

Inovação Camponesa entre a onipresença e a invisibilidade

Sistemas e Políticas de Inovação para o Setor
Agropecuário na América Latina

Seminário Internacional

Paulo Petersen

Rio de Janeiro, 14/11/2019



XI CBA
Congresso
Brasileiro DE
Agroecologia
www.cbagroecologia.org.br



Terreiro da Inovação Camponesa
Agricultoras e agricultores familiares e urbanos,
assentados e assentadas da reforma agrária,
indígenas, quilombolas, povos e comunidades
tradicionais poderão partilhar suas experiências
no Terreiro da Inovação Camponesa.

Vem terreirar com a gente!!!!
Faça sua inscrição!



4 A 7 DE
NOVEMBRO
2019



Terreiro da Inovação Camponesa

Agricultoras e agricultores familiares e urbanos, assentados e assentadas da reforma agrária, indígenas, quilombolas, povos e comunidades tradicionais poderão partilhar suas experiências no Terreiro da Inovação Camponesa.

Notícias

XI CBA – Terreiro da Inovação Camponesa; vem terreirar com a gente!!!

25 de outubro de 2019

Terreiro da Inovação Camponesa

Agricultoras e agricultores familiares e urbanos, assentados e assentadas da reforma agrária, indígenas, quilombolas, povos e comunidades tradicionais poderão partilhar suas experiências no Terreiro da Inovação Camponesa.

Notícias
XI CBA – Terreiro da Inovação Camponesa; vem terreirar com a gente!!!

25 de outubro de 2019



**Plenária
das Agricultoras
e dos Agricultores
Experimentadores**



**Celebração
20 ANOS da ASA**

Tenda Parafuso

XI CBA

07/11
Das 09h às 11h



PLANTAÇÕES

Praga é combatida com criatividade em Humaitá

Fotos: Andréia Mayumi - 05/mai/2001

AGRICULTOR ABOLIU OS AGROTÓXICOS PARA AFASTAR BESOUROS DE SUAS MELÂNCIAS. ELE INVENTOU UM VENENO NATURAL EXTRAÍDO DO SUMO DO TAJÁ-PINTO

ANDRÉIA MAYUMI
ESPECIAL PARA A CRÍTICA

HUMAITÁ, AM – Da necessidade faz-se a inventividade. A precariedade de condições a que é submetido o agricultor do interior não impediu que Márcio do Socorro Castro Lobato, 32, pusesse para funcionar sua criatividade e encontrasse alternativas para problemas nas suas plantações, na comunidade de Cristo Rei, em Humaitá (a 600 quilômetros de Manaus).

Para conter uma praga de besouros que devorava as folhas de suas melancias holandesas, Márcio inventou um veneno natural para os insetos. Pesquisando em sua horta, descobriu que o sumo do tajá-pinto (tipo de planta da mesma família do comigo-ninguém-pode), macerado com uma determinada quantidade de água espanta a praga, e, o mais importante, sem matá-la. "Fiquei contente porque quando borrifei o veneno os besouros voaram, não ficou nenhum morto entre as melancias", comemora.

Com pouco tempo de conversa

é possível perceber seu domínio sobre os processos de cadeias alimentares e o equilíbrio do ambiente. Com palavreado simples ele explica que cada "bichinho" tem seu trabalho na natureza. Tanto que chegou a comprar agrotóxicos para acabar com os besouros, mas ficou com medo que a química chegasse até a água do rio Madeira, que banha a comunidade de Cristo Rei onde Márcio mora com a família.

A lógica do agricultor para encontrar no tajá a solução para combater os besouros que devoravam as folhas das melancias é própria de quem cresceu aprendendo a observar e entender o ambiente que o cerca. "Olhei para as plantas e vi que em certas regiões elas eram muito vistosas, sem nenhum bichinho para roer as folhas. Quase sempre tinha um tipo de tajá por perto. Cortando o talo vi que ele soltava um fedor grande", disse, explicando que então macerou o caule, coou o sumo e misturou com água.

Dissolvida, a mistura foi para o pulverizador. Márcio ainda pensou em acrescentar sal, que é usado nas plantações para espantar as temíveis formigas-de-fogo, responsáveis por grandes perdas na lavoura. Mas em virtude das propriedades ácidas do sal, o agricultor resolveu não arriscar queimar as folhas que sobreviviam ao ataque dos besouros. Borrifado na plantação, o efeito da mistura foi imediato, os besouros voaram, fugindo do cheiro forte do tajá-pinto.



NA HORTA

Márcio Lobato chegou ao veneno pesquisando

Inovação X Novidade (1)

- **Origem externa, descontextualizada**
- **Linear, incremental (coerente com o regime sociotécnico)**
- **Protagonismo dos sistemas oficiais de pesquisa e extensão**
- **Enraizada localmente (territorializada)**
- **Radical (rompe com rotinas pre-estabelecidas)**
- **Protagonismo dos atores locais**

Inovação X Novidade (2)

- **Muito visível**
- **Ambiente político-institucional favorável**
- **Pouco visível**
- **Ausência ou incipiência de ambiente político institucional de suporte**

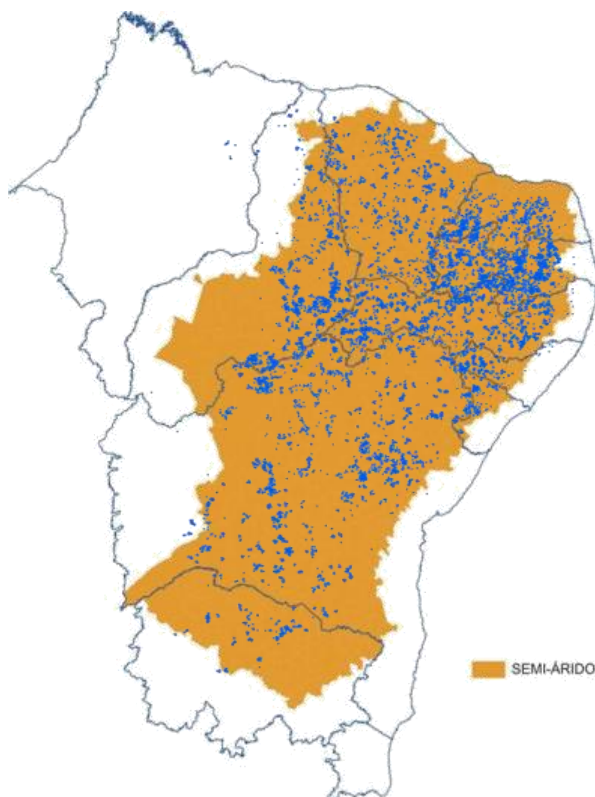
RAZÃO SOCIAL

O 'dono' das cisternas

Pedreiro construiu a primeira arma contra a seca no semi-árido há quase 50 anos e ganha um salário-mínimo como aposentado



A generalização de uma novidade



1.200.000
Cisternas Construídas





AGRICULTURAS

EXPERIÊNCIAS EM AGROECOLOGIA

Leisa Brasil • SET 2013 • vol. 10 n. 3



Construção do Conhecimento Agroecológico



1º Encontro de Agricultoras e Agricultores Experimentadores do Semiárido

21 a 23 de setembro de 2009
Camaragibe - Pernambuco



NOS LLAMAN ATRASADOS PORQUE TODO LO HACEMOS
DESPACITO



*Article*

Agroecology, Public Policies and Labor-Driven Intensification: Alternative Development Trajectories in the Brazilian Semi-Arid Region

Paulo F. Petersen and Luciano M. Silveira *

AS-PTA, Rio de Janeiro 22270-070, Brazil; luciano@aspta.org.br

* Correspondence: paulo@aspta.org.br; Tel.: +55-21-2253-8317

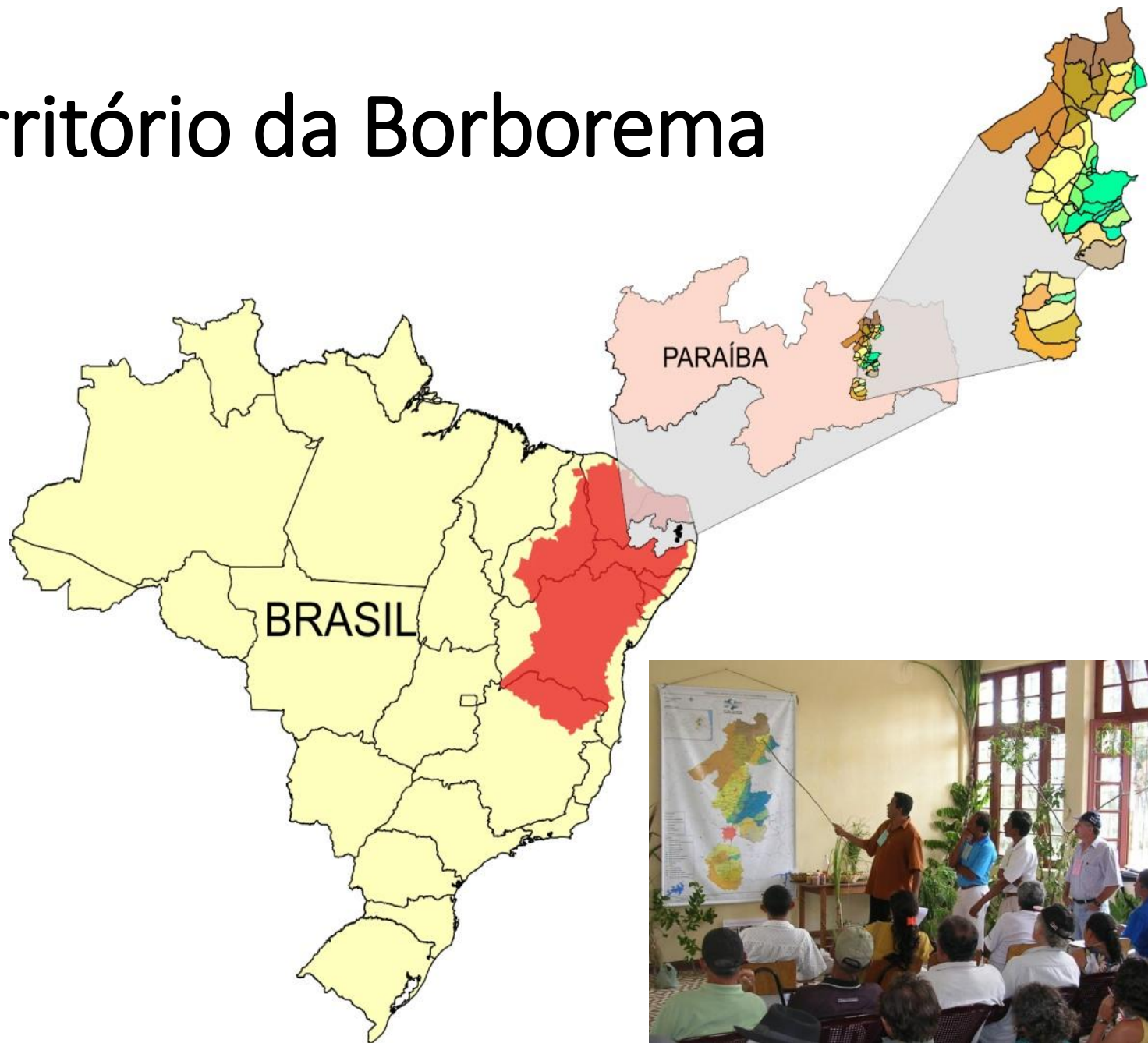
Academic Editor: Manuel González de Molina

Received: 30 December 2016; Accepted: 29 March 2017; Published: 31 March 2017

Abstract: The institutional recognition obtained by family farming in Brazil over recent decades has translated into the launching of a broad and diverse set of public policies specifically aimed towards this sociopolitical category. However, the design of these policies was heavily influenced by the productivist bias derived from the agricultural modernization paradigm, making the sector increasingly dependent on input and capital markets. In this same movement of institutional evolution, policies consistent with the agroecological approach created new margins for maneuvering for development trajectories founded on the use of local resources self-controlled by rural families and communities. Taking as a reference the recent trajectory of rural development in Brazil's semi-arid region, the article analyses the role of the agroecological perspective in the strategic combination between territorially endogenous rural resources and public resources redistributed by the State. Based on the analysis of the economy of agroecosystems linked to two sociotechnical networks structured by contrasting logics of productive intensification, the study demonstrates agroecology's potential as a scientific-technological approach for the combined attainment of various Sustainable Development Goals, starting with the economic and political emancipation of the socially most vulnerable portions of the rural population.

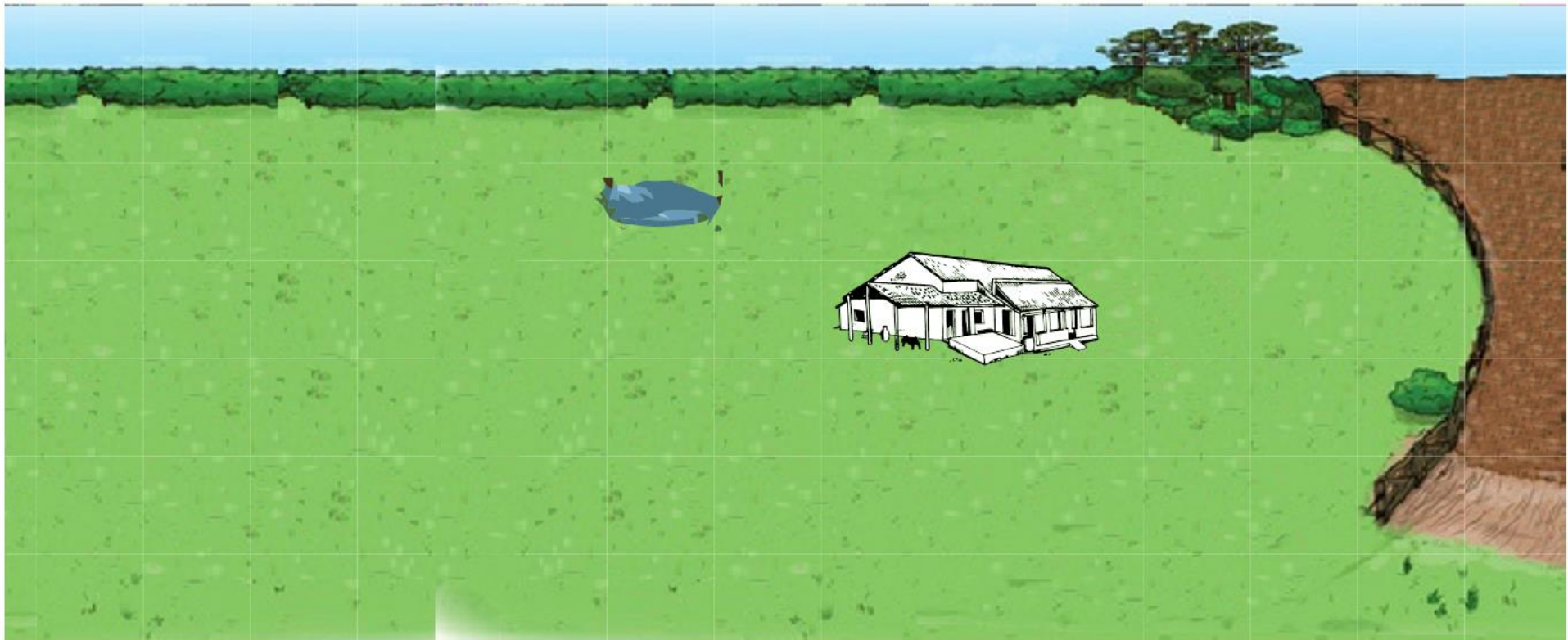
Keywords: rural development; agroecology; agricultural intensification; public policies; sociopolitical innovation

Território da Borborema

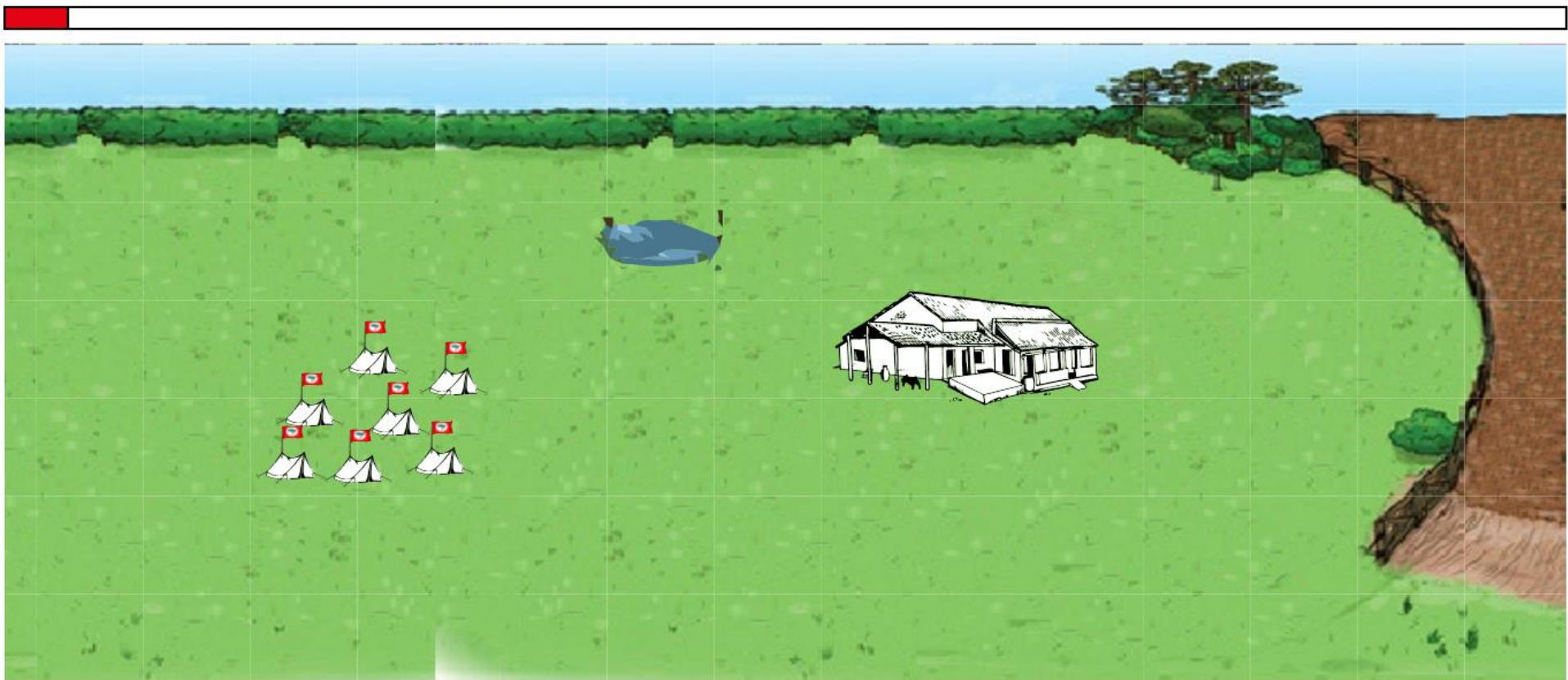




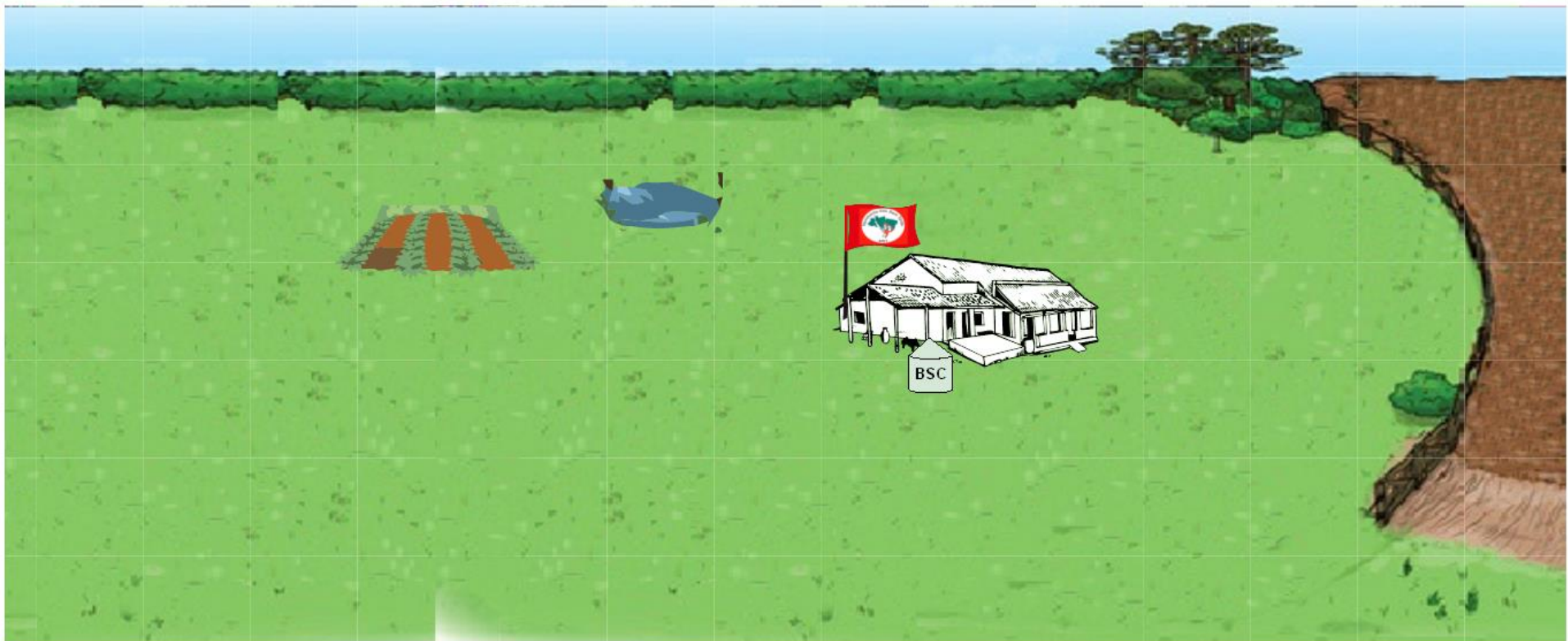
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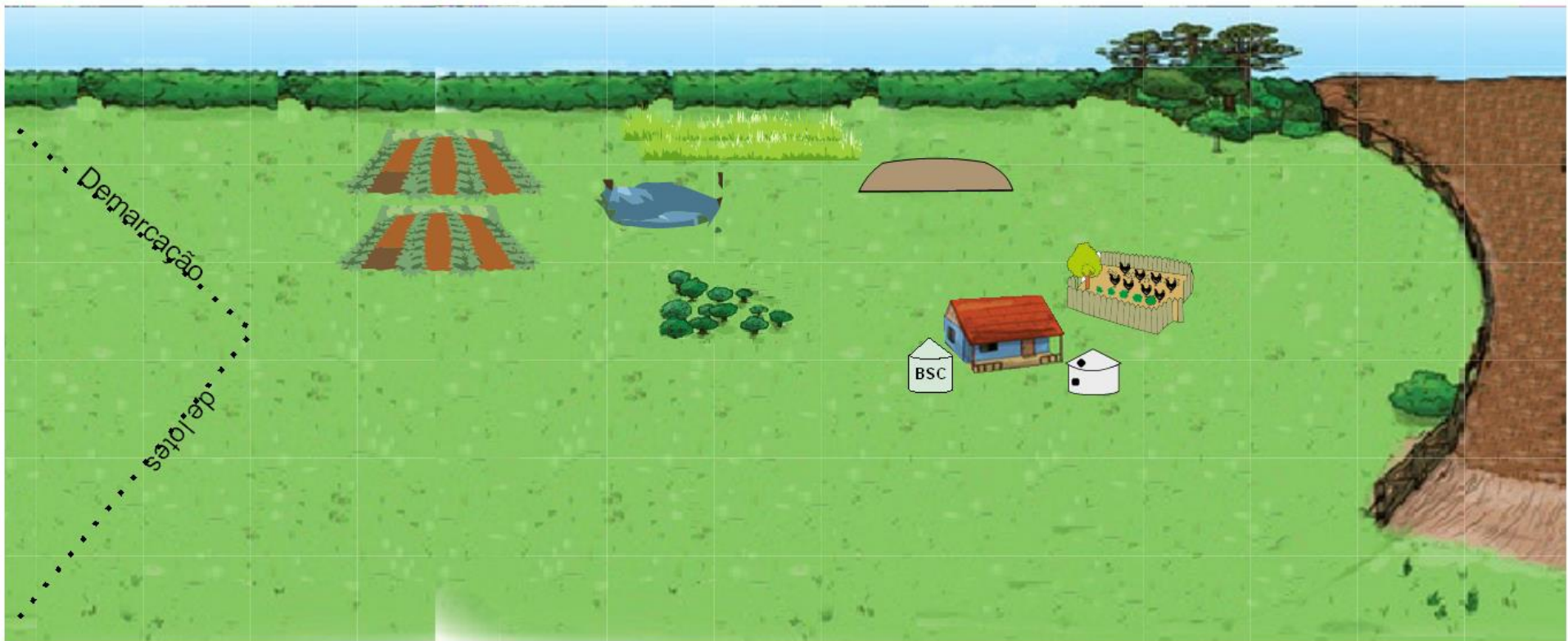


BSC

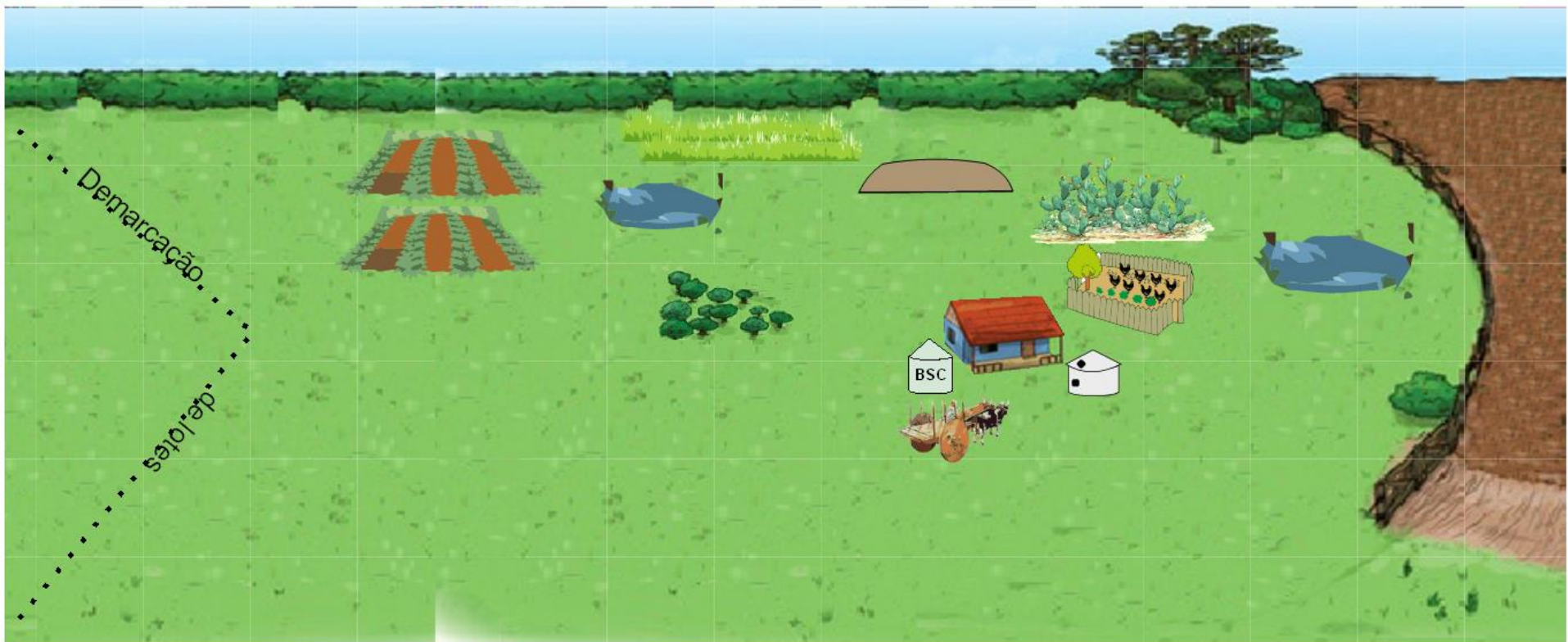


A ASSOCIAÇÃO
OZIEL PEREIRA

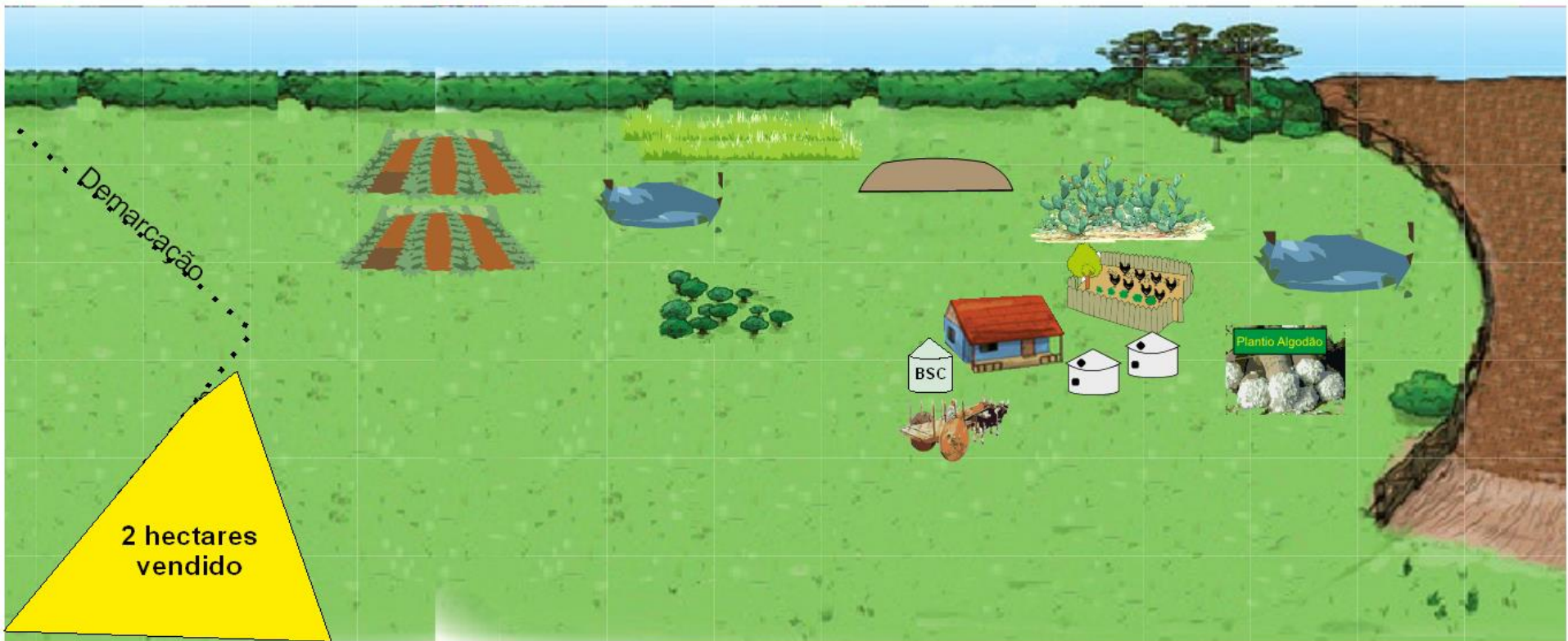
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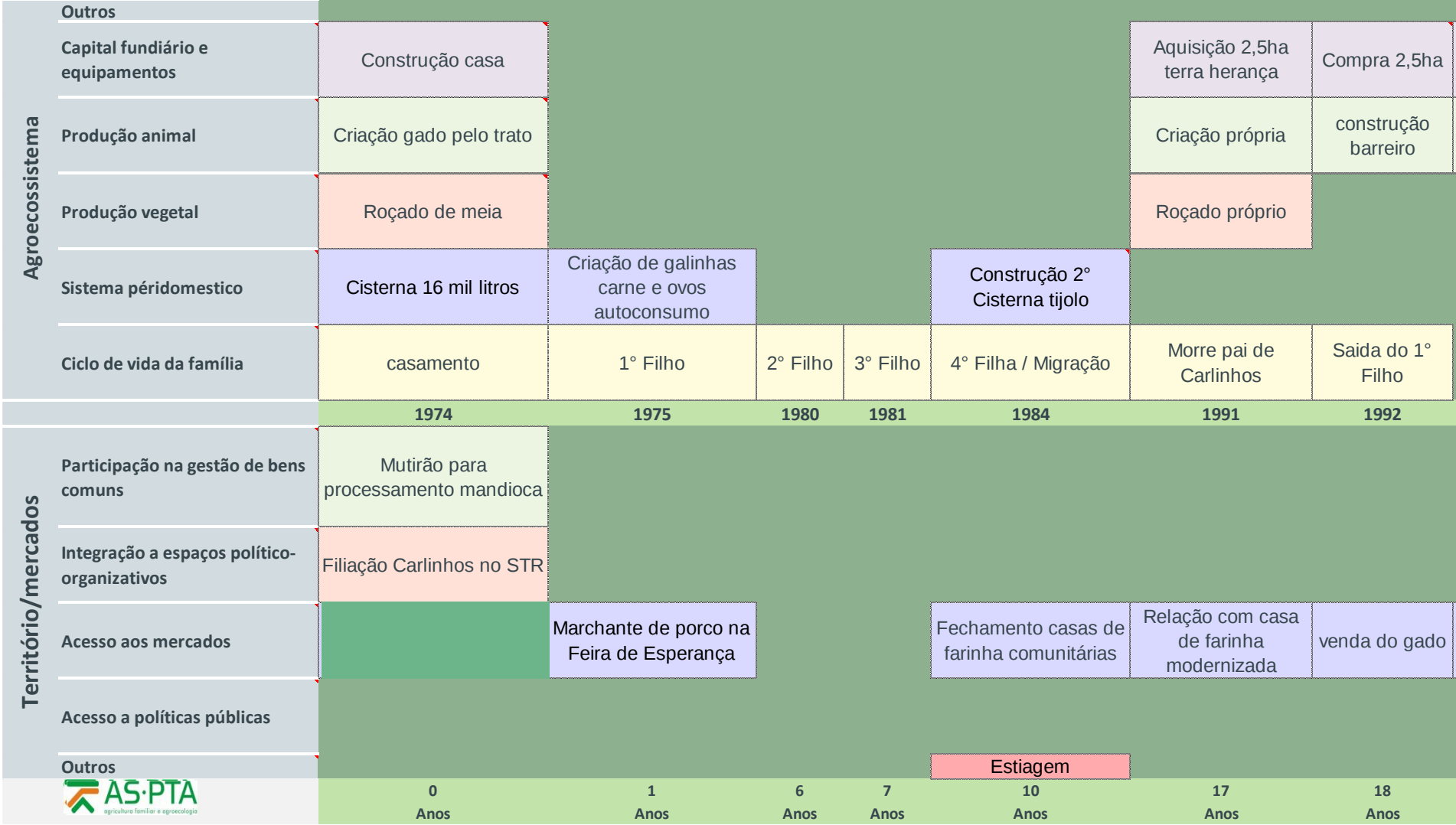
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1998 1999 2002 2003 2004 2005 2006 2007 2009 2011 2012 2013 2014

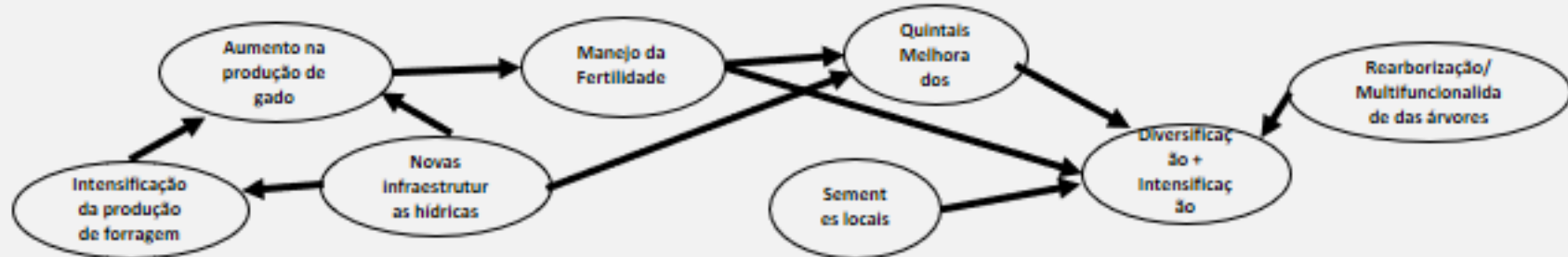


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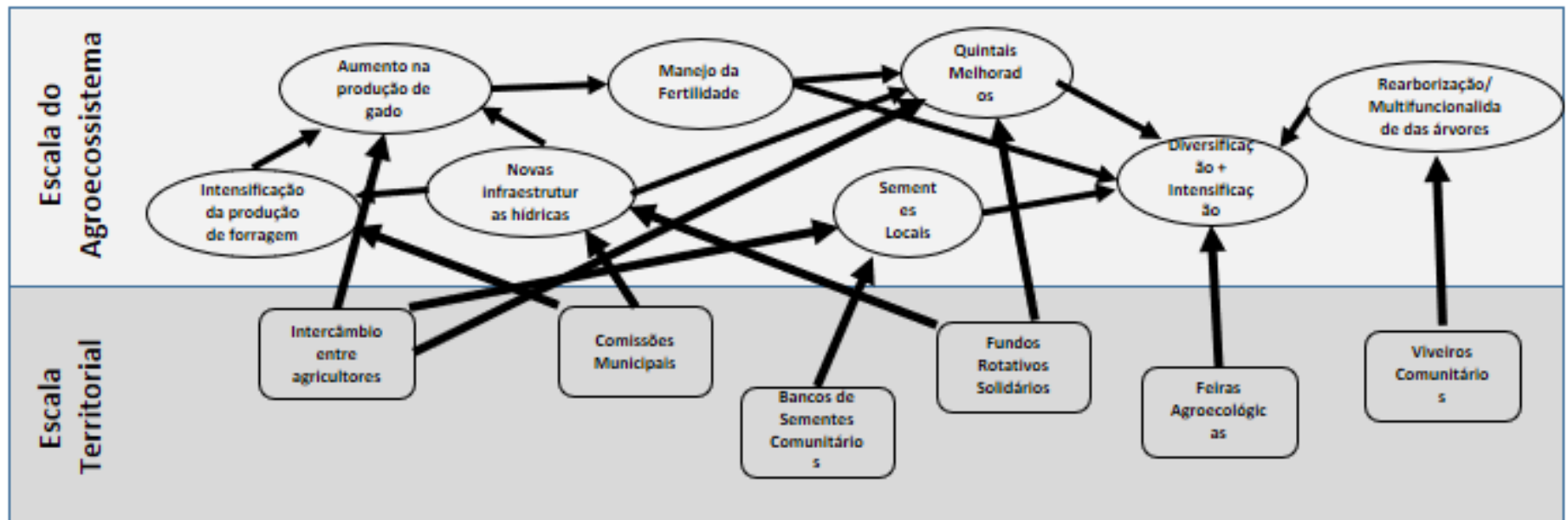


Agroecosistema	Outros							Cisterna para a poeira 27 mil litros	Finalização Casa Nova
	Capital fundiário e equipamentos								
	Produção animal	Silagem	Construção Pocilga	Plantio campo palma	Aquisição matrizes porcas	Estabelecimento e cercamento do pasto	Silagem Ampliação		
	Produção vegetal		Plantio estacas gliricidia	Rearborização propriedade		Esterqueira	Esterqueira ampliação	Plantio de frutas	
	Sistema péridomestico	Cercamento das aves				Cisterna calçadão	Fogão Ecológico		
	Ciclo de vida da família								
Território/mercados		2006	2008	2010	2011	2012	2012	2013	2013
	Participação na gestão de bens comuns	FRS Furnas tel.	FRS esterco	FRS Esterco	Mudas Rede de Viveiros POLO		FRS de esterco e lona	FRS - Fogão	FRS Esterco 2 caminhões
	Integração a espaços político-organizativos						Participação Josélia Marcha das Mulheres	Aumento participação Josélia	
	Acesso aos mercados			Venda leitões (vizinhos)			Venda de queijo		
	Acesso a políticas públicas	Bolsa Família			Aposentadoria Josélia	PRONAF C Pesquisa CNPQ Ensaios milho	ASA/MDS P1+2 garantia Safra	Pesquisa ASA INSA	PRONAF
	Outros					Estiagem	Estiagem		
		32 Anos	34 Anos	36 Anos	37 Anos	38 Anos	38 Anos	39 Anos	39 Anos

**Escala do
Agroecossistema**

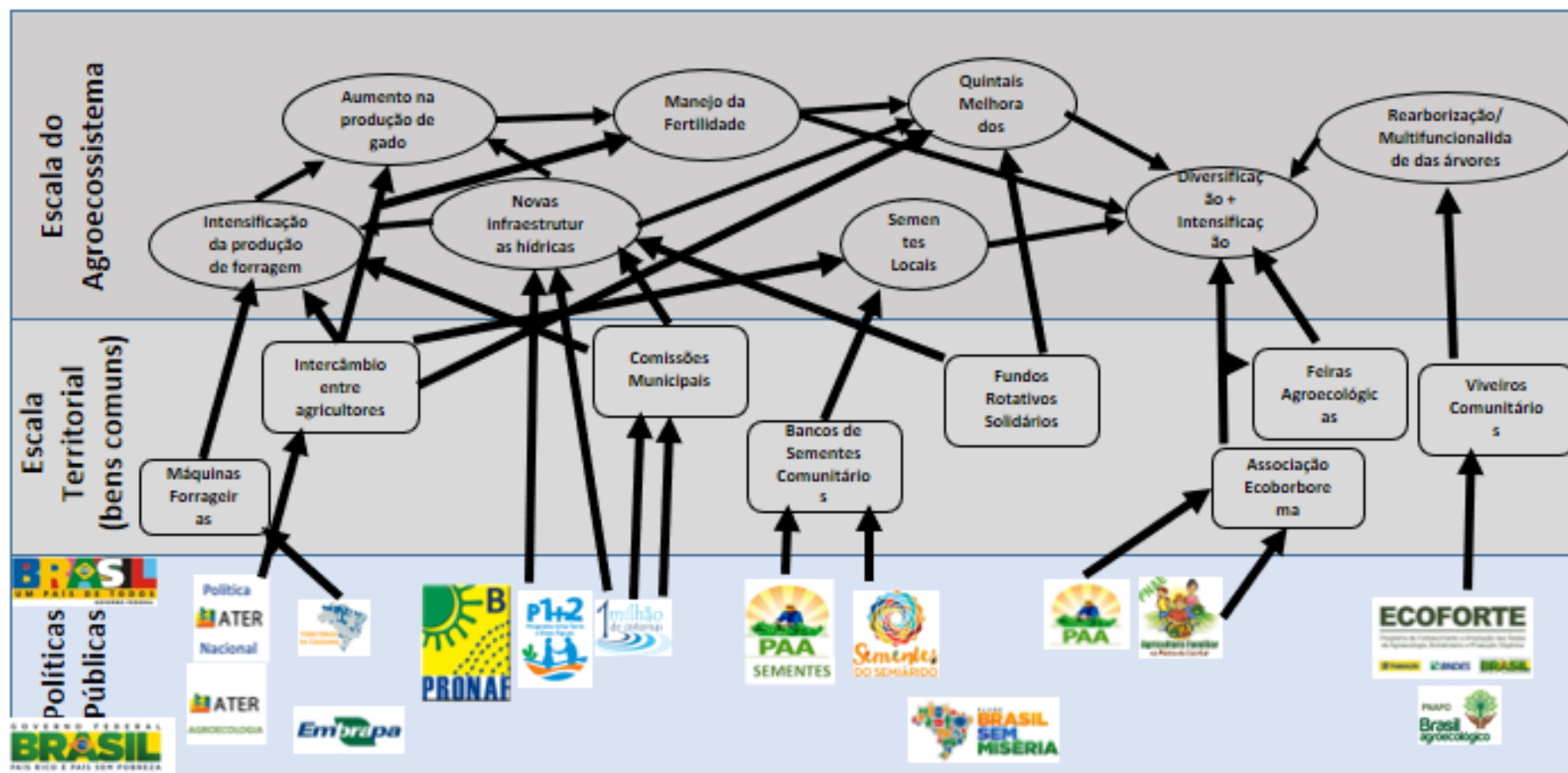


Teia de Novidades



Novos arranjos institucionais

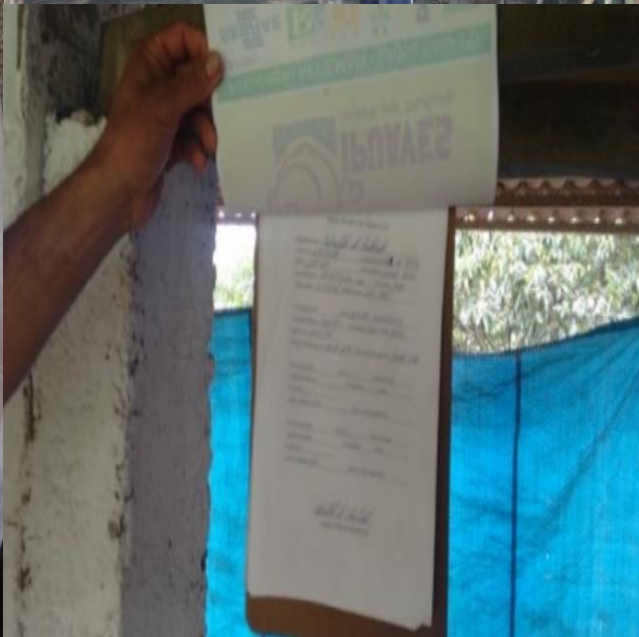
(dispositivos coletivos)



Políticas Públicas

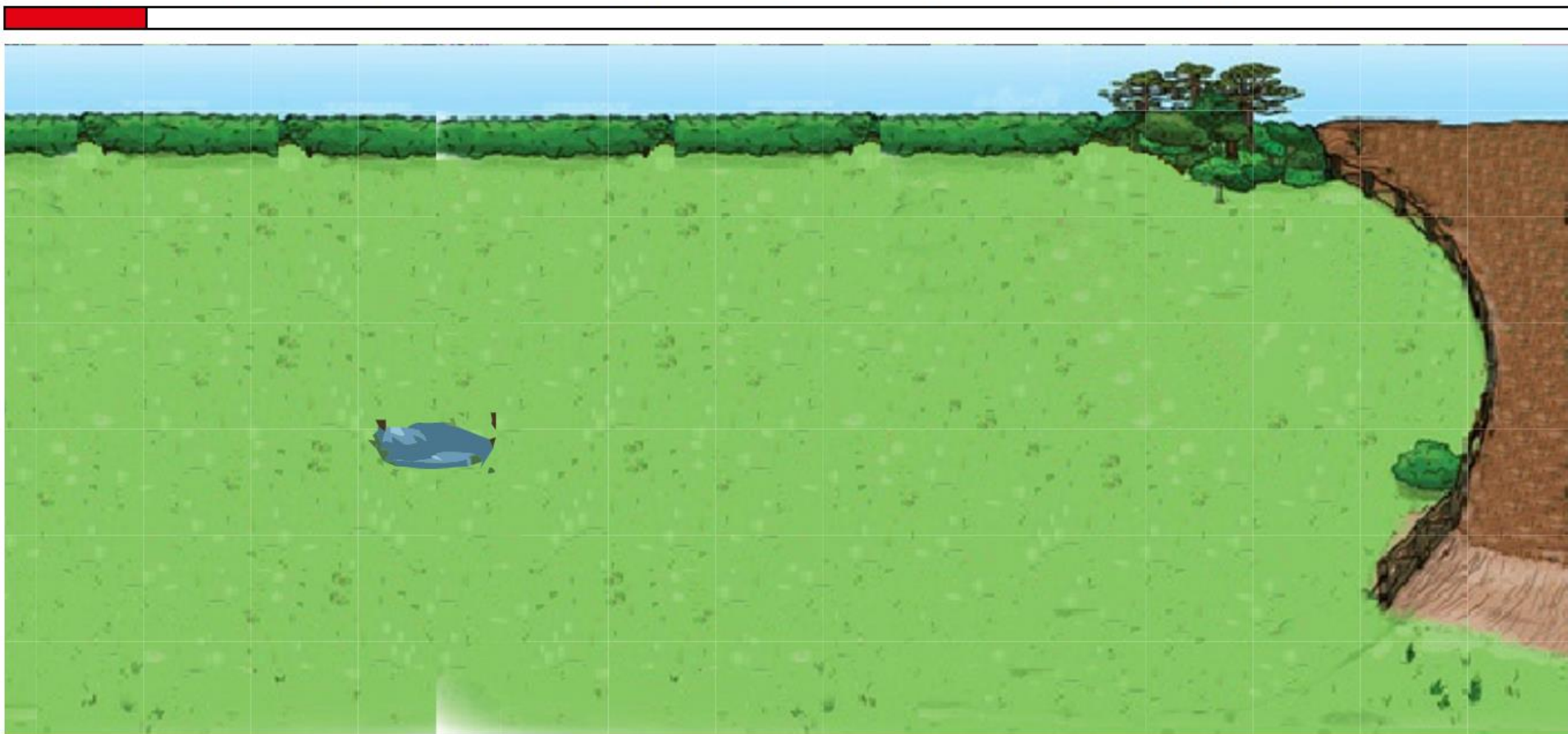




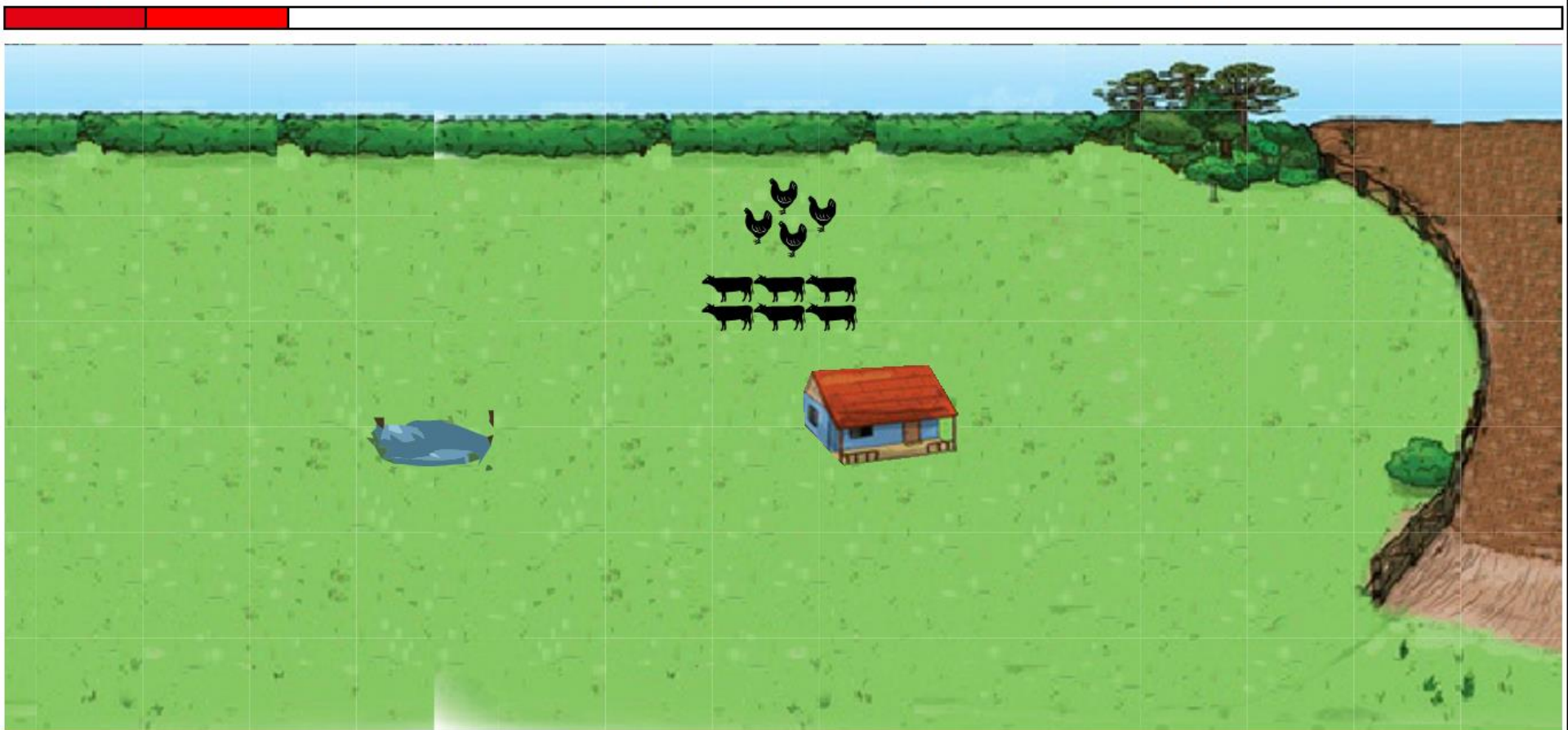




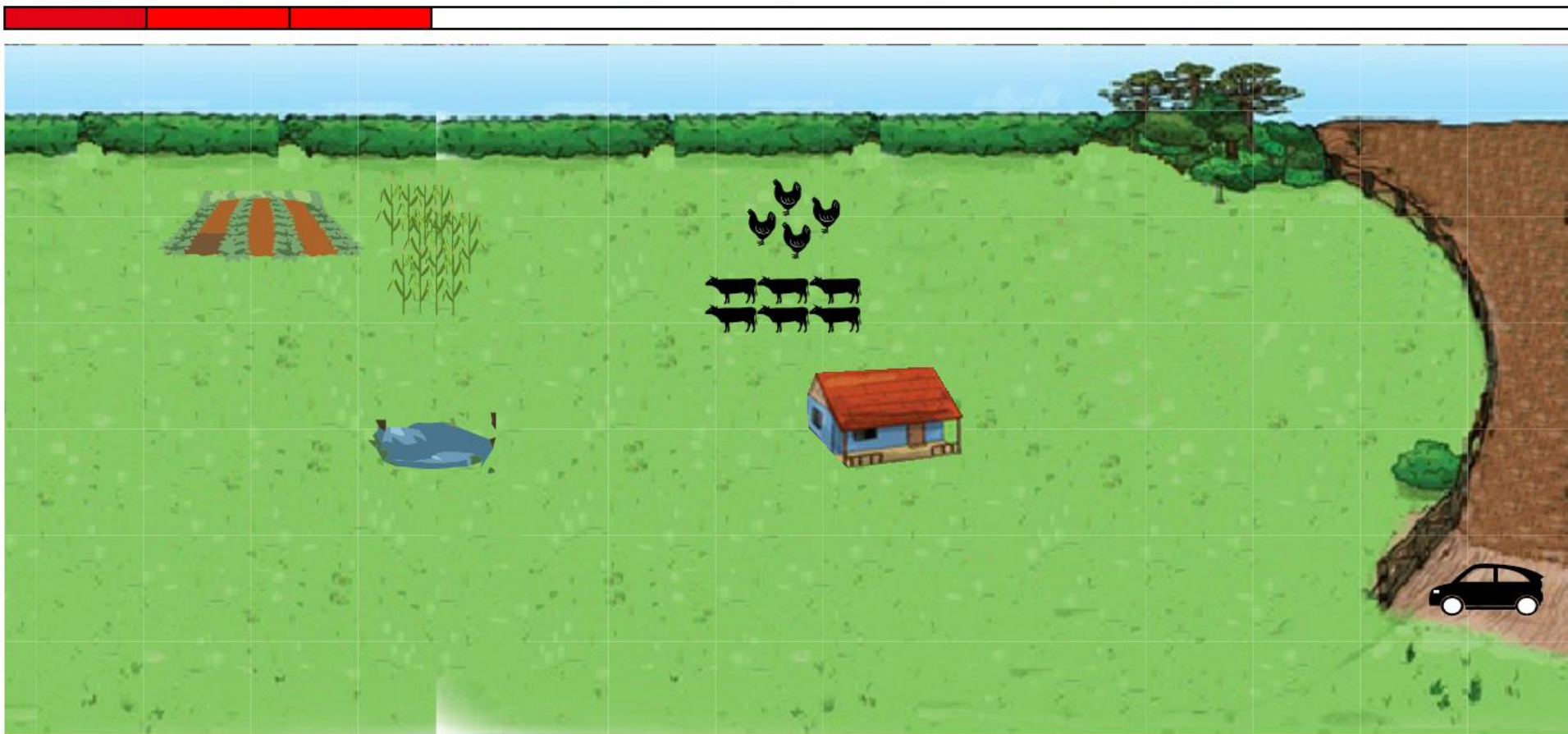
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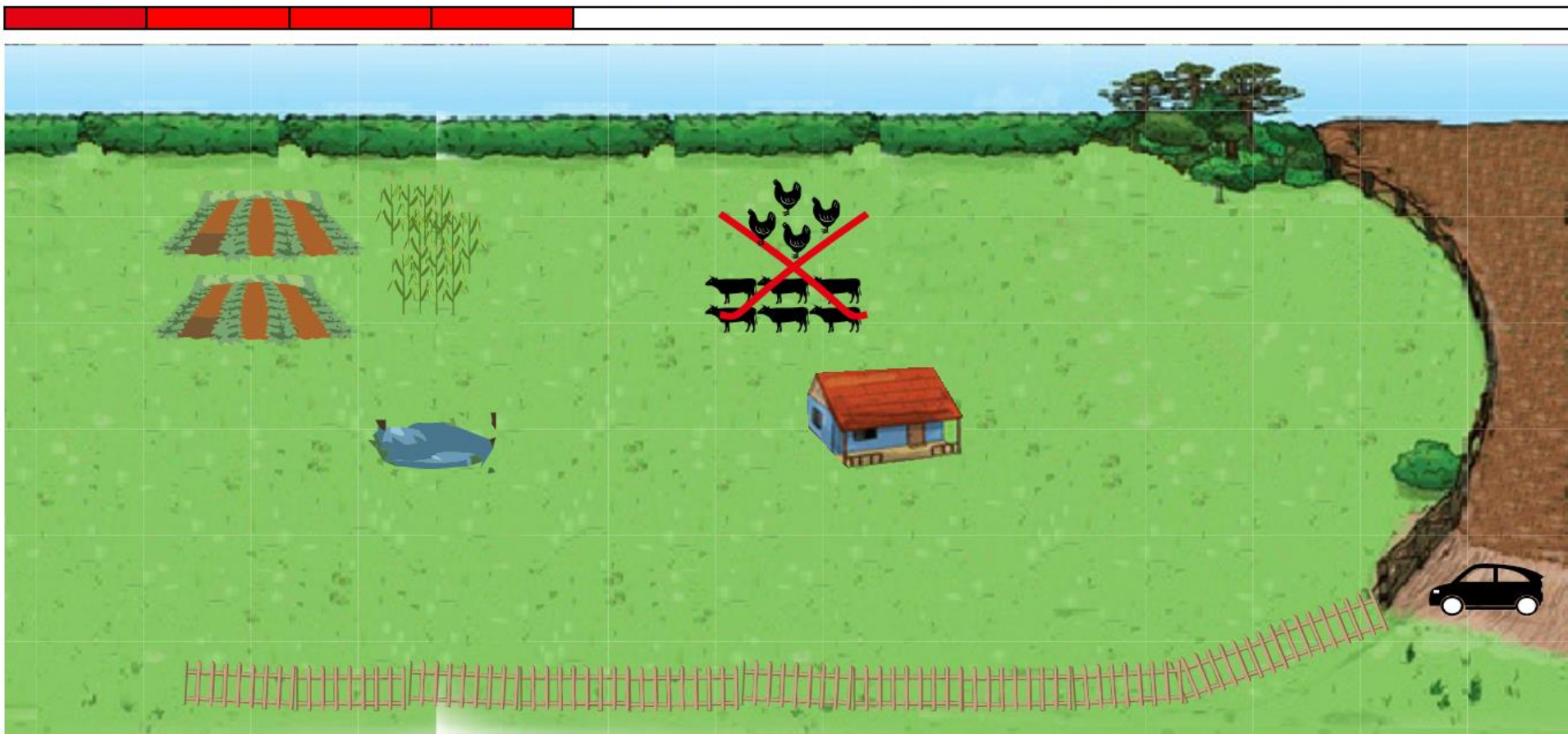
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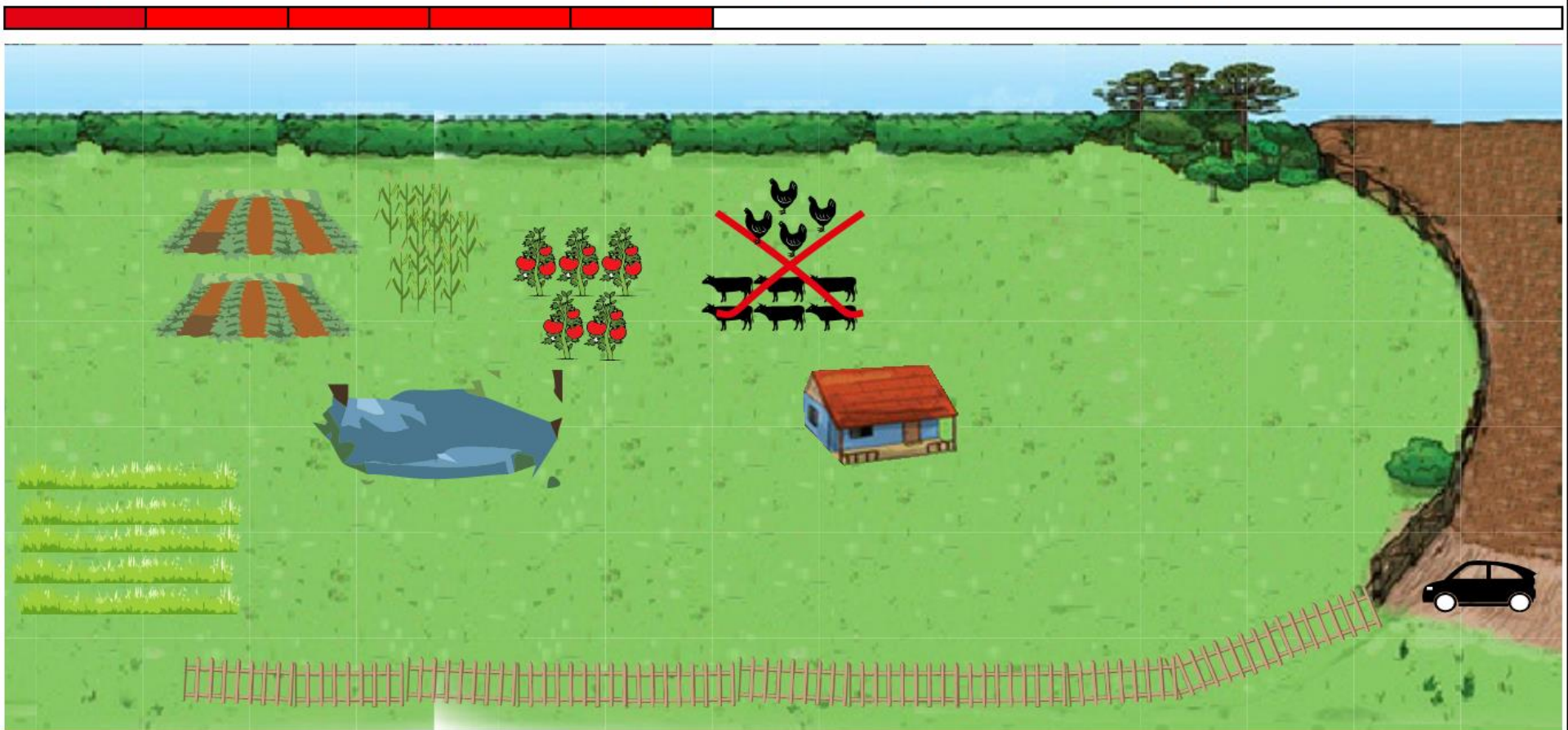
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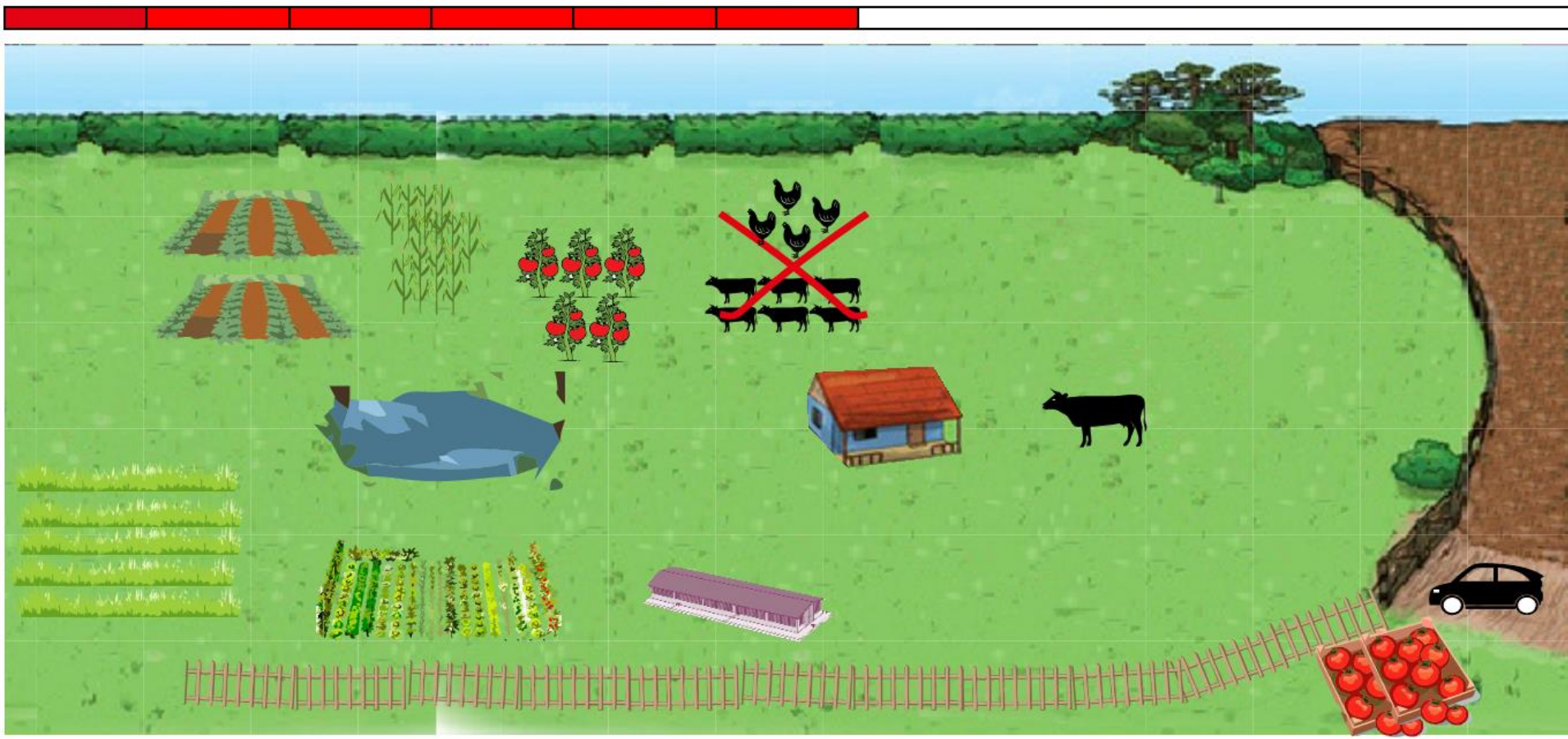
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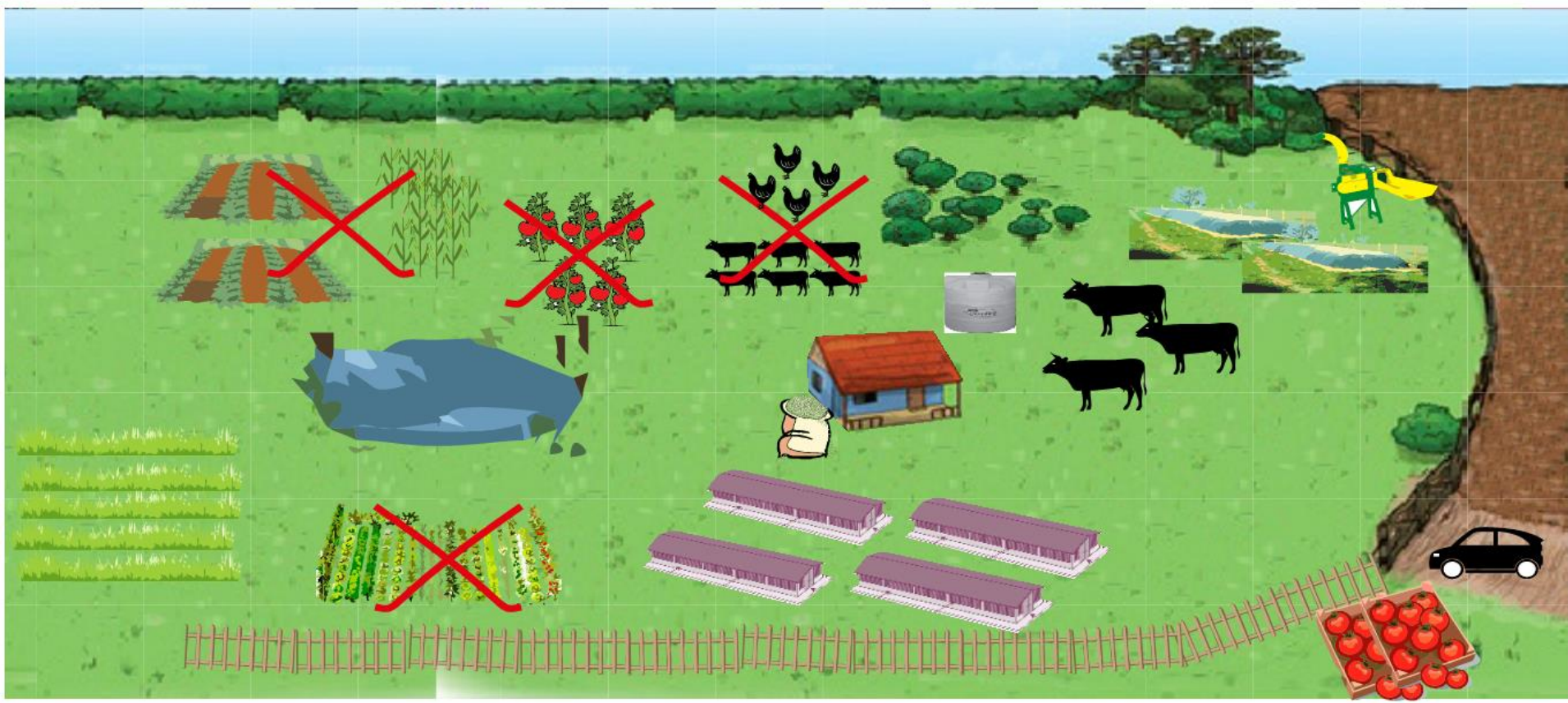
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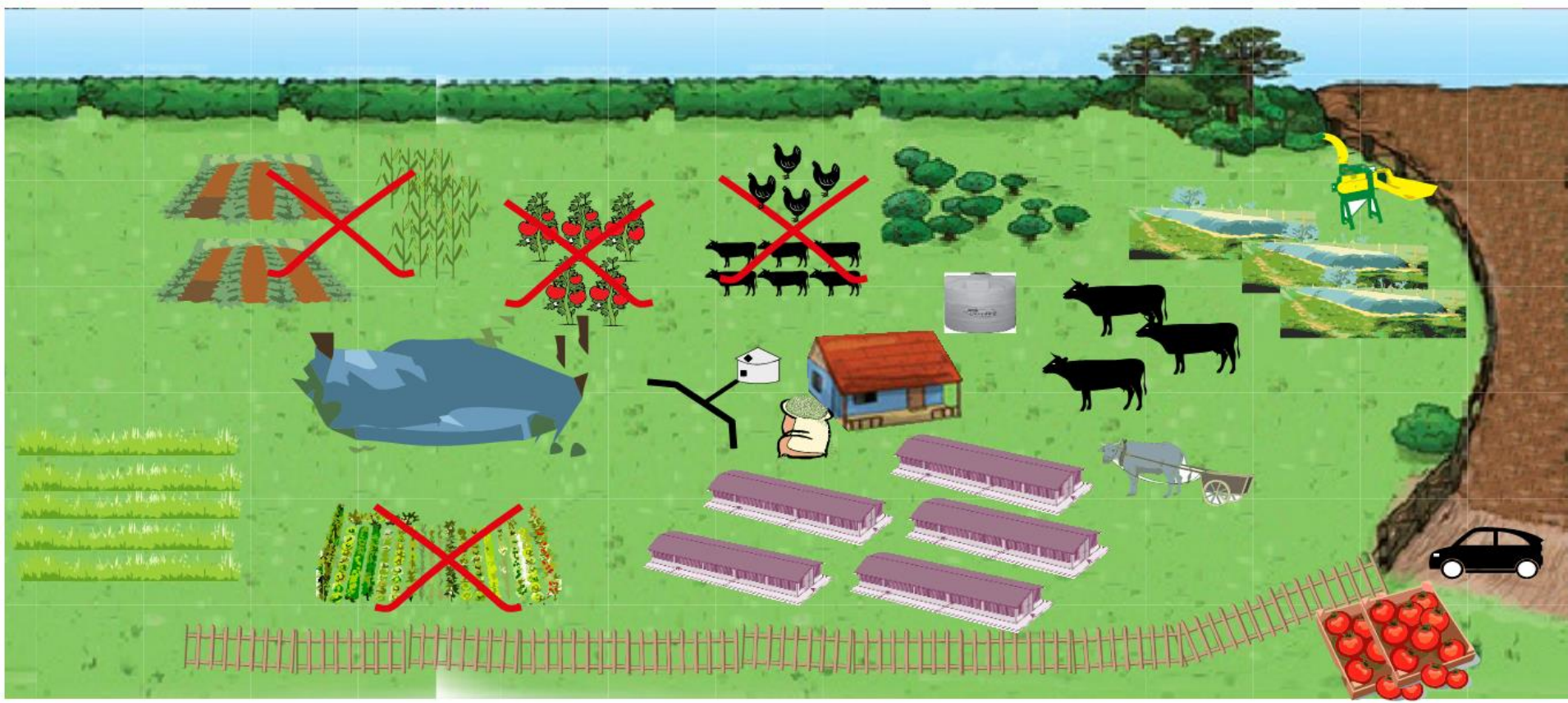
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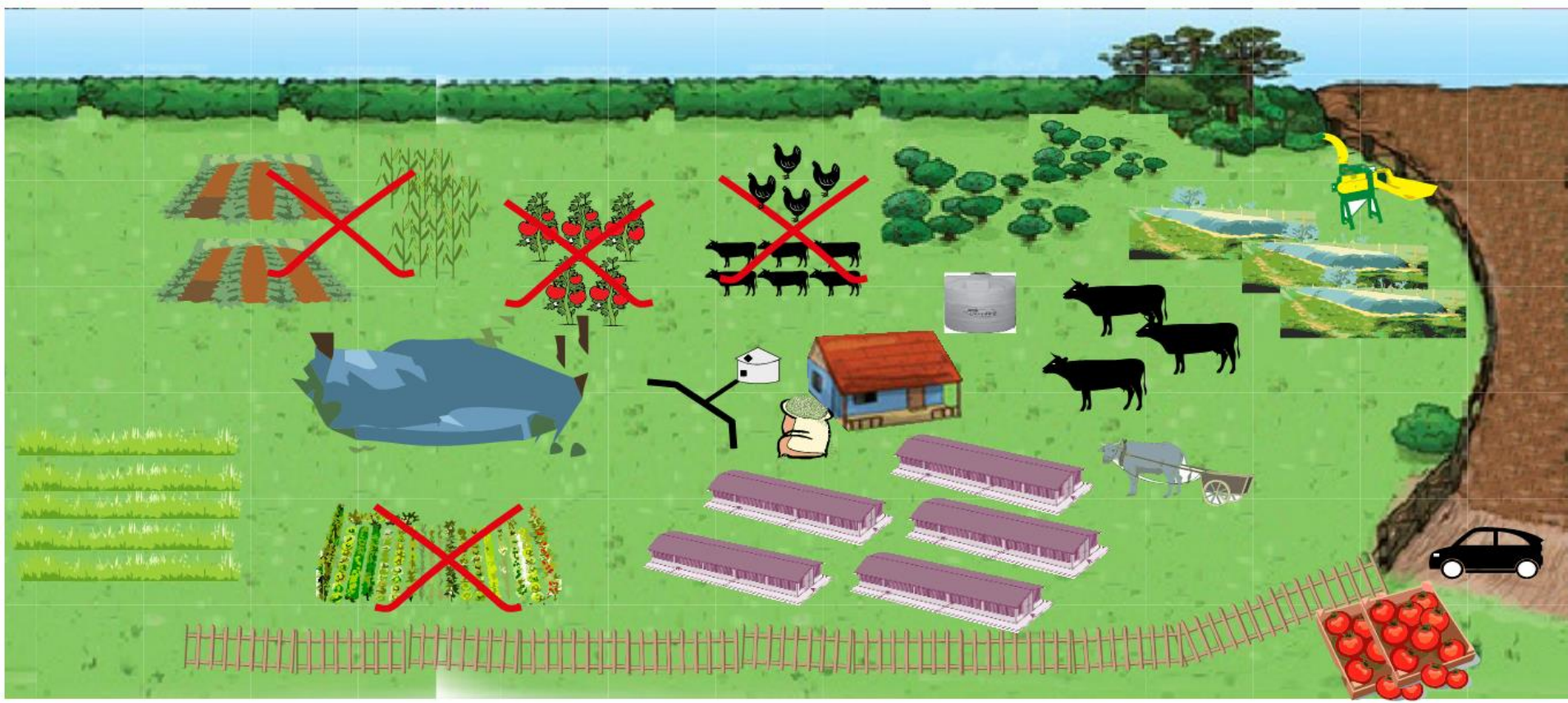
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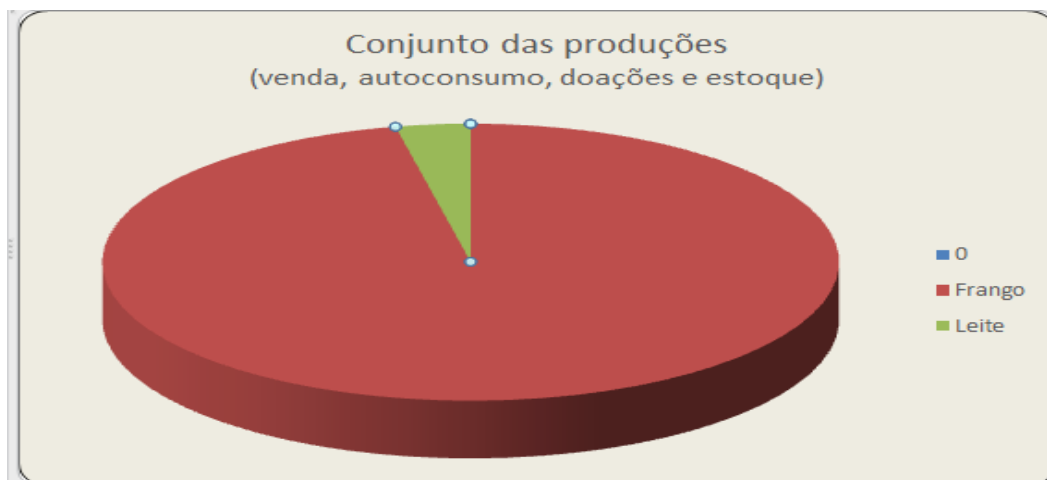
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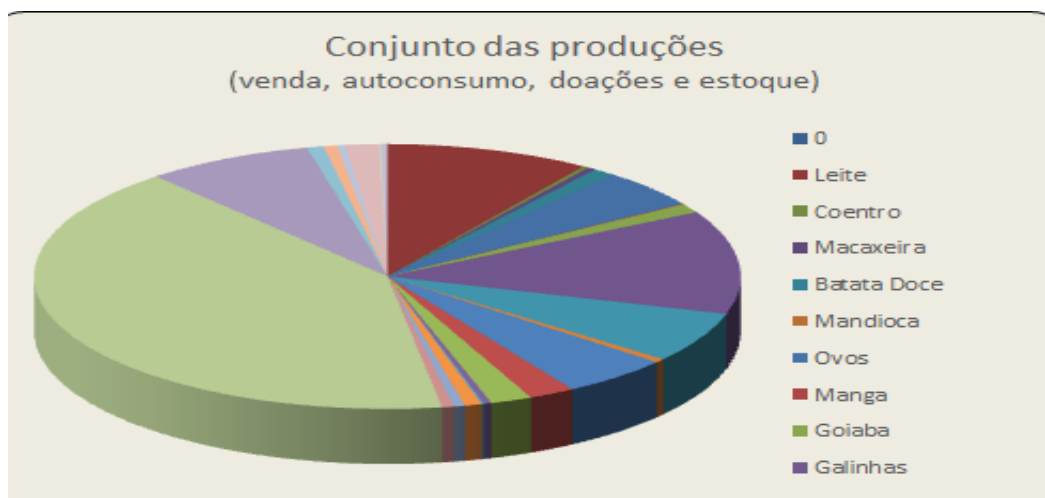
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Maxon e Cristina



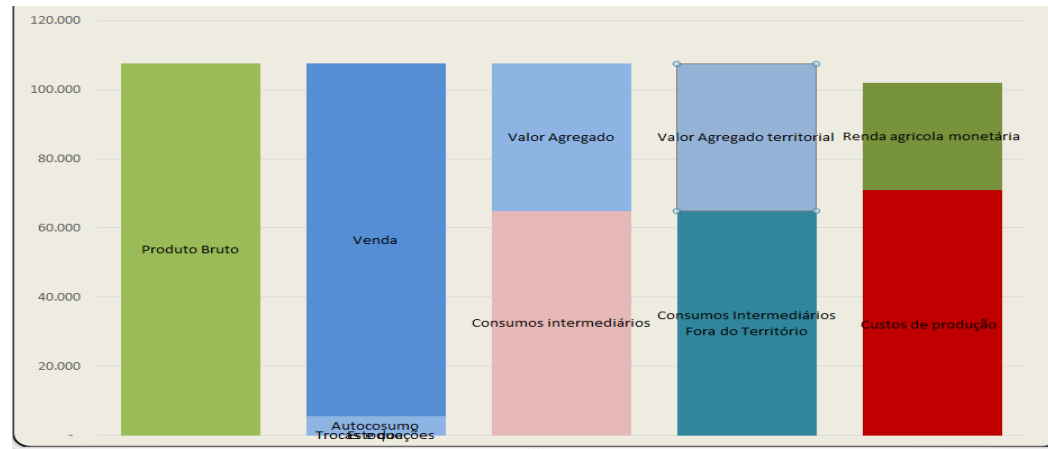
Paulo e Josefa



Composição da Renda

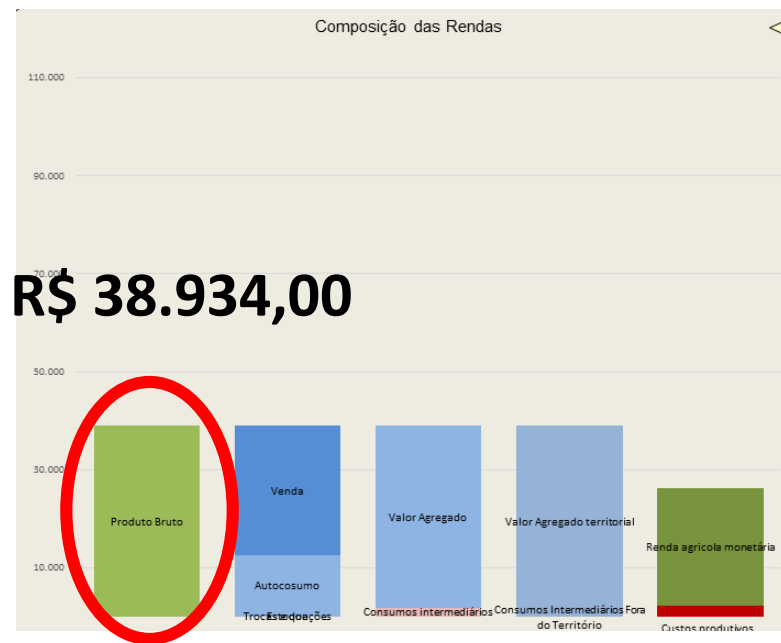


Paulo e Josefa



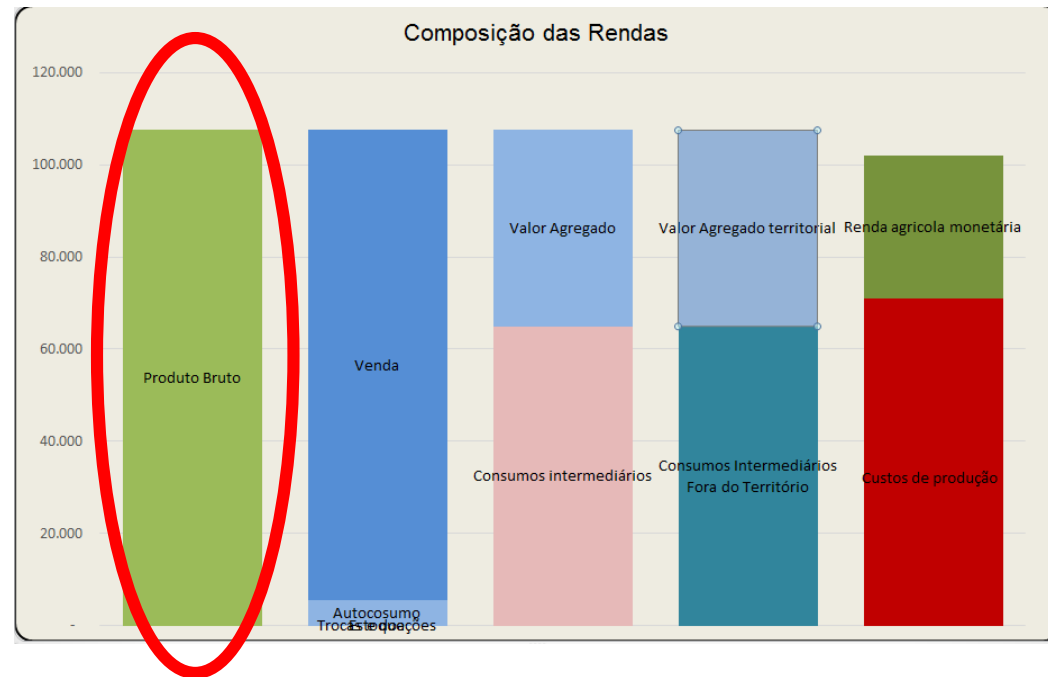
Maxon e Cristina

Composição das Rendas



Paulo e Josefa

R\$ 107.528,00

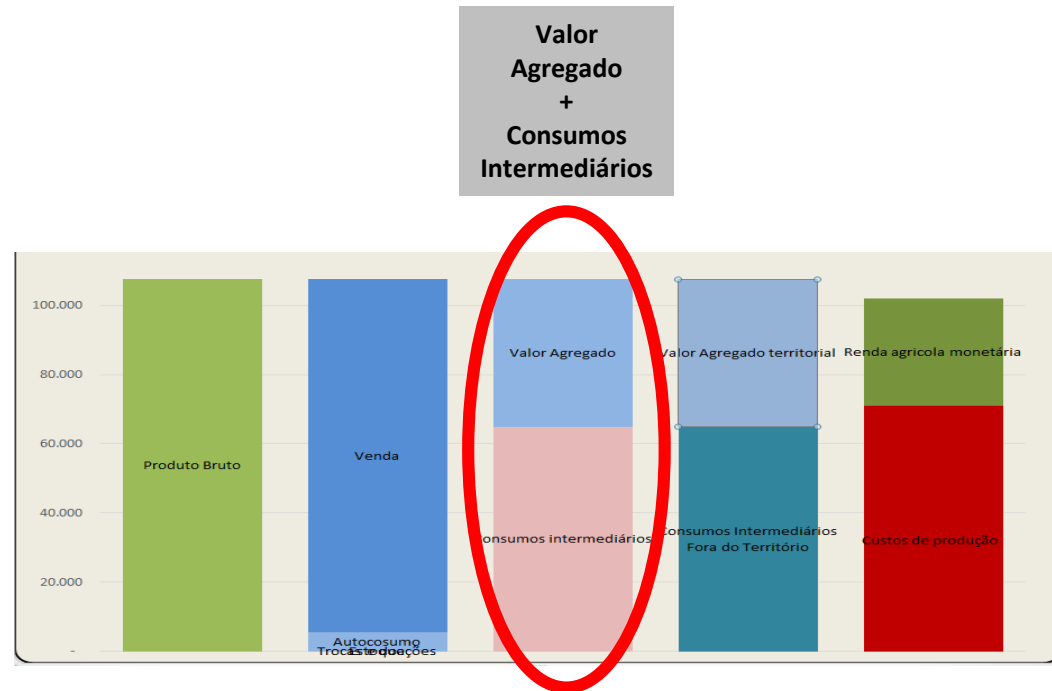


Maxon e Cristina

Composição das Rendas



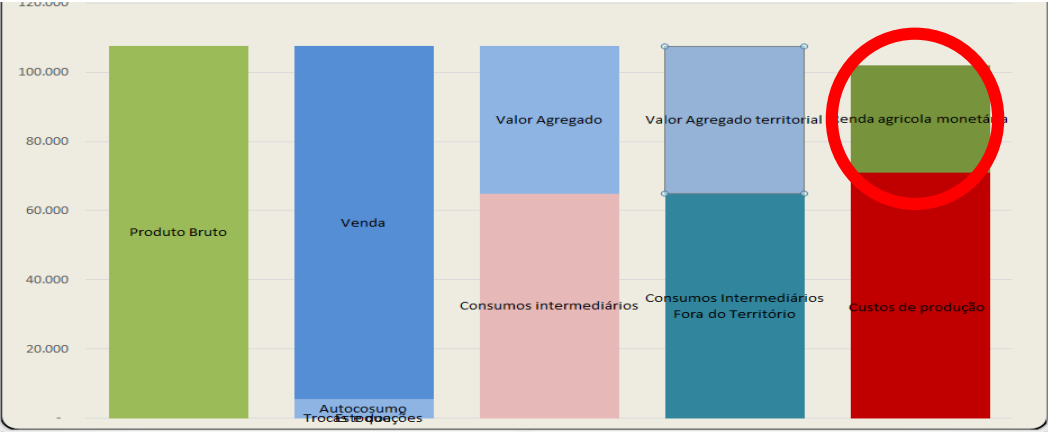
Paulo e Josefa



Maxon e Cristina

Renda Agrícola

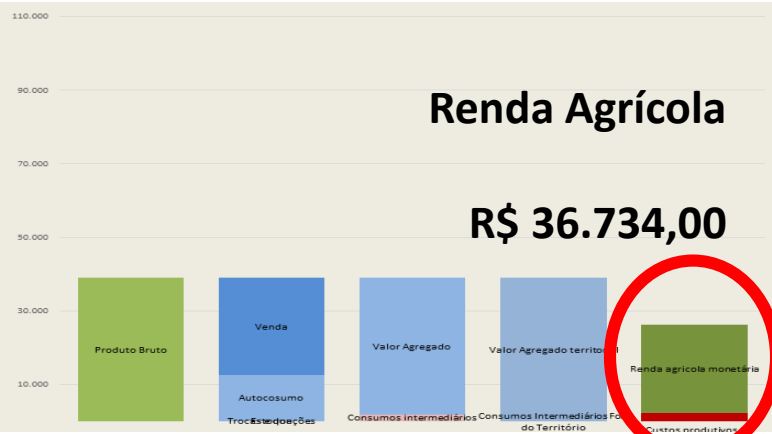
R\$ 36.640,00



Maxon e Cristina

Renda Agrícola

R\$ 36.734,00

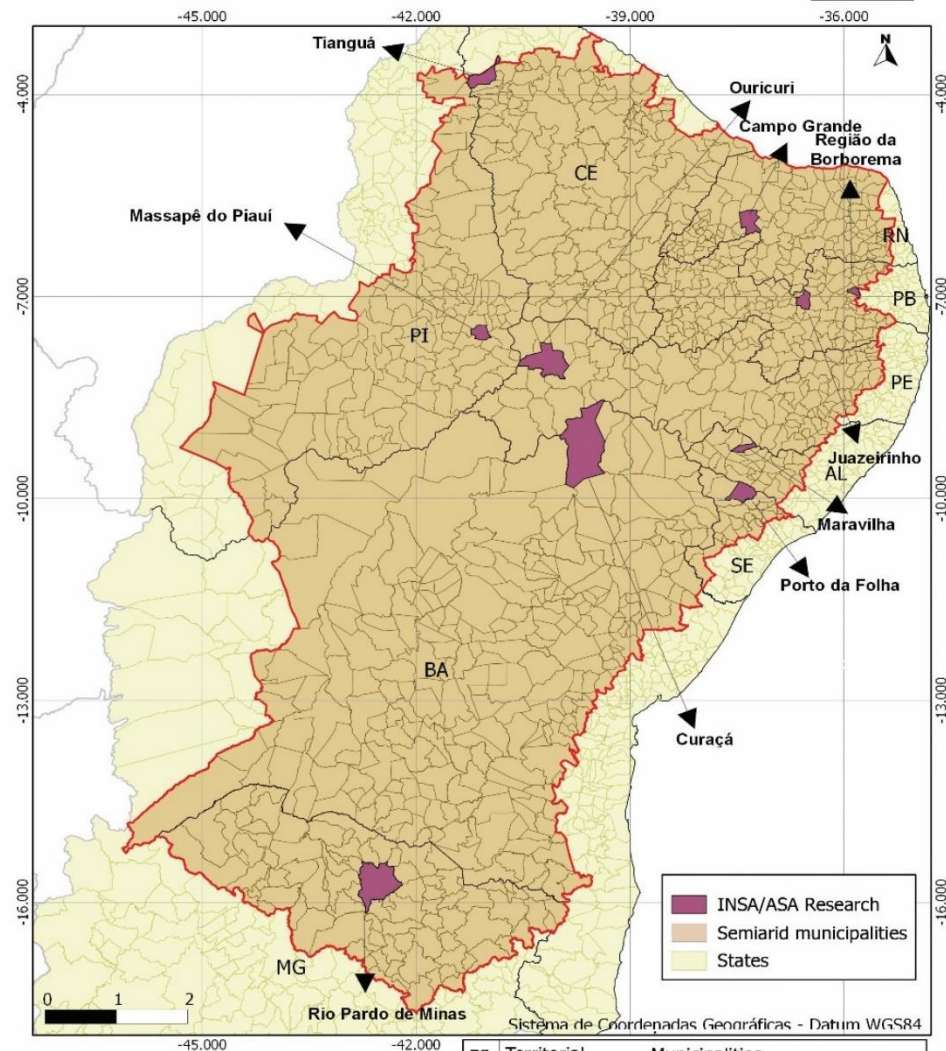


Paulo e Josefa



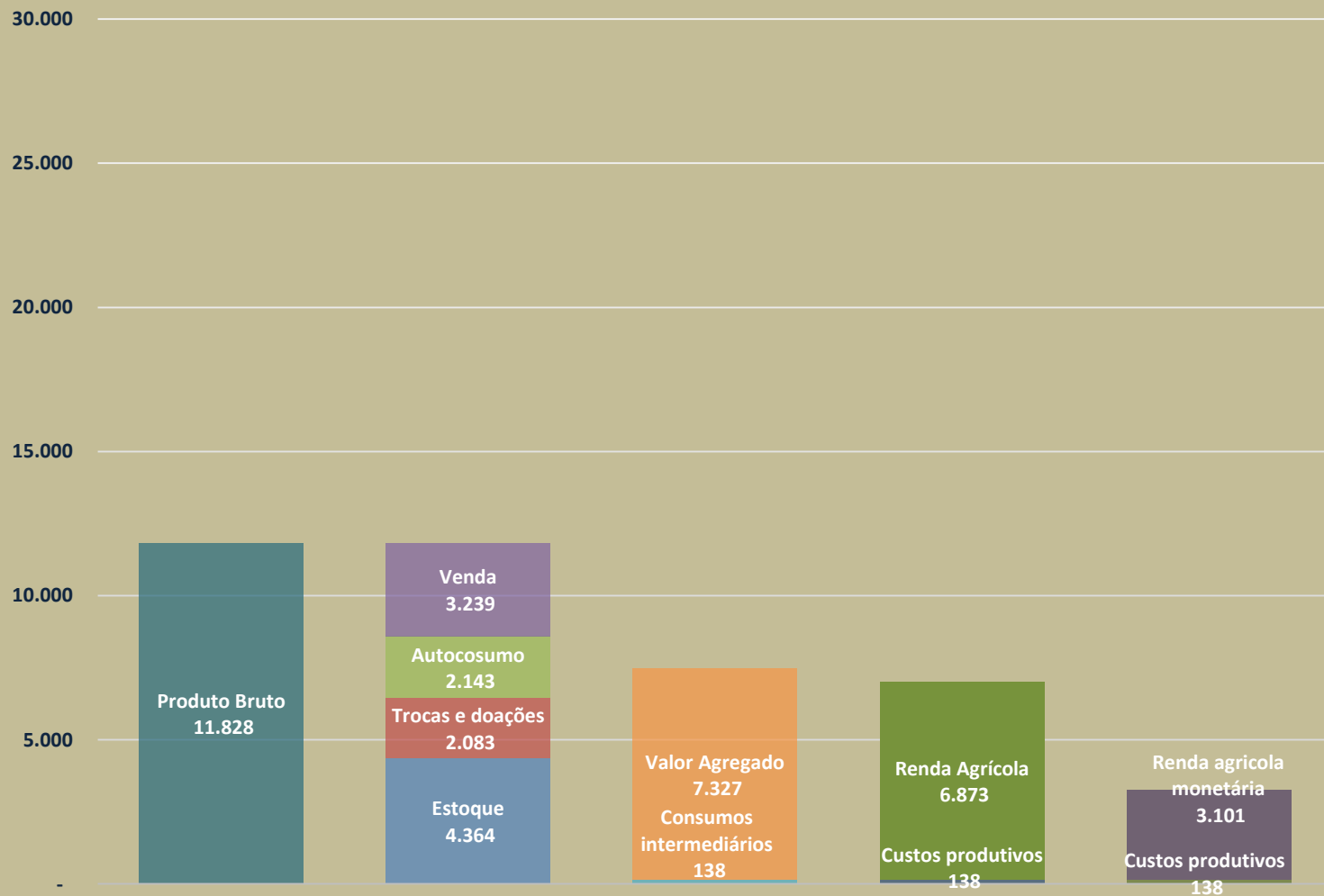
Sistemas Agrícolas Familiares Resilientes a Eventos Ambientais Extremos no Contexto do Semiárido Brasileiro: alternativas para enfrentamento aos processos de desertificação e mudanças climáticas
PESQUISA ASA-INSa

Análises comparativas de agroecossistemas Com e Sem o P1+2

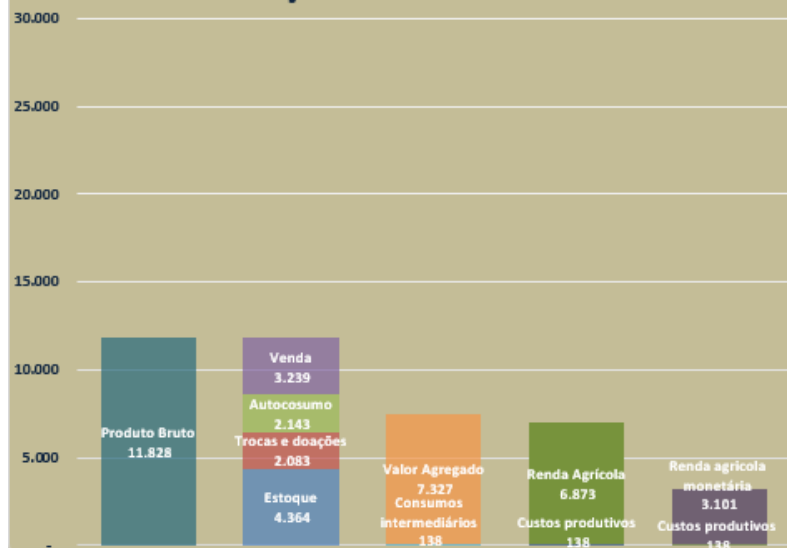


FS	Territorial Management Units (UGT)	Municipalities
PE	CHAPADA	OURICURI
PI	CARITAS - PI	MASSAPÉ DO PIAUÍ
SE	CDJBC	PORTO DA FOLHA
PB	AS-PTA/PATAC	BOBOREMA/JUAZEIRINHO
RN	SERTÃO VERDE	CAMPO GRANDE
AL	CDECMA	MARAVILHA
BA	IRPAA	CURAÇÁ
MG	CAA	RIO PARDO DE MINAS
CE	ESPAF	TIANGUÁ

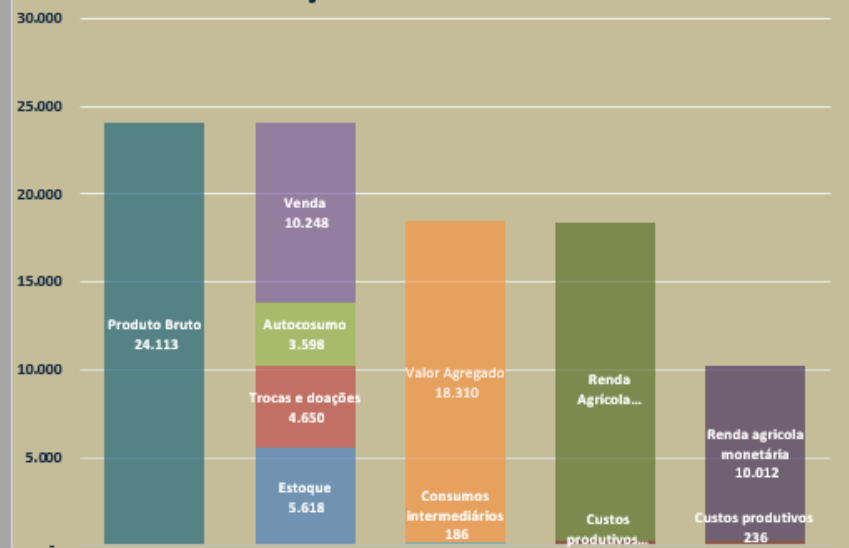
COMPOSIÇÃO DAS RENDAS SEM P1+2



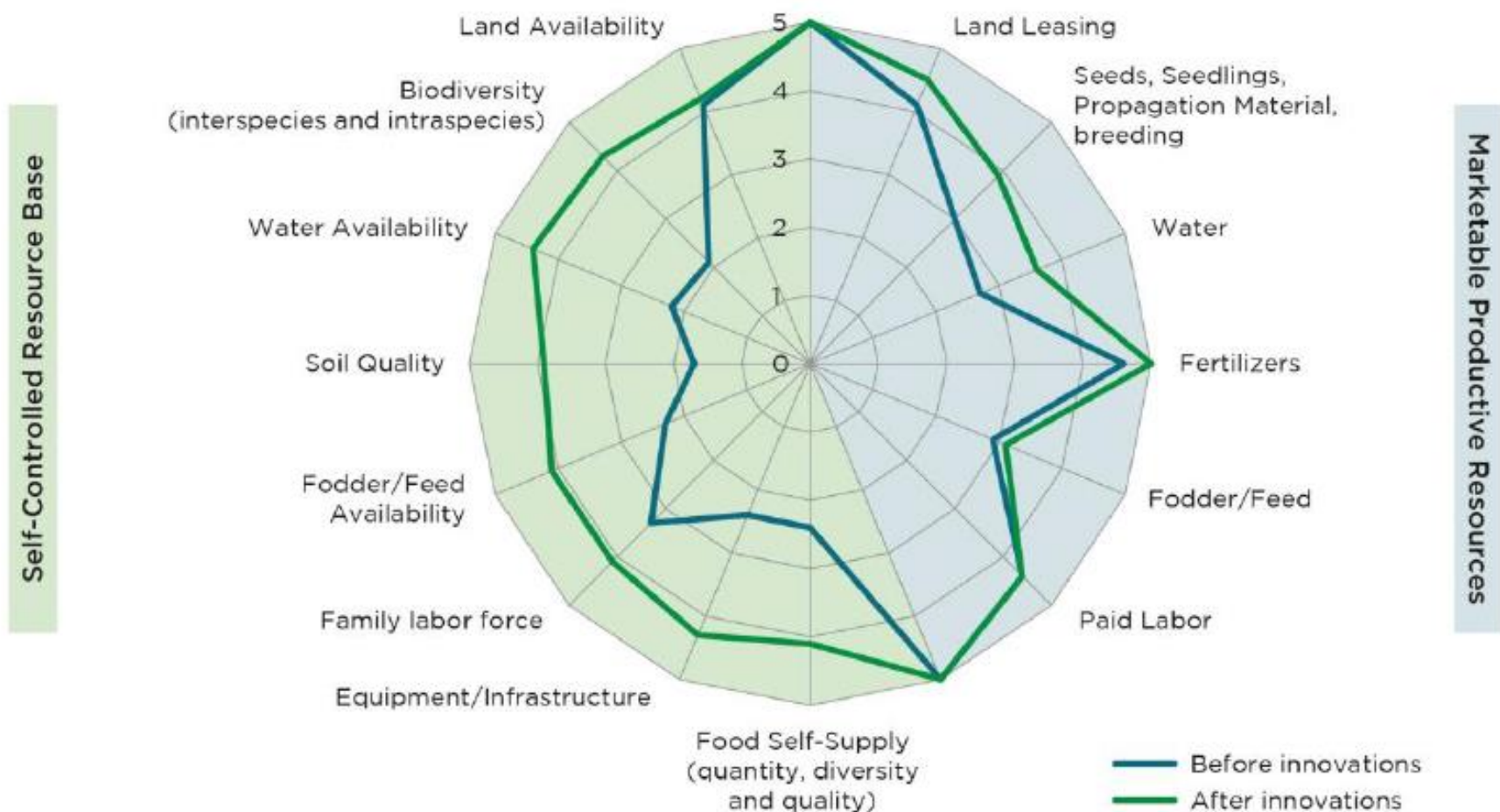
COMPOSIÇÃO DAS RENDAS SEM P1+2



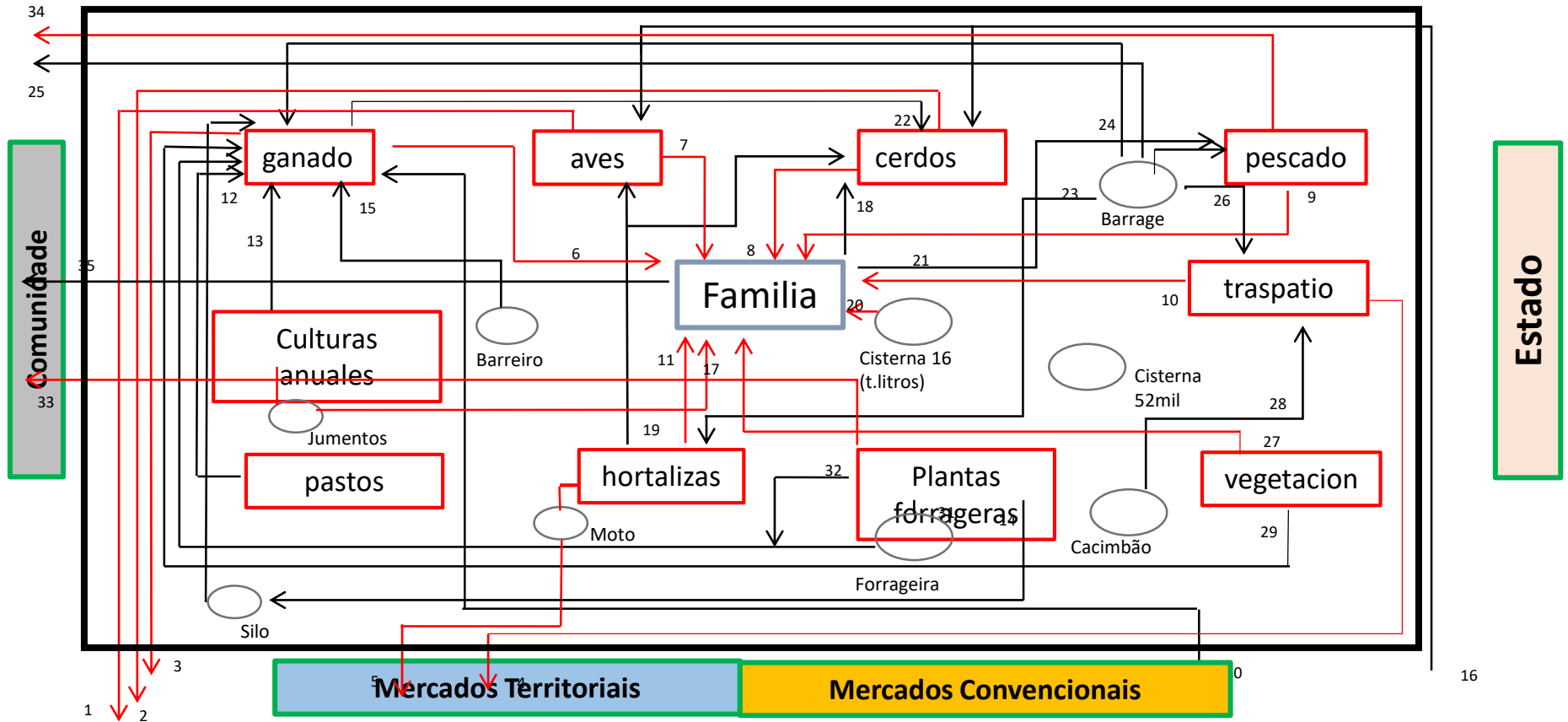
COMPOSIÇÃO DAS RENDAS COM P1+2



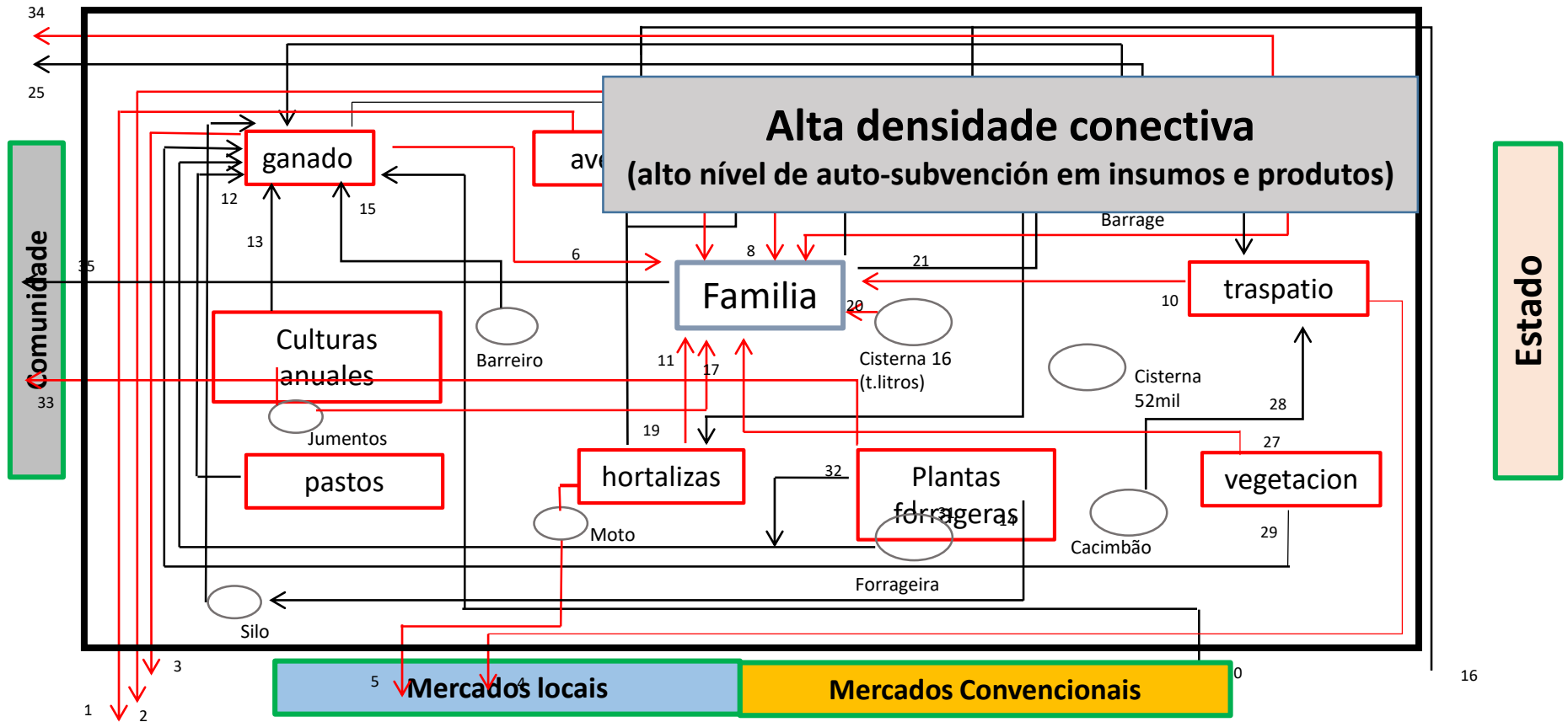
Representação gráfica dos parâmetros relacionados à autonomia de dez agroecossistemas do semiárido brasileiro em dois momentos de suas trajetórias



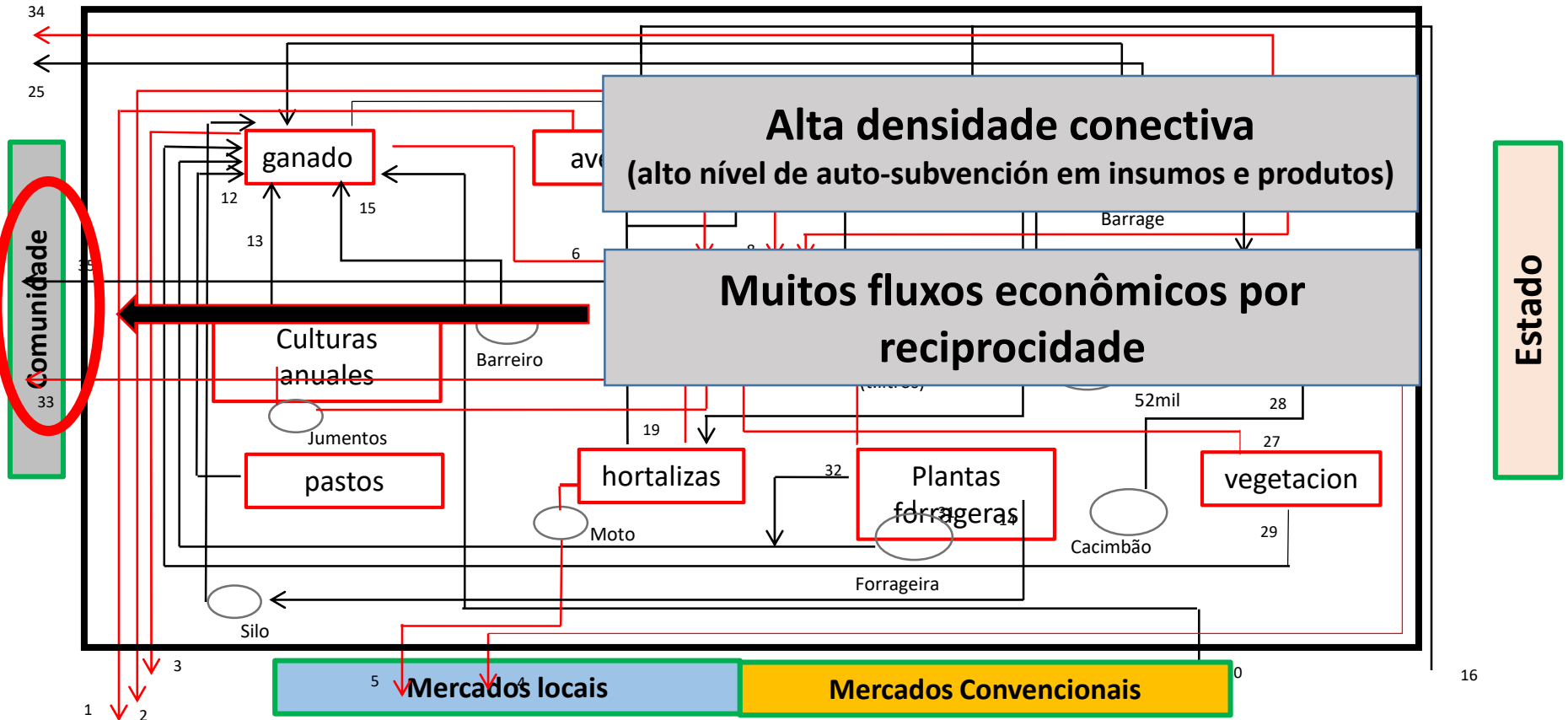
Fluxos de Insumos e Produtos



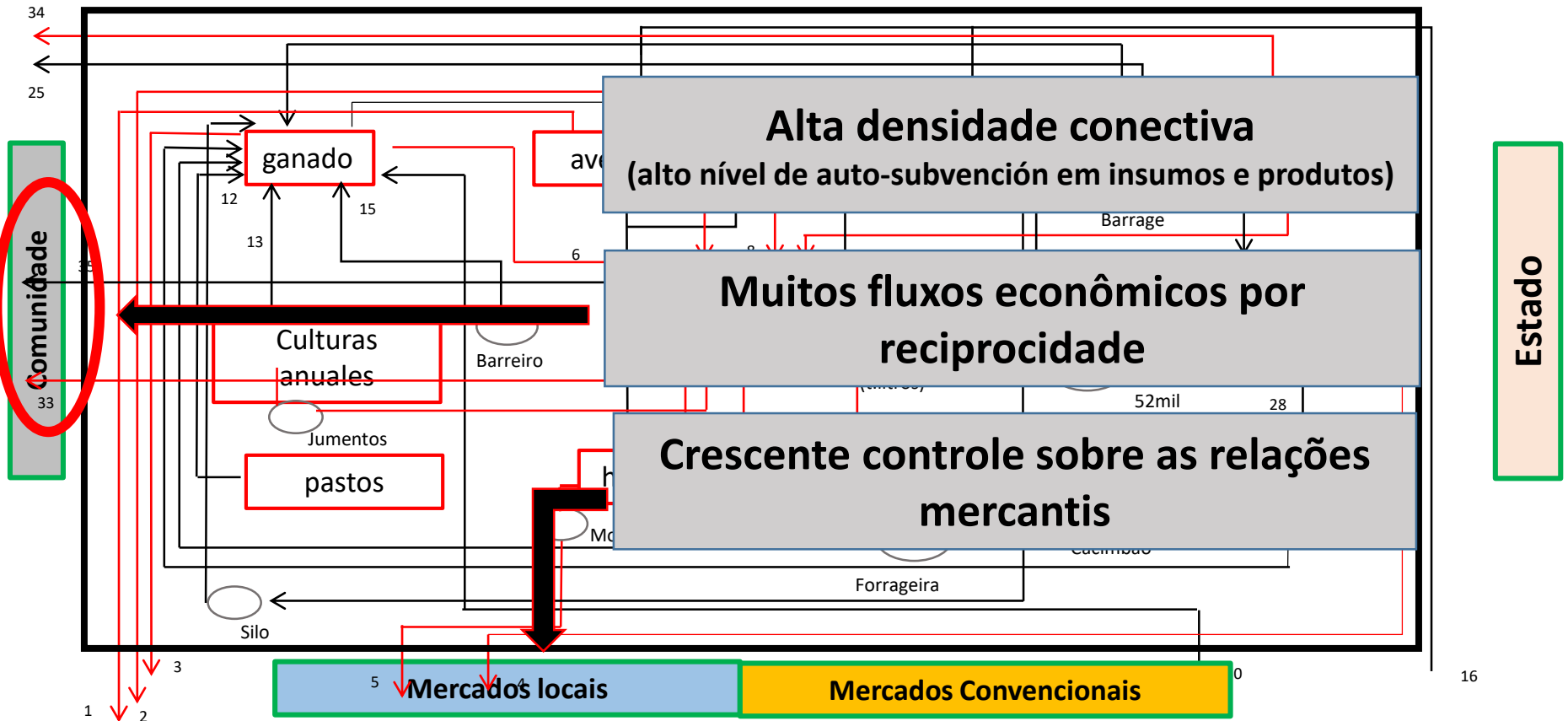
Fluxos de Insumos e Produtos



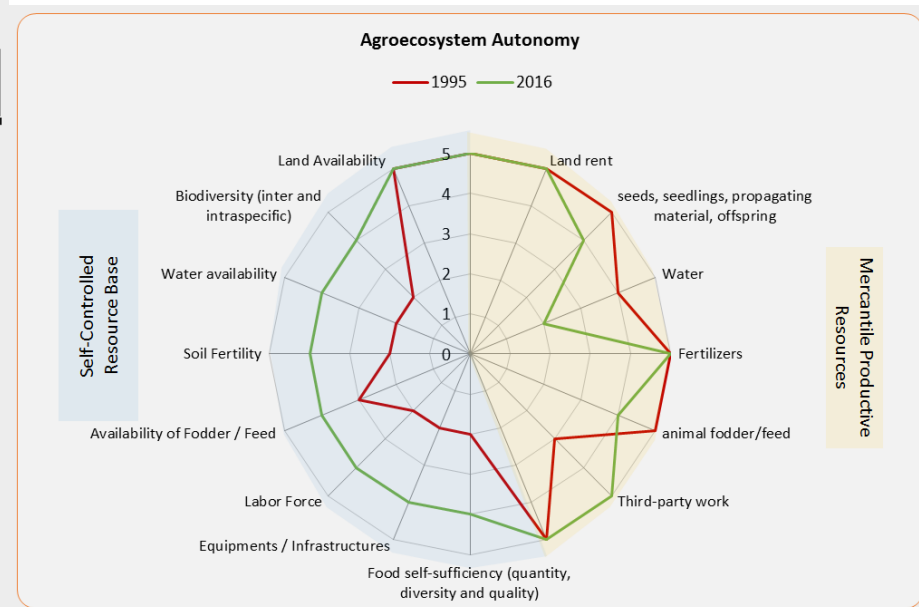
Fluxos de Insumos e Produtos



Fluxos de Insumos e Produtos

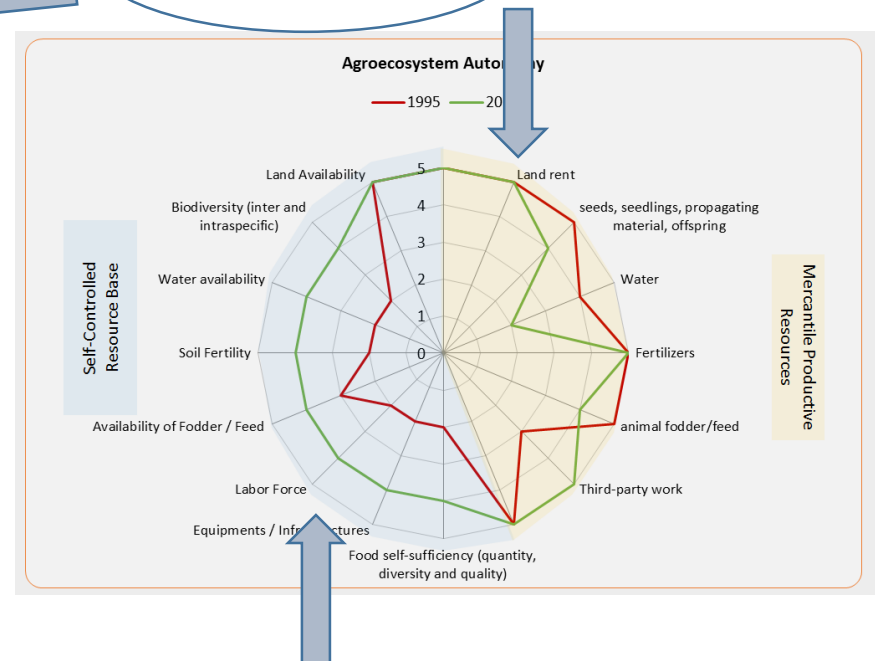


Attribute: Autonomy of Agroecosystem					
Parameters		Reference Year	Current year	Changes / innovations in the period	Justificative
		1995	2016		
Mercantile Productive Resources	Land rent	5	5	-	Always had a great extension of land. The brothers looked at and left the family with even greater availability of land for work.
	seeds, seedlings, propagating material, offspring	5	4	Planting of vegetables	He always produced his own seeds, including offsprings. He started to buy vegetable seeds
	Water	4	2	Significant increase in herd size (cattle and sheep)	Although it has increased the infrastructure for water storage, it had to acquire water in the dry year in Kaprubesi, but that was in relation to the previous year.
	Fertilizers	5	5	-	Never bought fertilizers
	animal fodder/feed	5	4	Significant increase in herd size. Introduction of silage, palm field, gliricidia and other forage species.	Need to purchase in the year of drought to maintain the cattle herd (palm and bran)
	Third-party work	3	5	Decrease in crop size (almost half the establishment was cultivated). He stopped	Decreased demand for labor for the plantations. Great mobilization of work by reciprocity
Self-Controlled Resource Base	Food self-sufficiency (quantity, diversity and quality)	2	4	Vegetables, fruits, meat, eggs,	Increase in the diversity of foodstuffs, with consumption of fruits and vegetables and greater consumption of animal products.
	Equipments / Infrastructures	2	4	Fence, silo, greenhouse, cistern boardwalk, cistern of house, barreiro, compost, individual and	Significant increase in infrastructures (fertility mediators). The fencing of the establishment is essential for a family to take control
	Labor Force	2	4	Intensive and continuous participation in training activities. Greater participation in mutual aid	Qualitative increase of family work + great mobilization of work through reciprocity
	Availability of Fodder / Feed	3	4	Gliricidia, palm, pumpkin, silage	Before there was great availability of grazing area. Significant increase in the volume and quality of forage biomass. Increase in volumes of
	Soil Fertility	2	4	Increase in number of animals. compost, Reject of the biodigestor, planting of leguminous plants	Significant increase in the volume of manure produced and improvement in manure management. Planting trees, including nitrogen-fixing
	Water availability	2	4	Construction of small dam (barreiro), house cistern and runoff, expansion of the stone tank	Expansion of infrastructures for capturing and storing water in good quality. It intends to continue expanding to increase water
	Biodiversity (inter and intraspecific)	2	4	Agroecological potato, resistant palm, forest seedlings, fruit trees, live fence trees, greenery	With the formations and exchanges, genetic materials and associated knowledge were accessible, including management techniques.
	Land Availability	5	5	-	Didn't buy or sell land
Index of Autonomy (0-1)		0,67	0,83		



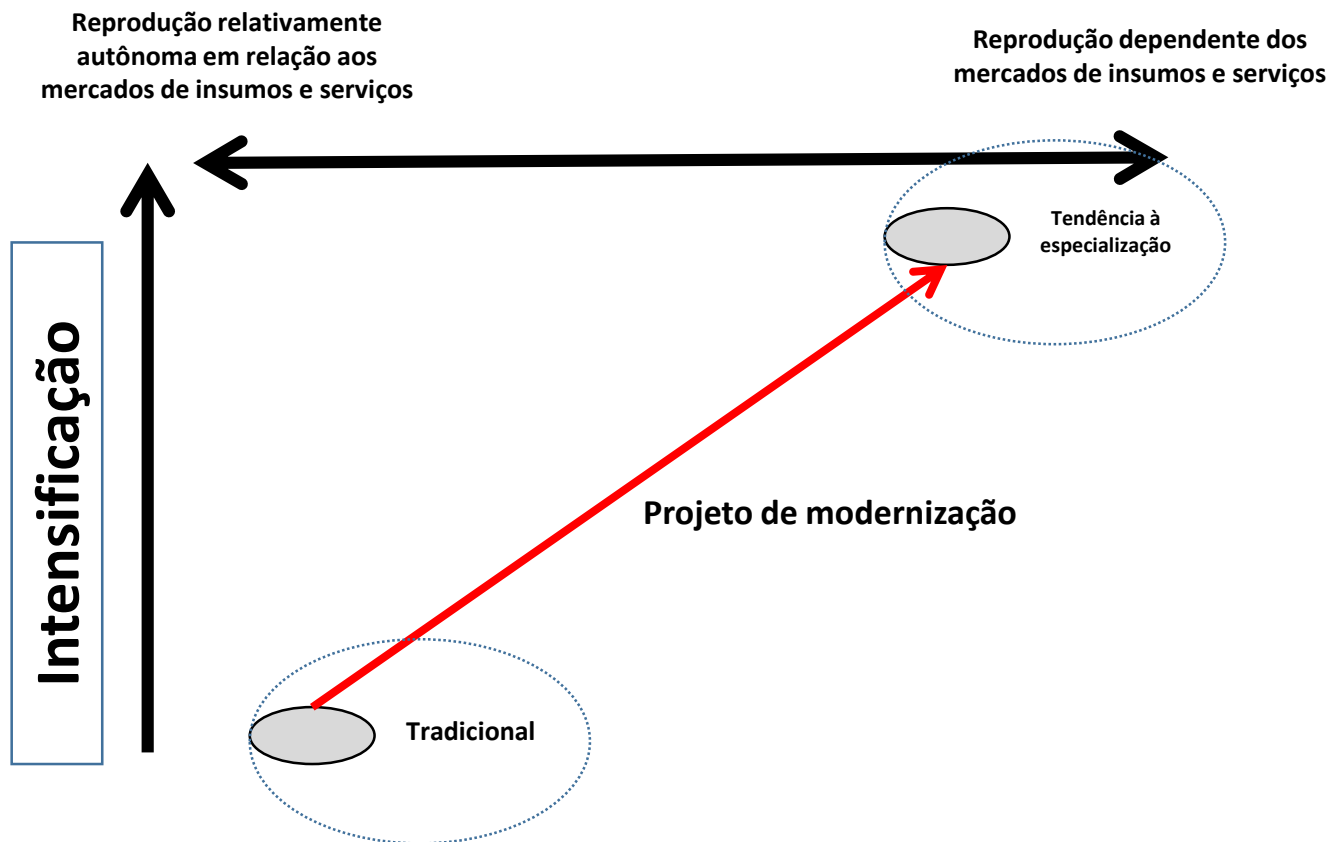
Attribute: Autonomy of Agroecosystem					
Parameters		Reference Year 1995	Current year 2016	Changes / innovations in the period	Justificative
Mercantile Productive Resources	Land rent	5	5	-	Always had a great extension of land. The brothers looked at selling land.
	seeds, seedlings, propagating material, offspring	5	5	-	Always had a great extension of land. The brothers looked at selling land.
	Water	4	2	Significant increase in herd size (cattle and sheep)	Although it has increased the infrastructure for water storage, it had to acquire water in the dry year in keeping the herd that was in relation.
	Fertilizers	5	5	-	Never bought fertilizers
	animal fodder/feed	5	4	Significant increase in herd size. Introduction of silage, palm field, gliricidia and other forage species	Need to purchase in the year of drought to maintain the cattle herd (palm and bran)
	Third-party work	3	5	Decrease in crop size (almost half the establishment was cultivated). He stopped	Decreased demand for labor for the plantations. Great mobilization of work by reciprocity
Self-Controlled Resource Base	Food self-sufficiency (quantity, diversity and quality)	2	4	Vegetables, fruits, meat, eggs.	Increase in the diversity of foodstuffs, with consumption of fruits and vegetables and greater consumption of animal products.
	Equipments / Infrastructures	2	4	Fence, silo, greenhouse, cistern boardwalk, cistern of house, barreiro, compost, individual and intensive and continuous participation in training activities. Greater participation in mutual aid	Significant increase in infrastructures (fertility mediators). The fencing of the establishment is essential for a family to take control
	Labor Force	2	4	Gliricidia, palm, pumpkin, silage	Qualitative increase of family work + great mobilization of work through reciprocity
	Availability of Fodder / Feed	2	4	Gliricidia, palm, pumpkin, silage	Before there was great availability of grazing area. Significant increase in the volume and quality of forage biomass. Increase in volumes of manure produced and improvement in its management.
	Soil Fertility	2	4	Planting of the biofixing of leguminous species (barreiro), house cistern and runoff, expansion of the stone tank	Significant increase in the volume of manure produced and improvement in its management. Planting of the biofixing of leguminous species (barreiro), house cistern and runoff, expansion of the stone tank
	Water availability	2	4	Agroecological potato, resistant palm, forest seedlings, fruit trees, live fence trees, greenery.	With the formations and environmental knowledge were accessible, including management techniques.
	Biodiversity (inter and intraspecific)	2	4	Agroecological potato, resistant palm, forest seedlings, fruit trees, live fence trees, greenery.	With the formations and environmental knowledge were accessible, including management techniques.
	Land Availability	5	5	-	Didn't buy or sell land
Index of Autonomy (0-1)		0,67	0,83		

Autonomia em relação a ...



Autonomia para...

Trajetórias de Inovação da Agricultura Familiar



Productivity

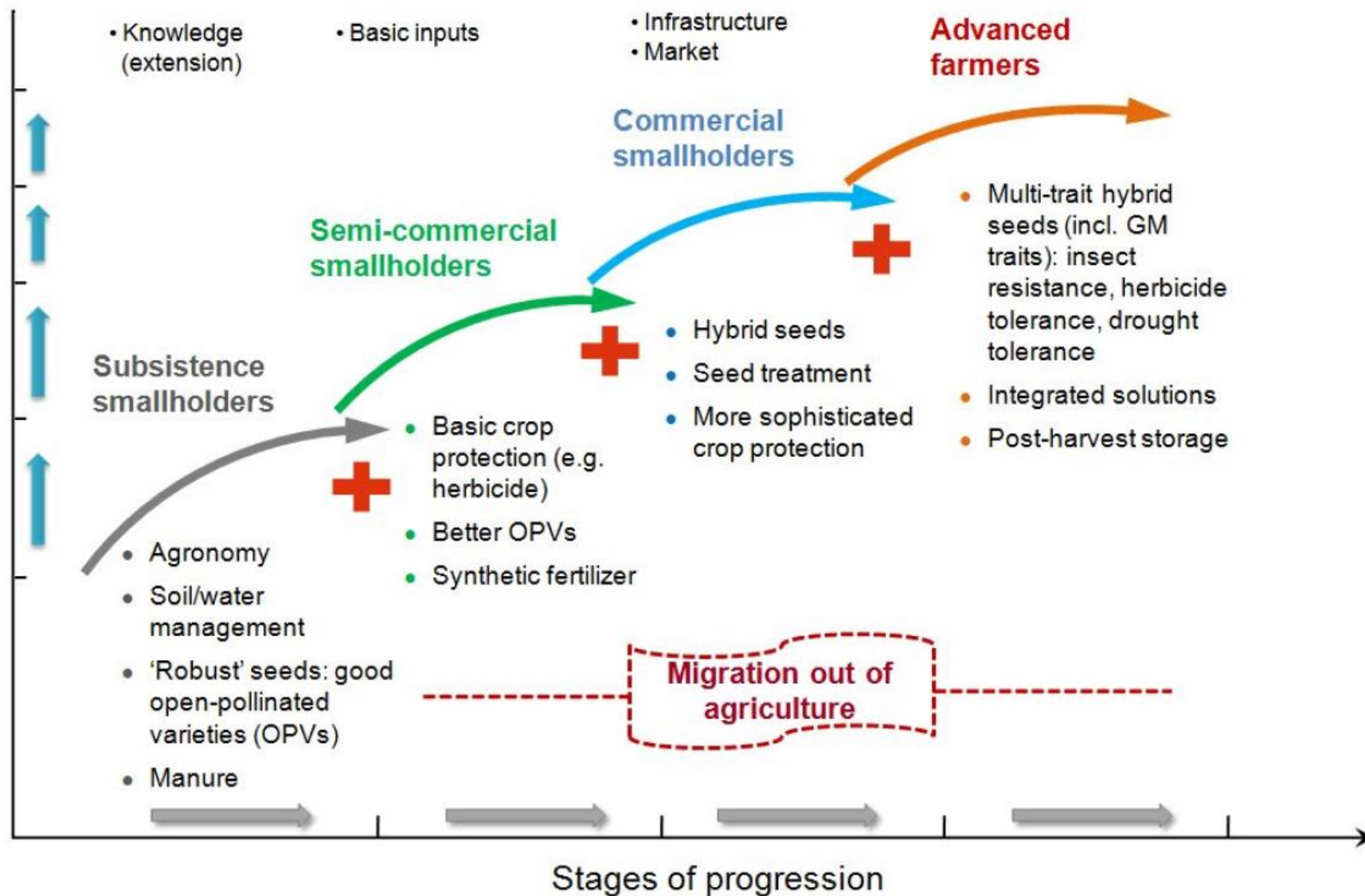


Fig. 2 Additive stages of agricultural intensification

Productivity

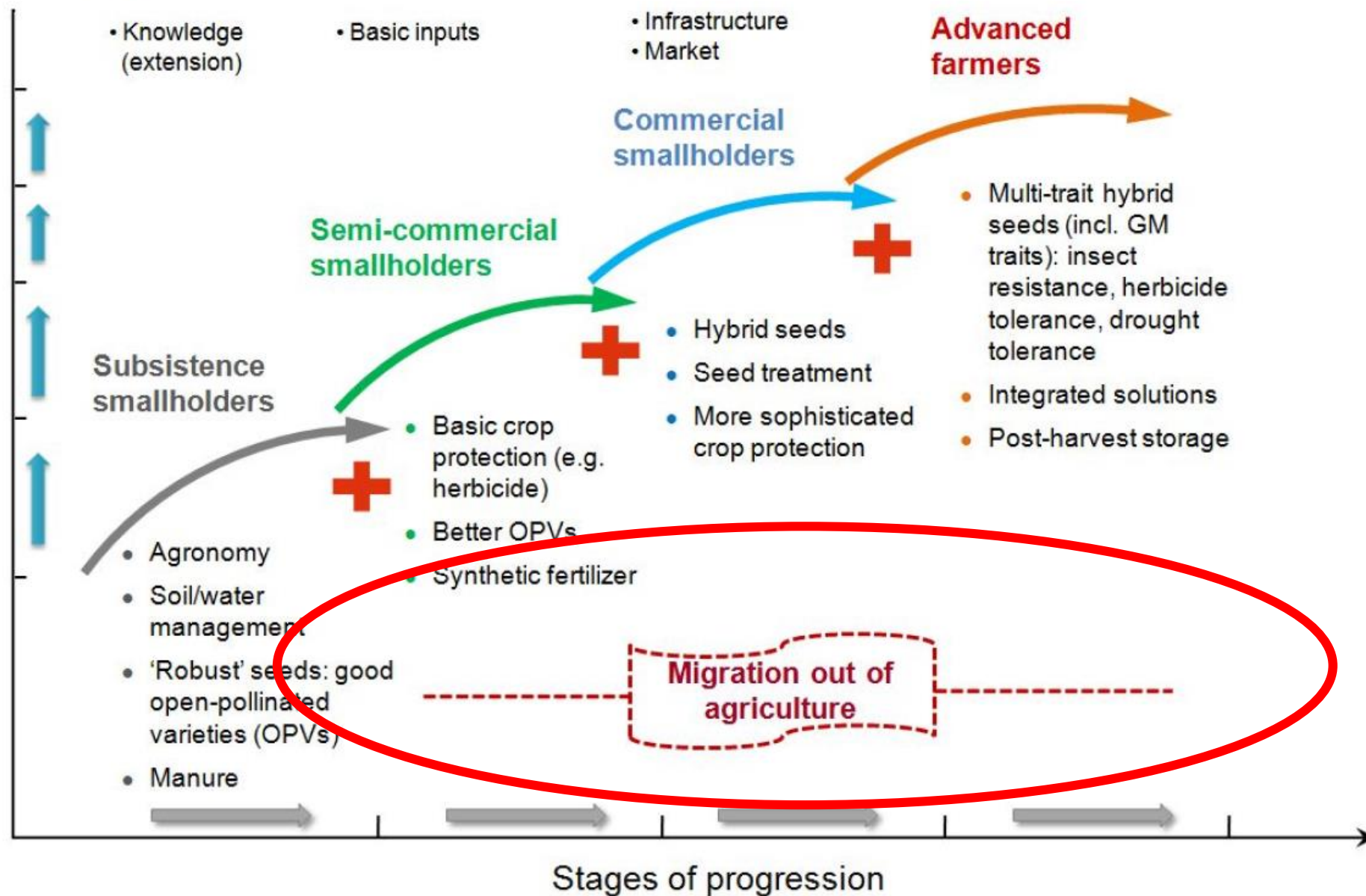
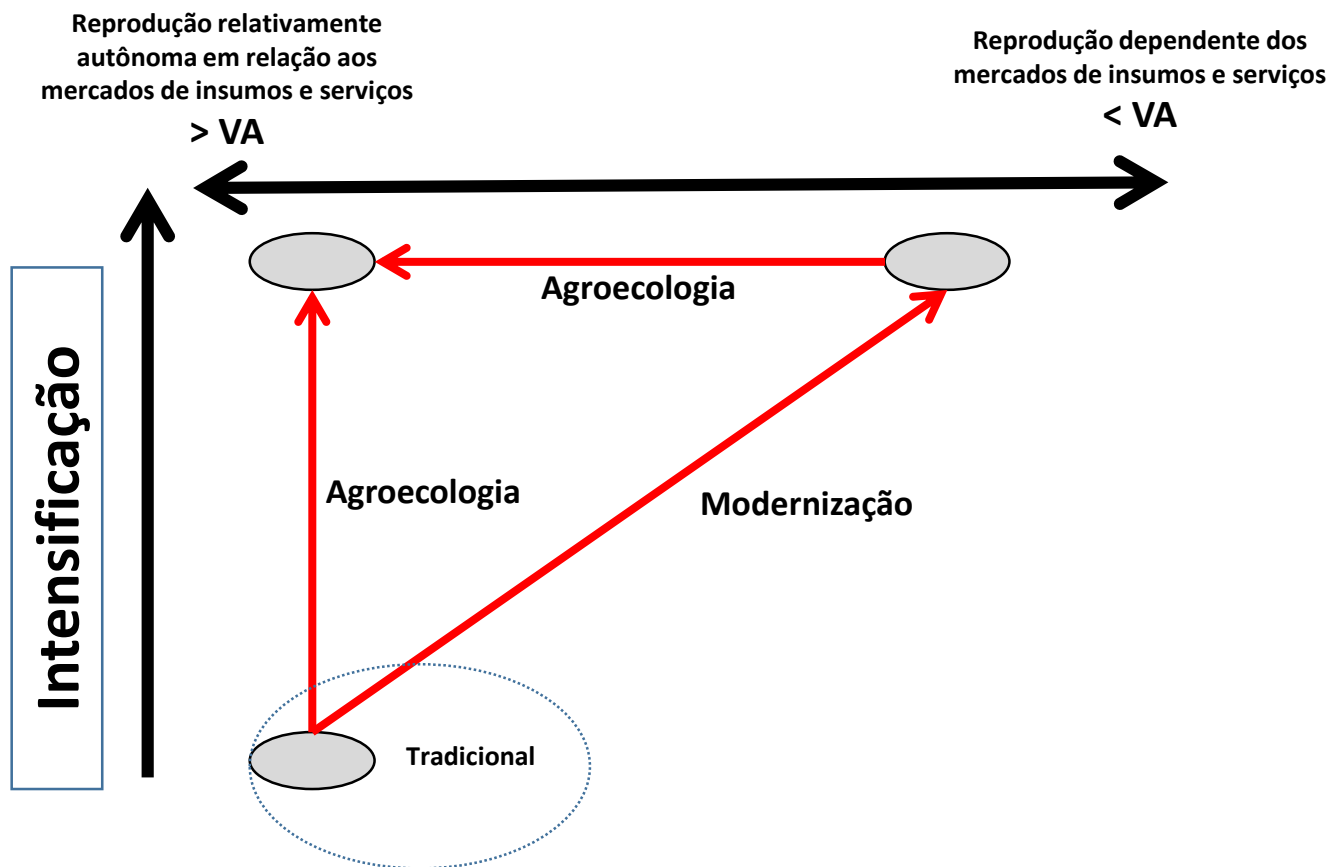
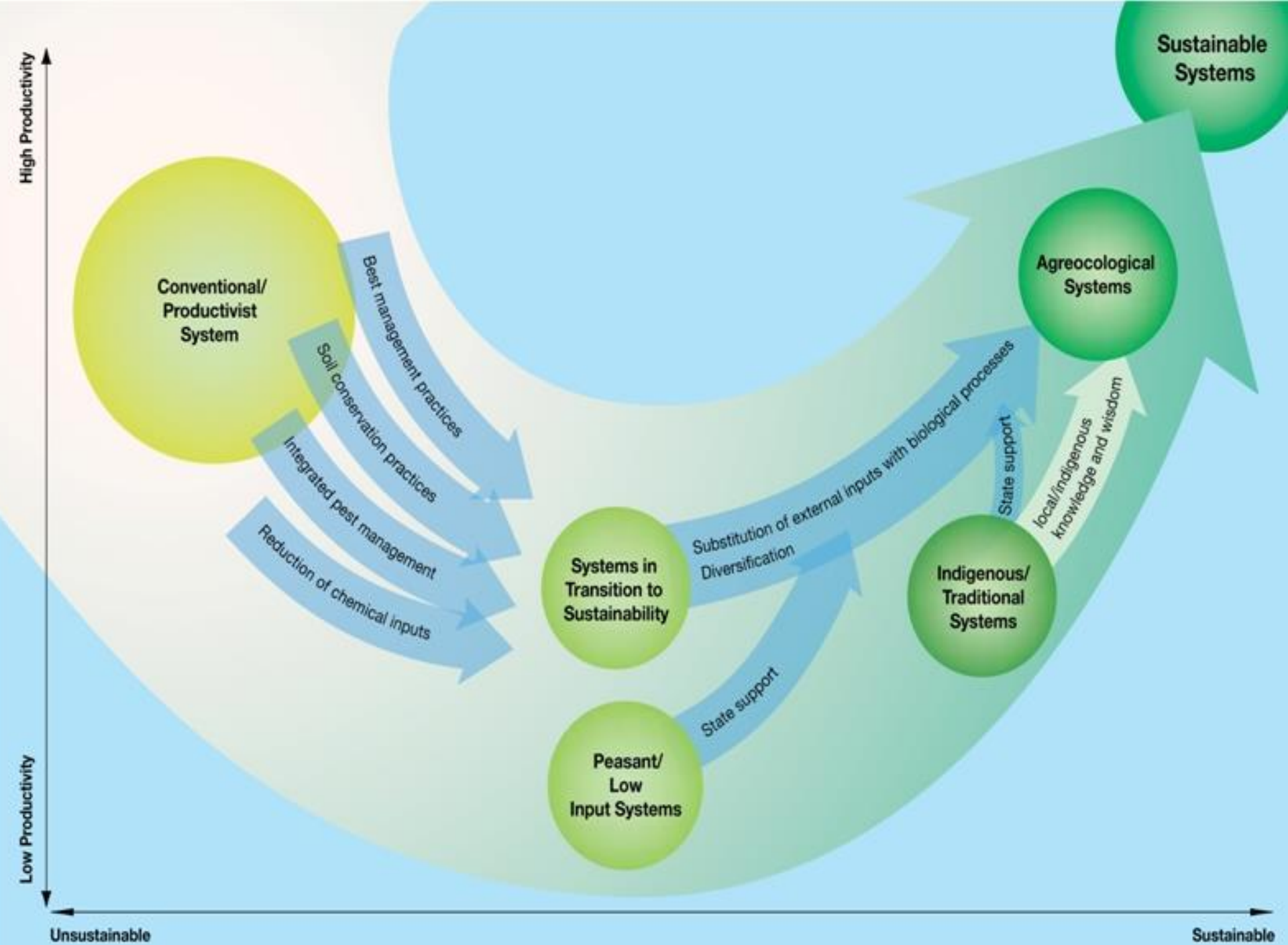
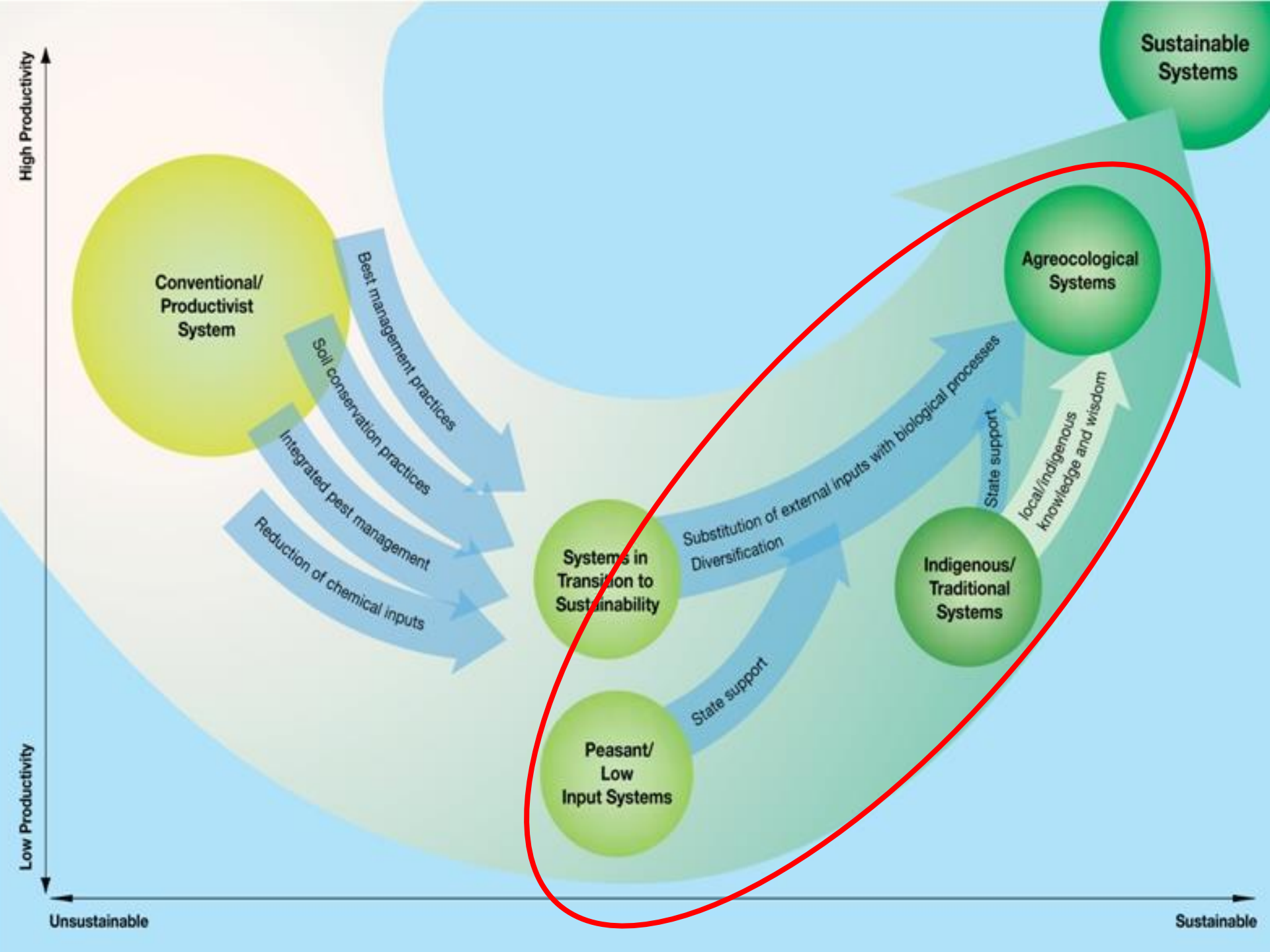


Fig. 2 Additive stages of agricultural intensification

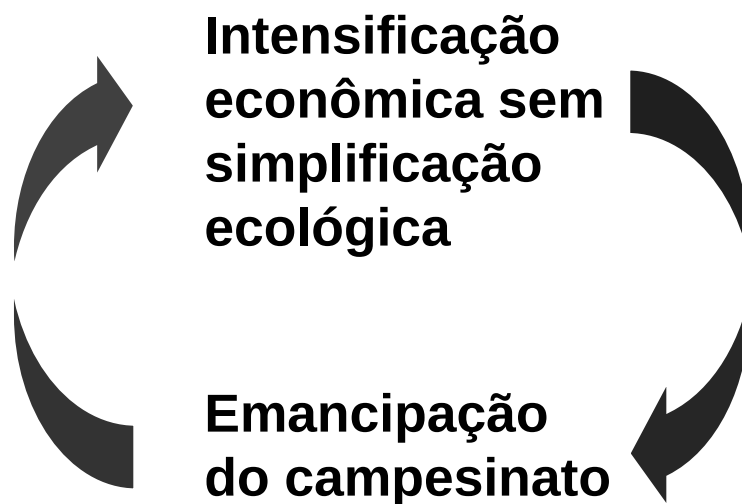
Trajetórias de Inovação da Agricultura Familiar







Inovação Agroecológica



Mas.... é necessário “espaço” para a inovação camponesa

Espaço

- Físico (ecológico)
- Econômico
- Político e ideológico (reconhecimento social)

Oportunidades

- Portadora de soluções efetivas para críticos desafios da sociedade
- Inovação camponesa como força de transformadora, a partir do enraizamento em territórios concretos

LANÇAMENTO

Redes

REDES DE AGROECOLOGIA PARA
O DESENVOLVIMENTO DOS TERRITÓRIOS
APRENDIZADOS DO PROGRAMA ECOFORTE

SUMÁRIO EXECUTIVO



ARTICULAÇÃO
NACIONAL DE
AGROECOLOGIA

05/11

18h30

AUDITÓRIO DA
REITORIA DA UFS

06/11

09h

SALA 102
DID. V

Disponível em:

https://agroecologia.org.br/wp-content/uploads/2019/11/Sumario_Executivo_Redes_Ecoforte_WEB.pdf

XI CBA Congresso Brasileiro de Agroecologia

Ecologia de Saberes:
Ciência, Cultura
e Arte na Democratização
dos Sistemas
Agroalimentares.

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NOVEMBRO
2019



Anterior

Próximo

XI CBA: Confira as orientações para apresentação de trabalhos

ORIENTAÇÕES PARA APRESENTAÇÕES DE TRABALHOS

Obrigado

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