



PROJECT 124721

Determinants and cost-benefit analysis for the implementation,
differentiated by production stratum, for the NAMA of the Livestock
Sector in Paraguay

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Year 2022



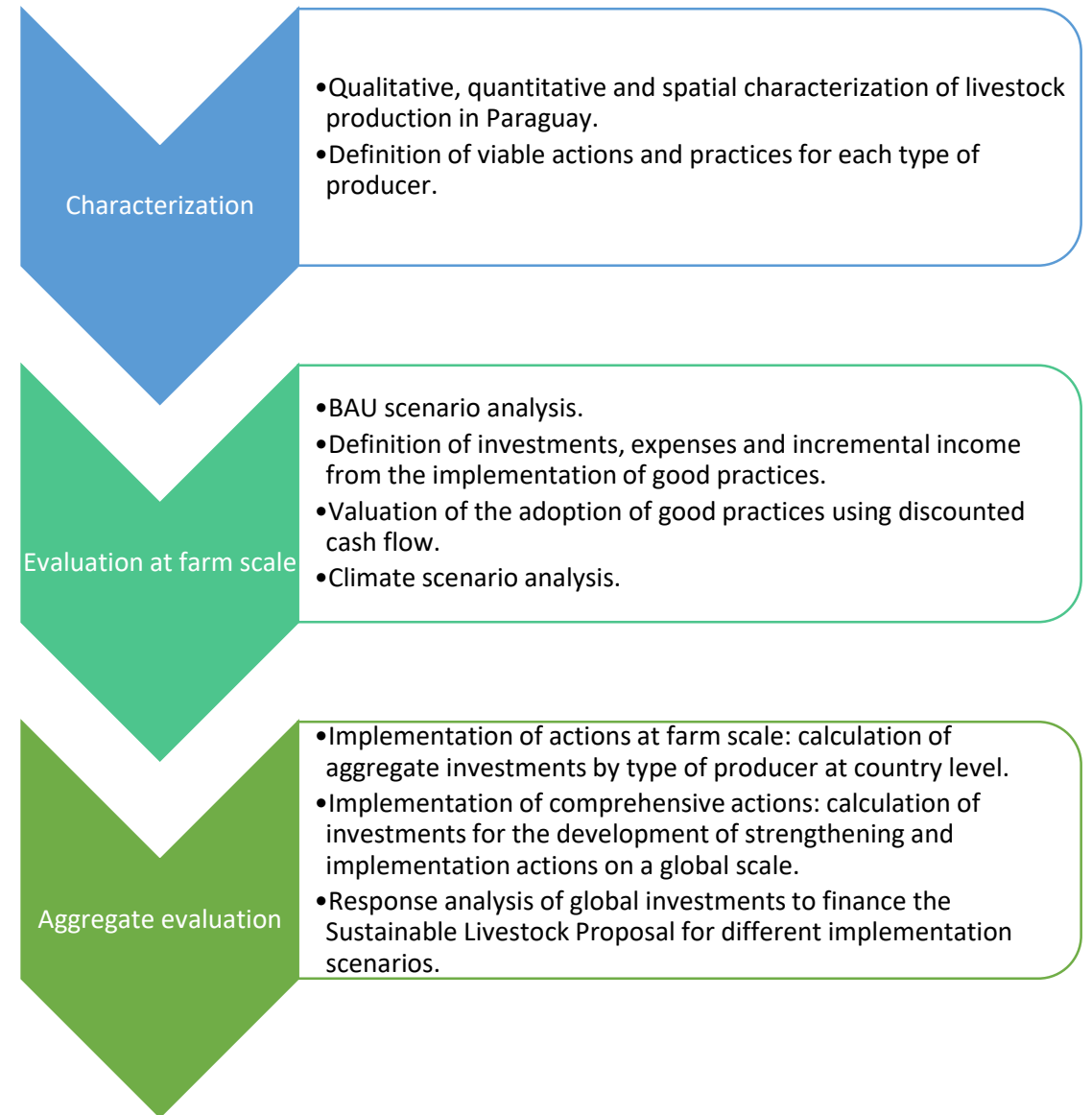
TEKOHÁ NA
AKÁRAPYÁ KATURIÁ
Macyreochi
Ministerio del
AMBIENTE Y DESARROLLO
SOSTENIBLE



TETĀ REKUÁI
GOBIERNO NACIONAL

Paraguay
de la gente

Economic analysis for Sustainable Livestock Proposal in Paraguay



Qualitative and Quantitative characterization

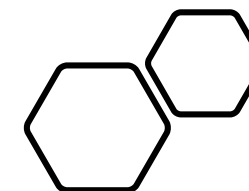


	a de la alimentación a través de la suplementación estratégica
Acción 2	Integración agrícola-ganadera para la conservación de forraje (heno-ensilado y/o suplementación)
Acción 3	Pastoreo racional
Acción 4	Sistemas Silvo-pastoriles
Acción 5	Agroforestería
Acción 6	Control de la Quema de Biomasa
Acción 7	Manejo eficiente en cuanto a sanidad y bienestar animal
Acción 8	Manejo eficiente en cuanto a reproducción y genética
Acción 9	Uso de Biotipos y Razas aclimatadas
Acción 10	Inventario forrajero p/ manejo de la carga animal
Acción 11	Monitoreo de las reservas de agua
Acción 12	Tratamiento adecuado de desechos animales
Acción 13	Inserción a nuevos mercados internacionales
Acción 14	Esquemas de certificación con enfoque de sostenibilidad
Acción 15	Apoyo p/ difusión de la “Marca País”
Acción 16	Aprovechamiento de subproductos del procesamiento industrial

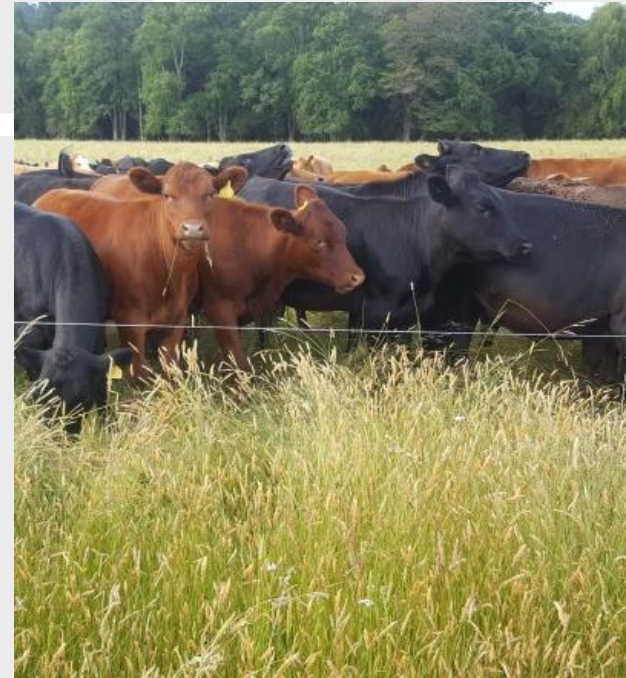
Tipo de productor	Micro	Pequeño	Mediano tipo A	Mediano tipo B	Grande
Escala –	1-20	21-100	100-500	500-1000	Más de 1000
Cantidad de cabezas					
Sistema	Extensivo	Extensivo	Extensivo / Semi intensivo	Semi intensivo	Semi intensivo
Ciclo	Completo	Completo	Cría / Cría + recría	Cría / Cría + recría	Completo integrado
Acciones viables	3, 5, 6, 7, 8, 10 y 11	1, 3, 5, 6, 7, 8, 10, 11	1, 2, 3, 4, 5, 6, 7, 8, 11	1, 2, 3, 4, 5, 6, 7, 8, 11	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12

Typology of livestock producer and the viable actions for sustainable livestock

Source: SENACSA and Propuesta de Ganadería Paraguaya Sostenible (2021).



Definition of
actions and practices
by type of producer



Practice Silvo-pastoral systems

4



The silvopastoral system consists on the combination between forestry activity and livestock activity. It is a combination in which the plantation, in addition to providing wood, offers cover and protection to forage species, favoring the distribution and supply of grass throughout the year. Silvopastoral (SP) options in livestock systems are important for mitigation (nutrient recycling, carbon sequestration, improvement in diet quality and therefore reduction in GHG emissions) and for adaptation, since these contribute to improve the resilience of systems to climate variability, using trees and other perennial woody species to intensify and diversify production and as a buffer for systems against the risks associated with climate change.

BAU Model	NAMA Scenario
Not a usual activity	All systems and scales with a productive or environmental objective.

Incremental expenses: labor, planting costs (preparation of the land, planting, trees, treatments with phytosanitary products and fertilizers, others).



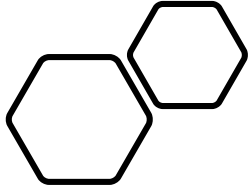
Agroforestry systems use and manage natural resources that associate woody species with agricultural crops with the aim of making more efficient the use of the land. It can be considered as the combination between tree and forage simultaneously in order to guarantee productivity in the medium and long term, without damaging the environment. In agroforestry, the participation of agricultural crops, in addition to livestock and forestry activity, becomes relevant (it is a good alternative to achieve product diversification, resilience and greater stability). We consider the enrichment with carob for the recovery of native forests of the Chaco region.

BAU Model	NAMA Scenario
Not a usual activity	All systems for micro, small and medium scales in the western region

Incremental expenses: labor, planting costs (preparation of the land, planting, trees, treatments with phytosanitary products and fertilizers, others. Enrichment (which includes seedbeds and nurseries as a first stage) is carried out by the producer with his own resources from the collection of seeds from existing plants on the same property.

Economic evaluation of the implementation of actions at the farm scale





- Activities and investments involved in the practices for the Sustainable Paraguayan Livestock Proposal by type of producer

Región		Oriental	Oriental	Oriental	Oriental	Oriental	Oriental	Oriental	Oriental	Occidental	Occidental	Occidental	Occidental	Occidental
Categoría		M. Tipo B	M. Tipo A	M. Tipo A	M. Tipo B	Grande	Micro	Pequeño	Grande	M. Tipo A	M. Tipo B	Micro	Pequeño	Grande
Ciclo		Invernada	Invernada	Cría	Cría	Cría	Completo	Completo	Completo	Cría	Cría	Completo	Completo	Completo
Código escenario		142	132	131	141	151	113	123	153	231	241	213	223	253
Accion 1	Mejora de la alimentación a través de la suplementación estratégica	x	x	x	x	x	NO	x	x	x	x	NO	x	x
Accion 2	Integración agrícola-ganadera para la conservación de forraje	x	x	NO	NO	NO	NO	NO	x	NO	NO	NO	NO	x
Accion 3	Pastoreo racional	x	x	x	x	x	NO	x	x	x	x	NO	x	x
Accion 4	Sistemas Silvo-pastoriles	x	x	x	x	x	x	x	x	x	x	NO	NO	x
Accion 5	Agroforestería	NO	NO	NO	NO	NO	NO	NO	NO	x	NO	x	x	NO
Accion 6	Control de la Quema de Biomasa	x	x	x	x	x	x	x	x	x	x	x	x	x
Accion 7	Manejo eficiente en cuanto a sanidad y bienestar animal	x	x	x	x	x	x	x	x	x	x	x	x	x
Accion 8	Manejo eficiente en cuanto a reproducción y genética	NO	NO	x	x	x	NO	x	x	x	x	NO	x	x
Accion 9	Uso de Biotipos y Razas aclimatadas	NO	NO	x	x	x	NO	x	x	x	x	NO	x	x
Accion 10	Inventario forrajero p/ manejo de la carga animal	x	x	x	x	x	NO	x	x	x	x	NO	x	x
Accion 11	Monitoreo de las reservas de agua	x	x	x	x	x	NO	x	x	x	x	NO	x	x
Accion 12	Tratamiento adecuado de desechos animales	NO	NO	NO	NO	NO	NO	NO	x	NO	NO	NO	NO	x
x		Práctica a implementar												
x		Práctica implementada en el escenario BAU												
NO		Práctica que no se implementa en este tipo de productor												

Expenses and investments to consider in the BAU and under the implementation of good practices

Current expenses in the BAU scenario and with implementation of actions

- Human resources: staff for livestock management, veterinary services
- Maintenance: supplies, maintenance, infrastructure and staff services
- Nutrition: salts, balanced, silage, forage resources
- Sanitation: vaccination, deworming, caravans
- Reproduction: hormones, semen, veterinary service
- Cattle marketing expenses: guides, rates, freight, commission, fertilizers
- Conservation of pastures and waterholes
- Taxes: IRAGRO

Incremental investments with respect to the BAU scenario

- Conventional and electrical wiring
- Cattle handling facilities (confinement pens, chute, chute, scales, feeders and drinkers, others)
- Gouache
- Machinery
- Investment for pasture and forage
- Technical consulting services
- Investment for other additional harvesting activities: nurseries and seedlings for Agroforestry and Silvopastoral Systems

Autoguardado

Valuación NAMA Ganadero 06 04

InicioInsertarDibujarDisposición de páginaFórmulasDatosRevisarVistaNAMA GANADERO¿Qué deseas?

Situación BAUSituación con ProyectoResumen Resultados

Situación BAUSituación con ProyectoResumen Resultados

Definir escenariosInversiones AgregadasDescripción prácticasDifusión y CapacitaciónSupuestos BAUSupuestos Sit. con ProyectoBoyero, aguada, alambradoPlantación Eucalipto y AlgarroboProyecciones Precios GanaderosSupuestos Climáticos

Tablas SenacsaTablas % animales por regiónNAMA

129

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Tipo de establecimiento																
2	Región	Oriental	1														
3	Categoría de Productor	Grande	5														
4	Ciclo	Completo	3														
5	Código escenario		153														
6	Resumen de Resultados																
7																	
8	Considera Valor Residual																
9		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031						
10	Flujo Situación BAU	206.148,95	210.640,28	215.164,46	219.733,40	224.347,67	229.016,94	233.728,17	238.491,04	243.306,16	3.992.276,00						
11	Flujo Situación con Acciones	89.019,62	157.137,46	109.837,66	151.920,65	117.300,29	270.980,34	126.295,56	280.089,70	135.520,34	7.340.636,95						
12	Flujo incremental (Flujo con Acciones - BAU)	-117.129,34	-53.502,82	-105.326,81	-67.812,75	-107.047,39	41.963,40	-107.432,62	41.598,66	-107.785,82	3.348.360,95						
13	VA BAU	3.744.101,87															
14	VA Acciones	5.153.986,91															
15	VAN Incremental	1.409.885,03															
16	TIR incremental	30,54%															
17																	
18	No Considera Valor Residual																
19		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031						
20	Flujo Situación BAU (sin VR)	206.148,95	210.640,28	215.164,46	219.733,40	224.347,67	229.016,94	233.728,17	238.491,04	243.306,16	248.174,12						
21	Flujo Situación con Acciones (sin VR)	89.019,62	157.137,46	109.837,66	151.920,65	117.300,29	270.980,34	126.295,56	280.089,70	135.520,34	289.431,26						
22	Flujo incremental sin VR	-117.129,34	-53.502,82	-105.326,81	-67.812,75	-107.047,39	41.963,40	-107.432,62	41.598,66	-107.785,82	41.257,13						
23	VA BAU	1.653.414,94															
24	VA Acciones	1.216.630,48															
25	VAN Incremental	-436.784,46															
26	TIR incremental	#N!NUM!															
27																	
28																	
29																	
30																	
31																	
32																	
33																	
34																	
35																	
36																	
37																	
38																	
39																	
40																	

Flujo incremental (sin VR)

60.000

40.000

20.000

0

-20.000

-40.000

-60.000

-80.000

-100.000

-120.000

-140.000

2022

2023

2024

2025

2026

2027

2028

2029

2030

2031

Año

Flujo incremental (Incluye VR)

4.000.000

3.500.000

3.000.000

2.500.000

2.000.000

1.500.000

1.000.000

500.000

0

-500.000

2022

2023

2024

2025

2026

2027

2028

2029

2030

2031

Año

Results: application of practices on investments, income and returns

Región	Oriental	Oriental	Oriental	Oriental	Oriental	Oriental	Oriental	Oriental	Occidental	Occidental	Occidental	Occidental	Occidental
Categoría	M. Tipo B	M. Tipo A	M. Tipo A	M. Tipo B	Grande	Micro	Pequeño	Grande	M. Tipo A	M. Tipo B	Micro	Pequeño	Grande
Ciclo	Invernada	Invernada	Cría	Cría	Cría	Completo	Completo	Completo	Cría	Cría	Completo	Completo	Completo
Código escenario	142	132	131	141	151	113	123	153	231	241	213	223	253
Considera Valor Residual													
Inversiones Adicionales VA	-64.100.904	-90.374.758	-57.386.072	-60.405.230	- 151.919.950	- 160.650.191	- 202.536.299	- 198.776.403	-81.686.190	-97.441.487	- 299.906	- 8.829.204	- 690.977.008
VA BAU	1.438.010	493.017	171.342	714.524	2.591.952	- 1.383	47.787	3.744.102	227.415	739.276	3.455	66.281	4.408.185
VA Acciones	1.471.109	581.396	253.091	1.563.626	4.444.909	- 3.323	44.077	5.153.987	239.272	1.387.361	9.695	83.204	5.991.397
VAN Incremental	33.099	88.379	81.749	849.103	1.852.957	- 1.940	- 3.710	1.409.885	11.857	648.085	6.240	16.923	1.583.213
TIR incremental	7,85%	60,02%	61,53%	64,68%	61,64%	-26,03%	-5,49%	30,54%	22,24%	56,63%	ND	199,54%	26,90%
No Considera Valor Residual													
Inversiones Adicionales VA	-64.100.904	-90.374.758	-57.386.072	-60.405.230	- 151.919.950	- 160.650.191	- 202.536.299	- 198.776.403	-81.686.190	-97.441.487	- 299.906	- 8.829.204	- 690.977.008
VA BAU	635.033	217.719	75.666	315.537	1.144.619	- 611	21.103	1.653.415	100.428	326.468	1.526	29.270	1.946.677
VA Acciones	300.468	254.198	107.106	364.133	1.177.143	- 2.704	16.043	1.216.630	99.301	325.844	7.756	41.602	944.301
VAN Incremental	- 334.565	36.479	31.440	48.596	32.524	- 2.094	- 5.060	436.784	- 1.126	- 624	6.230	12.332	- 1.002.377
TIR incremental	ND	53,56%	54,28%	27,92%	13,26%	ND	-17,22%	ND	2,23%	5,64%	ND	199,45%	ND

Source: own elaboration.



Climatic scenarios

- Three scenarios: dry year, rainy year and floods.
- Estimation based on historical data of fallen precipitation (MADES).
- Calculation of historical probabilities of a dry year (17.14%) and a rainy year (15.71%).
- Standardized Precipitation Index (SPI).

Referencias climáticas para el SPI		Probabilidad	Prob. Acum.
≤ -2	Sequía Extrema	2,28%	2,28%
-1,50 a -1,99	Sequía Severa	4,41%	6,68%
-1,00 a -1,49	Sequía Moderada	9,18%	15,87%
-0,99 a 0,99	Normal	68,27%	84,13%
1,00 a 1,49	Moderadamente húmedo	9,18%	93,32%
1,50 a 1,99	Muy húmedo	4,41%	97,72%
≥ 2	Extremadamente húmedo	2,28%	100,00%

Source: own elaboration.

- 2 floods in a period of 10 years.
- Use of Monte Carlo Simulation.

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Flujo Situación BAU	26.619,35	28.627,59	29.518,11	-41.393,31	30.289,07	-42.561,94	6.993,88	30.469,88	30.265,81	242.143,28
Flujo Situación con Acciones	15.122,65	29.978,24	41.962,26	-41.414,98	40.428,73	-53.562,38	11.656,37	43.221,27	38.133,58	327.524,02
Flujo incremental (Flujo con Acciones - BAU)	-11.496,70	1.350,65	12.444,15	-21,67	10.139,66	-11.000,45	4.662,48	12.751,39	7.867,77	85.380,73
VA BAU	212.111,25									
VA Acciones	276.154,91									
VAN Incremental	64.043,65									
TIR incremental	47,27%									

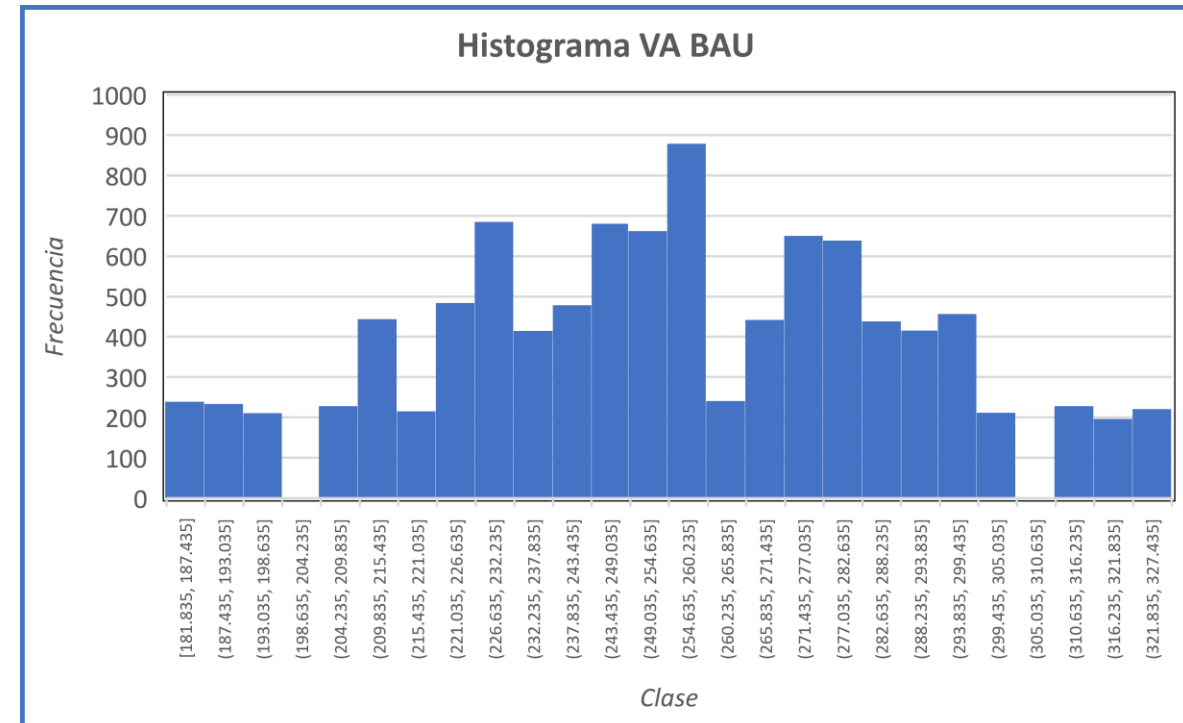
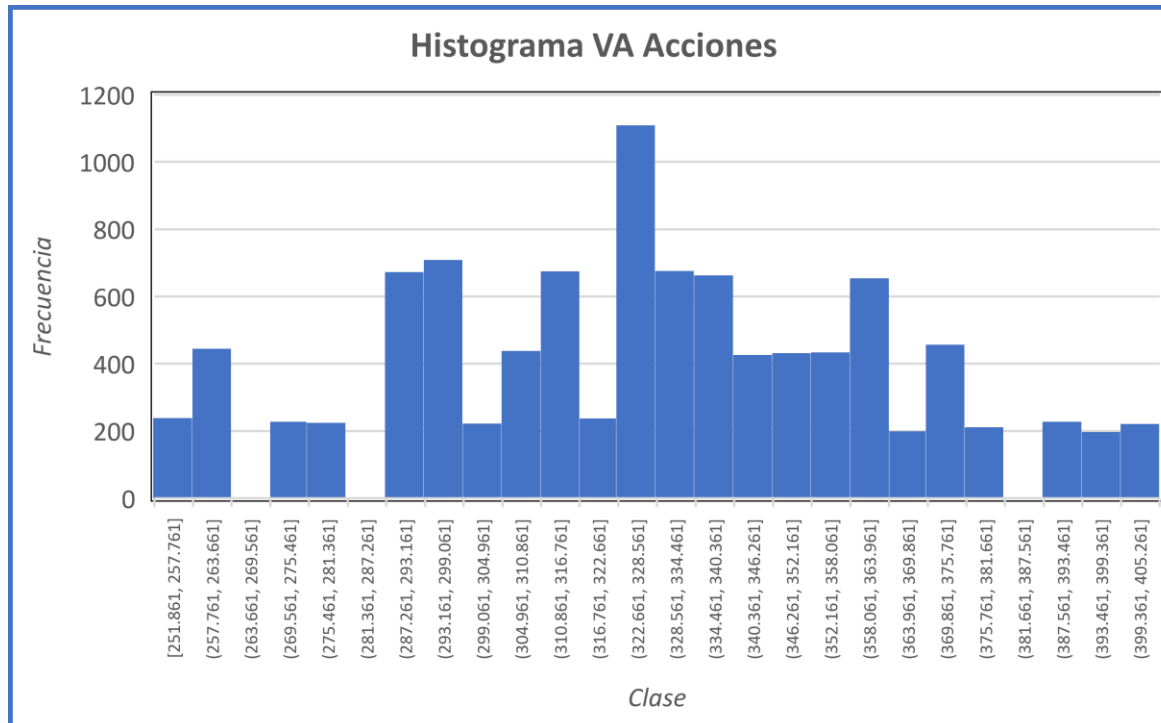
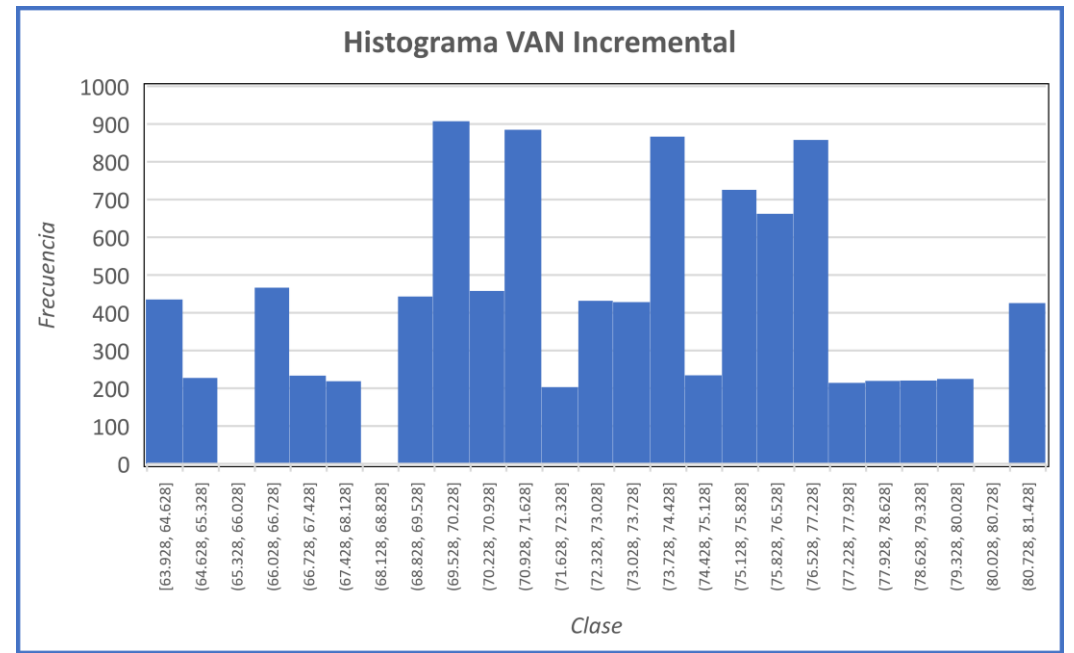
Example:
Oriental Region,
Medium Farm
Type A,
Wintering

	Incluye Valor Residual			
	VA BAU	VA Acciones	VAN Incremental	TIR incremental
Mínimo	165.645	236.580	65.299	38,47%
Máximo	341.605	426.947	85.341	60,65%
Promedio	280.488	355.959	75.471	52,47%
Mediana	285.412	361.546	75.604	54,96%
Desvío Estándar	43.697	46.151	4.672	5,91%
Percentil 1%	165.645	236.580	65.299	38,47%
Percentil 5%	212.108	277.479	68.468	42,83%
Percentil 10%	217.552	292.394	69.364	43,44%
Percentil 25%	243.217	322.592	71.878	46,64%
Percentil 75%	315.940	395.967	78.072	57,21%
Percentil 90%	330.553	413.252	82.925	59,56%
Percentil 95%	335.002	418.259	84.039	59,87%
Percentil 99%	341.605	426.947	85.341	60,65%

Source: own elaboration.

Example: Oriental Region,
Medium Farm Type A,
Wintering

Source: own elaboration





Aggregate evaluation



Valuation of suprapredial activities

Inversión global en acciones de fortalecimiento, diseño estratégico y comunicación

Flujo de fondos de inversiones supraprediales	1	2	3	4	TOTAL
-	2.582.501	- 2.216.455	- 2.076.255	- 2.076.255	- 8.951.466
VA de inversiones supraprediales	-7.796.811				



Source: own elaboration.

Aggregate valuation of activities at farm scale

- VA of investment at farm scale with 4% adoption in large and medium investors (type B) and 20% adoption in medium (type A), small and micro producers. Initial adopters of good practices, adoption in steps of 10% annually.

Monto agregado por cantidad de productores															
Porcentaje de implementación anual sobre productores adoptantes														10%	
Region	Categoría	Ciclo	Código escenario	1	2	3	4	5	6	7	8	9	10	RESIDUAL	TOTAL
Oriental	M. Tipo B	Invernada	142	- 273.277	- 273.277	- 252.185	- 252.185	- 252.185	- 252.185	- 252.185	- 252.185	- 252.185	- 252.185	-	- 2.564.036
Oriental	M. Tipo A	Invernada	132	- 4.621.796	- 4.621.796	-	-	-	- 4.415.680	- 4.415.680	-	-	-	-	- 18.074.952
Oriental	M. Tipo A	Cría	131	- 3.012.661	- 3.012.661	-	-	-	- 2.725.946	- 2.725.946	-	-	-	-	- 11.477.214
Oriental	M. Tipo B	Cría	141	- 257.997	- 257.997	- 237.527	- 237.527	- 237.527	- 237.527	- 237.527	- 237.527	- 237.527	- 237.527	-	- 2.416.209
Oriental	Grande	Cría	151	- 607.680	- 607.680	- 607.680	- 607.680	- 607.680	- 607.680	- 607.680	- 607.680	- 607.680	- 607.680	-	- 6.076.798
Oriental	Micro	Completo	113	- 16.065.019	- 16.065.019	-	-	-	-	-	-	-	-	-	- 32.130.038
Oriental	Pequeño	Completo	123	- 20.253.630	- 20.253.630	-	-	-	-	-	-	-	-	-	- 40.507.260
Oriental	Grande	Completo	153	- 795.106	- 795.106	- 795.106	- 795.106	- 795.106	- 795.106	- 795.106	- 795.106	- 795.106	- 795.106	-	- 7.951.056
Occidental	M. Tipo A	Cría	231	- 4.246.680	- 4.246.680	-	-	-	- 3.921.939	- 3.921.939	-	-	-	-	- 16.337.238
Occidental	M. Tipo B	Cría	241	- 416.864	- 416.864	- 382.991	- 382.991	- 382.991	- 382.991	- 382.991	- 382.991	- 382.991	- 382.991	-	- 3.897.659
Occidental	Micro	Completo	213	- 29.991	- 29.991	-	-	-	-	-	-	-	-	-	- 59.981
Occidental	Pequeño	Completo	223	- 882.920	- 882.920	-	-	-	-	-	-	-	-	-	- 1.765.841
Occidental	Grande	Completo	253	- 1.381.954	- 2.763.908	- 2.763.908	- 2.763.908	- 2.763.908	- 2.763.908	- 2.763.908	- 2.763.908	- 2.763.908	- 2.763.908	-	- 26.257.126
TOTAL				- 52.845.575	- 54.227.529	- 5.039.397	- 5.039.397	- 5.039.397	- 16.102.962	- 16.102.962	- 5.039.397	- 5.039.397	- 5.039.397	-	-169.515.409
VA de inversión a escala predial con 4% de adopción en inversores grandes y medianos tipo B y 20% de adopción en productores				- 169.515.409											

Source: own elaboration.

Aggregate valuation of activities at farm scale

- VA of investment at farm scale with 20% adoption in large and medium investors (type B) and 100% adoption in medium (type A), small and micro producers. Initial adopters of good practices, adoption in steps of 20% annually.

Monto agregado por cantidad de productores															
Porcentaje de implementación anual sobre productores adoptantes															20%
Region	Categoría	Ciclo	Código escenario	1	2	3	4	5	6	7	8	9	10	RESIDUAL	TOTAL
Oriental	M. Tipo B	Invernada	142	- 546.555	- 546.555	- 1.050.925	- 1.050.925	- 1.555.296	- 1.008.741	- 1.513.111	- 1.008.741	- 1.513.111	- 1.008.741	-	10.802.700
Oriental	M. Tipo A	Invernada	132	- 9.243.592	- 9.243.592	- 9.243.592	- 9.243.592	- 9.243.592	- 8.831.360	- 8.831.360	- 8.831.360	- 8.831.360	- 8.831.360	-	90.374.758
Oriental	M. Tipo A	Cría	131	- 6.025.322	- 6.025.322	- 6.025.322	- 6.025.322	- 6.025.322	- 5.451.893	- 5.451.893	- 5.451.893	- 5.451.893	- 5.451.893	-	57.386.072
Oriental	M. Tipo B	Cría	141	- 515.994	- 515.994	- 991.048	- 991.048	- 1.466.102	- 950.108	- 1.425.161	- 950.108	- 1.425.161	- 950.108	-	10.180.831
Oriental	Grande	Cría	151	- 1.215.360	- 1.215.360	- 2.430.719	- 2.430.719	- 3.646.079	- 2.430.719	- 3.646.079	- 2.430.719	- 3.646.079	- 2.430.719	-	25.522.552
Oriental	Micro	Completo	113	- 32.130.038	- 32.130.038	- 32.130.038	- 32.130.038	- 32.130.038	-	-	-	-	-	-	160.650.191
Oriental	Pequeño	Completo	123	- 40.507.260	- 40.507.260	- 40.507.260	- 40.507.260	- 40.507.260	-	-	-	-	-	-	202.536.299
Oriental	Grande	Completo	153	- 1.590.211	- 1.590.211	- 3.180.422	- 3.180.422	- 4.770.634	- 3.180.422	- 4.770.634	- 3.180.422	- 4.770.634	- 3.180.422	-	33.394.436
Occidental	M. Tipo A	Cría	231	- 8.493.361	- 8.493.361	- 8.493.361	- 8.493.361	- 8.493.361	- 7.843.877	- 7.843.877	- 7.843.877	- 7.843.877	- 7.843.877	-	81.686.190
Occidental	M. Tipo B	Cría	241	- 833.728	- 833.728	- 1.599.711	- 1.599.711	- 2.365.694	- 1.531.966	- 2.297.949	- 1.531.966	- 2.297.949	- 1.531.966	-	16.424.366
Occidental	Micro	Completo	213	- 59.981	- 59.981	- 59.981	- 59.981	- 59.981	-	-	-	-	-	-	299.906
Occidental	Pequeño	Completo	223	- 1.765.841	- 1.765.841	- 1.765.841	- 1.765.841	- 1.765.841	-	-	-	-	-	-	8.829.204
Occidental	Grande	Completo	253	- 2.763.908	- 5.527.816	- 8.291.724	- 11.055.632	- 13.819.540	- 13.819.540	- 13.819.540	- 13.819.540	- 13.819.540	- 13.819.540	-	110.556.321
TOTAL				- 105.691.150	- 108.455.058	- 115.769.944	- 118.533.852	- 125.848.738	- 45.048.626	- 49.599.603	- 45.048.626	- 49.599.603	- 45.048.626	- 41.098.175	-849.742.000
VA de inversión a escala predial con 20% de adopción en inversores grandes y medianos tipo B y 100% de adopción en productores medianos tipo A, pequeños y micro, como adoptantes iniciales a buenas prácticas, en tramos de 20% de adopción anual				- 650.538.326											

Source: own elaboration.

Present value of land + supra-land investments for the implementation of practices for the Sustainable Livestock Proposal

Productores involucrados	Nivel de adopción anual	VA inversiones
20% adopción inicial micro, pequeños y medianos tipo A y 4% adopción grandes y medianos tipo B	10% adopción anual	USD 178.466.875
50% adopción inicial micro, pequeños y medianos tipo A y 10% adopción grandes y medianos tipo B	10% adopción anual	USD 437.576.828.
100% adopción inicial micro, pequeños y medianos tipo A y 20% adopción grandes y medianos tipo B	20% adopción anual	USD 658.335.136.
100% adopción inicial micro, pequeños y medianos tipo A y 20% adopción grandes y medianos tipo B	10% adopción anual	USD 573.006.120.
100% adopción inicial micro, pequeños y medianos tipo A y 20% adopción grandes y medianos tipo B	100% de adopción en el año 1	USD 737.720.560

Source: own elaboration.

Recommendations

- To promote and develop financing **resources and financial instruments** considering base scenarios, typologies and territorial distribution of each producer, involving different entities of the financial ecosystem and promoting the active investment of different institutional investors.
- **Technical definition of practices** based on management models with practices grouped according to the type of producers. Although it is complex to define standardized models of practices for all producers, the implementation of practices can be supported from the development of technical guides, training programs and manuals, together with the implementation of academic activities (training of producers)
- **To validate the proposed economic and technical models** for the different practices through meetings with key actors in order to identify their acceptance and adoption by producers, identify social and environmental safeguards, identify economic impacts, barriers and the needs to facilitate the implementation of the different proposed practices.
- Actively work in the **design of a monitoring system by using indicators** (environmental, social and productive) to detect deviations and to plan actions using and adaptive management framework.
- Survey and promote the development and advocacy in order to impulse good practices and **to guarantee enabling conditions**. To consider the existence of cross incentives, technical conditions, professionals, regulatory framework, incentives and monitoring systems, among others.

Thank you!!!!

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