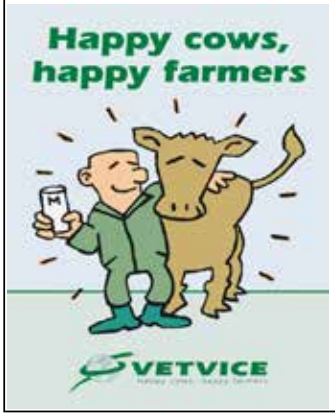
Numbers scenario 1: raising all female calves

	Fill in:	
Born dead (DOA):	6%	
Mortality < 10 days:	2%	
Mortality 10 days <> weaning:	3%	
Mortality after weaning:	1%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	1,4	*ins/conc*
Insemination period:	14 tm 16	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

Total heads of young stock:	**Number per week** average	peak	**Fill in:** peak factor
Calvings in individual housing:	1	1	2
-of which bull calves:	0	1	2
-of which heifer calves:	0	0	2
Heifer calves moved to group housing:	0	0	2
Heifer calves on milk in group:	1	2	1,5
Weaned calves to 6 months of age:	3	3	1,3
# 6 to 12 months of age:	4	5	1,2
# 12 months to introduction:	8	8	1,1
# in insemination group (4 months):	3	3	1,2
# pregnant heifers (AFC-7 months):	5	5	1,1
# not conceived:	0	0	1,5
Total young stock ≥14 days of age:	16	17	1,1
# transported introduction heifers:	0,2		

Numbers scenario 2: raising for replacement only

Total heads of young stock:	**Number per week** average	peak	Piekfactor
Calvings in individual housing:	1	1	2
-of which bull calves:	0	1	2
-of which heifer calves:	0	0	2
Heifer calves moved to group housing:	0	0	2
Heifer calves on milk in group:	1	1	1,5
Weaned calves to 6 months of age:	1	2	1,3
# 6 to 12 months of age:	2	3	1,2
# 12 months to introduction:	4	5	1,1
# in insemination group (4 months):	2	2	1,2
# heifers 0-7 months pregnant:	3	3	1,1
# not conceived:	0	0	1,5
Total young stock ≥14 days of age:	9	10	1,1
# transported introduction heifers:	0,1	0	2



Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

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Scenario: below standards

Dairy farmer: SNV Kenya

Modular Dairy Barn 20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**40**	*cows*
Duration dry period:	65	*days*
Calving Interval:	460	*days*
Replacement rate:	25%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:	
Inseminations per pregnancy:	3	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	30%	
Metabol.probl. at calving parity 2+:	35%	
Metabol.probl. ≤14 days after calving:	20%	
Metritis ≤14 days after calving:	25%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(*1.*):	2	*number*
Vaccination introduction heifer:	0	*number*

1.: vaccination can be given as group treatments

Numbers: *NB.: these numbers are averages*

Total lactating+dry cows:	**44**
Total lactating+dry+intro heifers:	**45**
Replacement heifers per year:	**11**

Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	40	40	44
Dry cows present:	4	4	5
Introduction heifers present:	1	1	1
Calvings:	35	1	1
Calvings of adult cows (P2+):	24	0	1
Calvings of heifers (P1):	11	0	0
Birth help adult cow:	2	0,0	0
Birth help heifer:	6	0,1	0
Heavy birth/calving assistance heifer:	3	0,1	0
C-sections (caesarians):	1	0,0	0

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	22	0,4	0,4		1,0
Introduction of heifer (heifer check):	13	0,3	0,3		1,0
Oestrus cases:	114	2,2	0,0	>	0,0
Inseminations milking herd:	81	1,6	1,6		1,0
Cases of clinical mastitis:	13	0,3	0,8		3,0
Metabolic problems at calving:	8	0,2	0,2		1,0
Metabolic problems in early lactation:	7	0,1	0,3		2,0
Metritis <14 d pp:	9	0,2	0,2		1,0
Foot problems:	63	1,2	1,2		1,0
Fertility/pregnancy check:	45	0,9	0,9		1,0
Synchr.breeding/oestrus treatments:	10	0,2	0,4		2,0
Other diseases cases:	2	0,0	0,1		3,0
Vaccinations(*1.*):	63	1,2	1,2		1,0
Total:	451	9	7,4		

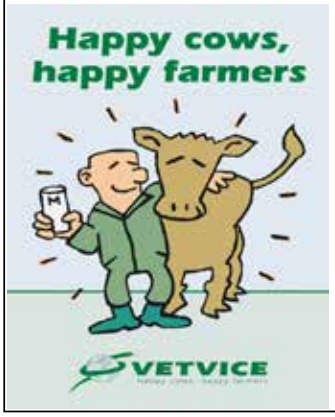
	Fill in:	
Born dead (DOA):	10%	
Mortality < 10 days:	8%	
Mortality 10 days <> weaning:	4%	
Mortality after weaning:	5%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	2	*ins/conc*
Insemination period:	18 tm 22	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

Numbers scenario 1: raising all female calves

	Number per week		**Fill in:**
Total heads of young stock:	average	peak	peak factor
Calvings in individual housing:	1	2	2
-of which bull calves:	1	1	2
-of which heifer calves:	0	1	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	2	3	1,5
Weaned calves to 6 months of age:	4	5	1,3
# 6 to 12 months of age:	7	8	1,2
# 12 months to introduction:	12	13	1,1
# in insemination group (4 months):	4	5	1,2
# pregnant heifers (AFC-7 months):	7	8	1,1
# not conceived:	0	1	1,5
Total young stock ≥14 days of age:	25	27	1,1
# transported introduction heifers:	0,2		

Numbers scenario 2: raising for replacement only

	Number per week		
Total heads of young stock:	average	peak	Piekfactor
Calvings in individual housing:	1	2	2
-of which bull calves:	1	1	2
-of which heifer calves:	0	1	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	2	3	1,5
Weaned calves to 6 months of age:	4	5	1,3
# 6 to 12 months of age:	6	7	1,2
# 12 months to introduction:	11	12	1,1
# in insemination group (4 months):	4	5	1,2
# heifers 0-7 months pregnant:	6	7	1,1
# not conceived:	0	1	1,5
Total young stock ≥14 days of age:	23	25	1,1
# transported introduction heifers:	0,2	0	2



Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

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Scenario: good

Dairy farmer:	SNV Kenya
Modular Dairy Barn	20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**40**	*cows*
Duration dry period:	56	*days*
Calving Interval:	420	*days*
Replacement rate:	20%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:	
Inseminations per pregnancy:	2,5	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	25%	
Metabol.probl. at calving parity 2+:	25%	
Metabol.probl. ≤14 days after calving:	15%	
Metritis ≤14 days after calving:	15%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(*1.*):	2	*number*
Vaccination introduction heifer:	0	*number*

1.: vaccination can be given as group treatments

Numbers:	*NB.: these numbers are averages*
Total lactating+dry cows:	**44**
Total lactating+dry+intro heifers:	**45**
Replacement heifers per year:	**9**

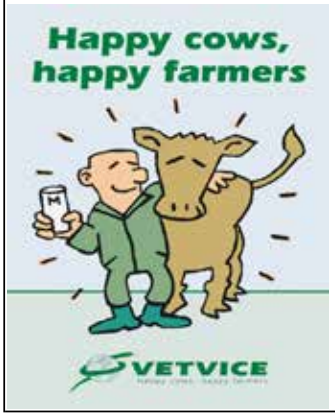
Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	40	40	44
Dry cows present:	4	4	5
Introduction heifers present:	1	1	1
Calvings:	37	1	1
Calvings of adult cows (P2+):	28	1	1
Calvings of heifers (P1):	9	0	0
Birth help adult cow:	3	0,1	0
Birth help heifer:	4	0,1	0
Heavy birth/calving assistance heifer:	3	0,1	0
C-sections (caesarians):	1	0,0	0

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	26	0,5	0,5		1,0
Introduction of heifer (heifer check):	11	0,2	0,2		1,0
Oestrus cases:	109	2,1	0,0	>	0,0
Inseminations milking herd:	74	1,4	1,4		1,0
Cases of clinical mastitis:	11	0,2	0,6		3,0
Metabolic problems at calving:	7	0,1	0,1		1,0
Metabolic problems in early lactation:	5	0,1	0,2		2,0
Metritis <14 d pp:	5	0,1	0,1		1,0
Foot problems:	70	1,3	1,3		1,0
Fertility/pregnancy check:	50	1,0	1,0		1,0
Synchr.breeding/oestrus treatments:	10	0,2	0,4		2,0
Other diseases cases:	2	0,0	0,1		3,0
Vaccinations(*1.*):	70	1,3	1,3		1,0
Total:	449	9	7,3		

	Fill in:	
Born dead (DOA):	6%	
Mortality < 10 days:	2%	
Mortality 10 days <> weaning:	3%	
Mortality after weaning:	1%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	1,4	*ins/conc*
Insemination period:	14 tm 16	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

Numbers scenario 1: raising all female calves

	Number per week		**Fill in:**
Total heads of young stock:	average	peak	peak factor
Calvings in individual housing:	1	3	2
-of which bull calves:	1	2	2
-of which heifer calves:	0	1	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	3	4	1,5
Weaned calves to 6 months of age:	5	7	1,3
# 6 to 12 months of age:	8	10	1,2
# 12 months to introduction:	15	17	1,1
# in insemination group (4 months):	5	7	1,2
# pregnant heifers (AFC-7 months):	9	10	1,1
# not conceived:	0	1	1,5
Total young stock ≥14 days of age:	31	34	1,1
# transported introduction heifers:	0,3		



Numbers scenario 2: raising for replacement only

	Number per week		
Total heads of young stock:	average	peak	Piekfactor
Calvings in individual housing:	1	3	2
-of which bull calves:	1	2	2
-of which heifer calves:	0	1	2
Heifer calves moved to group housing:	0	0	2
Heifer calves on milk in group:	2	2	1,5
Weaned calves to 6 months of age:	3	4	1,3
# 6 to 12 months of age:	5	6	1,2
# 12 months to introduction:	9	10	1,1
# in insemination group (4 months):	3	4	1,2
# heifers 0-7 months pregnant:	5	6	1,1
# not conceived:	0	0	1,5
Total young stock ≥14 days of age:	18	20	1,1
# transported introduction heifers:	0,2	0	2

Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

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Scenario: below standards

Dairy farmer: SNV Kenya

Modular Dairy Barn 20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**60**	*cows*
Duration dry period:	65	*days*
Calving Interval:	460	*days*
Replacement rate:	25%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:	
Inseminations per pregnancy:	3	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	30%	
Metabol.probl. at calving parity 2+:	35%	
Metabol.probl. ≤14 days after calving:	20%	
Metritis ≤14 days after calving:	25%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(*1.*):	2	*number*
Vaccination introduction heifer:	0	*number*

1.: vaccination can be given as group treatments

Numbers: *NB.: these numbers are averages*

Total lactating+dry cows:	**66**
Total lactating+dry+intro heifers:	**68**
Replacement heifers per year:	**17**

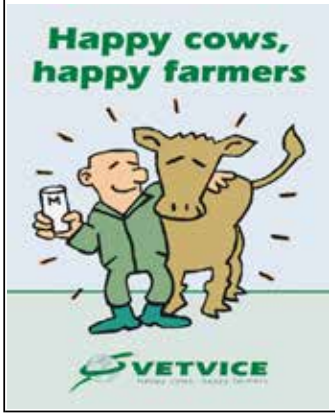
Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	60	60	66
Dry cows present:	6	6	8
Introduction heifers present:	1	1	2
Calvings:	52	1	2
Calvings of adult cows (P2+):	36	1	1
Calvings of heifers (P1):	17	0	1
Birth help adult cow:	4	0,1	0
Birth help heifer:	8	0,2	0
Heavy birth/calving assistance heifer:	5	0,1	0
C-sections (caesarians):	1	0,0	1

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	33	0,6	0,6		1,0
Introduction of heifer (heifer check):	20	0,4	0,4		1,0
Oestrus cases:	171	3,3	0,0	>	0,0
Inseminations milking herd:	121	2,3	2,3		1,0
Cases of clinical mastitis:	20	0,4	1,1		3,0
Metabolic problems at calving:	12	0,2	0,2		1,0
Metabolic problems in early lactation:	10	0,2	0,4		2,0
Metritis <14 d pp:	13	0,3	0,3		1,0
Foot problems:	95	1,8	1,8		1,0
Fertility/pregnancy check:	68	1,3	1,3		1,0
Synchr.breeding/oestrus treatments:	14	0,3	0,5		2,0
Other diseases cases:	2	0,0	0,1		3,0
Vaccinations(*1.*):	95	1,8	1,8		1,0
Total:	676	13	11,1		

Numbers scenario 1: raising all female calves

	Fill in:	
Born dead (DOA):	10%	
Mortality < 10 days:	8%	
Mortality 10 days <> weaning:	4%	
Mortality after weaning:	5%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	2	*ins/conc*
Insemination period:	18 tm 22	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

	Number per week		**Fill in:**
Total heads of young stock:	average	peak	peak factor
Calvings in individual housing:	2	3	2
-of which bull calves:	1	2	2
-of which heifer calves:	1	1	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	3	5	1,5
Weaned calves to 6 months of age:	6	8	1,3
# 6 to 12 months of age:	10	12	1,2
# 12 months to introduction:	18	20	1,1
# in insemination group (4 months):	6	8	1,2
# pregnant heifers (AFC-7 months):	11	12	1,1
# not conceived:	1	1	1,5
Total young stock ≥14 days of age:	37	41	1,1
# transported introduction heifers:	0,4		



Numbers scenario 2: raising for replacement only

	Number per week		
Total heads of young stock:	average	peak	Piekfactor
Calvings in individual housing:	2	3	2
-of which bull calves:	1	2	2
-of which heifer calves:	1	1	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	3	5	1,5
Weaned calves to 6 months of age:	6	7	1,3
# 6 to 12 months of age:	9	11	1,2
# 12 months to introduction:	17	18	1,1
# in insemination group (4 months):	6	7	1,2
# heifers 0-7 months pregnant:	10	11	1,1
# not conceived:	1	1	1,5
Total young stock ≥14 days of age:	34	38	1,1
# transported introduction heifers:	0,3	1	2

Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

VETVICE
Happy cows, happy farmers

Scenario: good

Dairy farmer:	SNV Kenya
Modular Dairy Barn	20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**60**	*cows*
Duration dry period:	56	*days*
Calving Interval:	420	*days*
Replacement rate:	20%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:	
Inseminations per pregnancy:	2,5	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	25%	
Metabol.probl. at calving parity 2+:	25%	
Metabol.probl. ≤14 days after calving:	15%	
Metritis ≤14 days after calving:	15%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(*1.*):	2	*number*
Vaccination introduction heifer:	0	*number*

1.: vaccination can be given as group treatments

Numbers:	*NB.: these numbers are averages*
Total lactating+dry cows:	**66**
Total lactating+dry+intro heifers:	**67**
Replacement heifers per year:	**13**

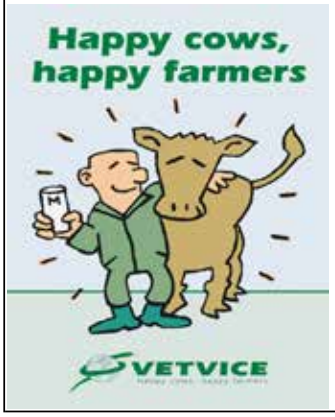
Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	60	60	66
Dry cows present:	6	6	8
Introduction heifers present:	1	1	1
Calvings:	55	1	2
Calvings of adult cows (P2+):	42	1	2
Calvings of heifers (P1):	13	0	1
Birth help adult cow:	4	0,1	0
Birth help heifer:	7	0,1	0
Heavy birth/calving assistance heifer:	4	0,1	0
C-sections (caesarians):	1	0,0	1

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	39	0,8	0,8		1,0
Introduction of heifer (heifer check):	17	0,3	0,3		1,0
Oestrus cases:	164	3,1	0,0	>	0,0
Inseminations milking herd:	111	2,1	2,1		1,0
Cases of clinical mastitis:	17	0,3	1,0		3,0
Metabolic problems at calving:	10	0,2	0,2		1,0
Metabolic problems in early lactation:	8	0,2	0,3		2,0
Metritis <14 d pp:	8	0,2	0,2		1,0
Foot problems:	104	2,0	2,0		1,0
Fertility/pregnancy check:	74	1,4	1,4		1,0
Synchr.breeding/oestrus treatments:	14	0,3	0,5		2,0
Other diseases cases:	3	0,1	0,2		3,0
Vaccinations(*1.*):	104	2,0	2,0		1,0
Total:	673	13	11,0		

	Fill in:	
Born dead (DOA):	6%	
Mortality < 10 days:	2%	
Mortality 10 days <> weaning:	3%	
Mortality after weaning:	1%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	1,4	*ins/conc*
Insemination period:	14 tm 16	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

Numbers scenario 1: raising all female calves

	Number per week		**Fill in:**
Total heads of young stock:	average	peak	peak factor
Calvings in individual housing:	2	4	2
-of which bull calves:	1	2	2
-of which heifer calves:	1	1	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	4	6	1,5
Weaned calves to 6 months of age:	8	10	1,3
# 6 to 12 months of age:	12	15	1,2
# 12 months to introduction:	23	25	1,1
# in insemination group (4 months):	8	10	1,2
# pregnant heifers (AFC-7 months):	14	16	1,1
# not conceived:	1	1	1,5
Total young stock ≥14 days of age:	47	51	1,1
# transported introduction heifers:	0,5		



Numbers scenario 2: raising for replacement only

	Number per week		
Total heads of young stock:	average	peak	Piekfactor
Calvings in individual housing:	2	4	2
-of which bull calves:	1	2	2
-of which heifer calves:	1	1	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	2	4	1,5
Weaned calves to 6 months of age:	4	6	1,3
# 6 to 12 months of age:	7	8	1,2
# 12 months to introduction:	13	14	1,1
# in insemination group (4 months):	5	6	1,2
# heifers 0-7 months pregnant:	8	9	1,1
# not conceived:	0	1	1,5
Total young stock ≥14 days of age:	27	30	1,1
# transported introduction heifers:	0,3	1	2

Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

VETVICE
Happy cows, happy farmers

Scenario: below standards

Dairy farmer:	SNV Kenya
Modular Dairy Barn	20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**80**	*cows*
Duration dry period:	65	*days*
Calving Interval:	460	*days*
Replacement rate:	25%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:
Inseminations per pregnancy:	3
Culling until day 55:	10%
Cows not being bred:	5%
Clinical mastitis incidence (per year):	30%
Metabol.probl. at calving parity 2+:	35%
Metabol.probl. ≤14 days after calving:	20%
Metritis ≤14 days after calving:	25%
Foot treatments:	200%
Other diseases/problems:	5%
Fertility/pregnancy check:	150%
Synchr.breeding/oestrus treatments:	25%
Vaccinations per lactation(*1.*):	2 *number*
Vaccination introduction heifer:	0 *number*

1.: vaccination can be given as group treatments

Numbers:	*NB.: these numbers are averages*
Total lactating+dry cows:	**88**
Total lactating+dry+intro heifers:	**90**
Replacement heifers per year:	**22**

Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	80	80	88
Dry cows present:	8	8	10
Introduction heifers present:	2	2	2
Calvings:	70	1	3
Calvings of adult cows (P2+):	48	1	2
Calvings of heifers (P1):	22	0	1
Birth help adult cow:	5	0,1	0
Birth help heifer:	11	0,2	0
Heavy birth/calving assistance heifer:	7	0,1	0
C-sections (caesarians):	1	0,0	1

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	44	0,9	0,9		1,0
Introduction of heifer (heifer check):	27	0,5	0,5		1,0
Oestrus cases:	227	4,4	0,0	>	0,0
Inseminations milking herd:	162	3,1	3,1		1,0
Cases of clinical mastitis:	27	0,5	1,5		3,0
Metabolic problems at calving:	17	0,3	0,3		1,0
Metabolic problems in early lactation:	14	0,3	0,5		2,0
Metritis <14 d pp:	17	0,3	0,3		1,0
Foot problems:	127	2,4	2,4		1,0
Fertility/pregnancy check:	90	1,7	1,7		1,0
Synchr.breeding/oestrus treatments:	19	0,4	0,7		2,0
Other diseases cases:	3	0,1	0,2		3,0
Vaccinations(*1.*):	127	2,4	2,4		1,0
Total:	901	17	14,7		

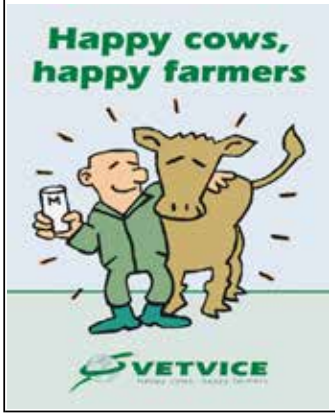
Numbers scenario 1: raising all female calves

	Fill in:	
Born dead (DOA):	10%	
Mortality < 10 days:	8%	
Mortality 10 days <> weaning:	4%	
Mortality after weaning:	5%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	2	*ins/conc*
Insemination period:	18 tm 22	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

	Number per week		**Fill in:**
Total heads of young stock:	average	peak	peak factor
Calvings in individual housing:	2	5	2
-of which bull calves:	1	3	2
-of which heifer calves:	1	2	2
Heifer calves moved to group housing:	1	1	2
Heifer calves on milk in group:	5	7	1,5
Weaned calves to 6 months of age:	8	11	1,3
# 6 to 12 months of age:	13	16	1,2
# 12 months to introduction:	24	26	1,1
# in insemination group (4 months):	9	10	1,2
# pregnant heifers (AFC-7 months):	15	16	1,1
# not conceived:	1	1	1,5
Total young stock ≥14 days of age:	50	55	1,1
# transported introduction heifers:	0,5		

Numbers scenario 2: raising for replacement only

	Number per week		
Total heads of young stock:	average	peak	Piekfactor
Calvings in individual housing:	2	5	2
-of which bull calves:	1	3	2
-of which heifer calves:	1	2	2
Heifer calves moved to group housing:	1	1	2
Heifer calves on milk in group:	4	6	1,5
Weaned calves to 6 months of age:	8	10	1,3
# 6 to 12 months of age:	12	15	1,2
# 12 months to introduction:	22	24	1,1
# in insemination group (4 months):	8	10	1,2
# heifers 0-7 months pregnant:	13	14	1,1
# not conceived:	1	1	1,5
Total young stock ≥14 days of age:	46	51	1,1
# transported introduction heifers:	0,4	1	2



Vetvice Barn Design Calculation Tool:
Numbers of cattle and treatments

VETVICE
Happy cows, happy farmers

Scenario: good

Dairy farmer:	SNV Kenya
Modular Dairy Barn	20-40-60-80

General information:	**Fill in:**	
Number of lactating cows:	**80**	*cows*
Duration dry period:	56	*days*
Calving Interval:	420	*days*
Replacement rate:	20%	
Duration heifer introduction:	28	*days*
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:	
Inseminations per pregnancy:	2,5	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	25%	
Metabol.probl. at calving parity 2+:	25%	
Metabol.probl. ≤14 days after calving:	15%	
Metritis ≤14 days after calving:	15%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(*1.*):	2	*number*
Vaccination introduction heifer:	0	*number*

1.: vaccination can be given as group treatments

Numbers:	*NB.: these numbers are averages*
Total lactating+dry cows:	**89**
Total lactating+dry+intro heifers:	**90**
Replacement heifers per year:	**18**

Cows+heifers+calving:	**year**	**week**	**peak**
Lactating cows present:	80	80	88
Dry cows present:	9	9	10
Introduction heifers present:	1	1	2
Calvings:	73	1	3
Calvings of adult cows (P2+):	56	1	2
Calvings of heifers (P1):	18	0	1
Birth help adult cow:	6	0,1	0
Birth help heifer:	9	0,2	0
Heavy birth/calving assistance heifer:	5	0,1	0
C-sections (caesarians):	1	0,0	1

Treatments milking herd:	**Cases** per year	**Cases** per week	**Treatments** per week		**Fill in:** Treatments per case
Drying off:	52	1,0	1,0		1,0
Introduction of heifer (heifer check):	22	0,4	0,4		1,0
Oestrus cases:	218	4,2	0,0	>	0,0
Inseminations milking herd:	148	2,8	2,8		1,0
Cases of clinical mastitis:	22	0,4	1,3		3,0
Metabolic problems at calving:	14	0,3	0,3		1,0
Metabolic problems in early lactation:	11	0,2	0,4		2,0
Metritis <14 d pp:	11	0,2	0,2		1,0
Foot problems:	139	2,7	2,7		1,0
Fertility/pregnancy check:	99	1,9	1,9		1,0
Synchr.breeding/oestrus treatments:	19	0,4	0,7		2,0
Other diseases cases:	3	0,1	0,2		3,0
Vaccinations(*1.*):	139	2,7	2,7		1,0
Total:	898	17	14,6		

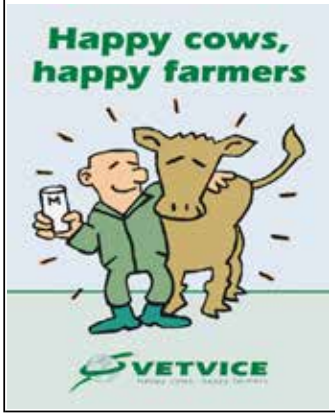
Numbers scenario 1: raising all female calves

	Fill in:	
Born dead (DOA):	6%	
Mortality < 10 days:	2%	
Mortality 10 days <> weaning:	3%	
Mortality after weaning:	1%	
Length individ. housing heifer calves:	10	*days*
Length individ. housing bull calves:	16	*days*
Total days of milk feeding:	70	*days*
Age at first calving:	24	*months*
Inseminations per pregnancy:	1,4	*ins/conc*
Insemination period:	14 tm 16	*months*
Young stock not conceiving:	5%	
Duration heifer introduction:	28	*days*

Total heads of young stock:	**Number per week** average	peak	**Fill in:** peak factor
Calvings in individual housing:	3	5	2
-of which bull calves:	2	3	2
-of which heifer calves:	1	2	2
Heifer calves moved to group housing:	1	1	2
Heifer calves on milk in group:	5	8	1,5
Weaned calves to 6 months of age:	10	13	1,3
# 6 to 12 months of age:	16	20	1,2
# 12 months to introduction:	30	33	1,1
# in insemination group (4 months):	11	13	1,2
# pregnant heifers (AFC-7 months):	19	21	1,1
# not conceived:	1	1	1,5
Total young stock ≥14 days of age:	62	68	1,1
# transported introduction heifers:	0,6		

Numbers scenario 2: raising for replacement only

Total heads of young stock:	**Number per week** average	peak	Piekfactor
Calvings in individual housing:	3	5	2
-of which bull calves:	2	3	2
-of which heifer calves:	1	2	2
Heifer calves moved to group housing:	0	1	2
Heifer calves on milk in group:	3	5	1,5
Weaned calves to 6 months of age:	6	8	1,3
# 6 to 12 months of age:	9	11	1,2
# 12 months to introduction:	17	19	1,1
# in insemination group (4 months):	6	8	1,2
# heifers 0-7 months pregnant:	10	11	1,1
# not conceived:	1	1	1,5
Total young stock ≥14 days of age:	36	39	1,1
# transported introduction heifers:	0,3	1	2



SNV Netherlands Development Organisation - Kenya
Ngong Lane, off Ngong Road
P.O. Box 30776 - 00100
Nairobi, Kenya
T + 254 20 3873656
F + 254 20 3873650
E kenya@snvworld.org
www.snvworld.org