

Living the sustainable development: a university permaculture project as an ecosystem service provider

The HortaFCUL case study

INTERNATIONAL CONFERENCE OF FEE ECOCAMPUS

SUPPORTED BY:



15 years of a community project condensed in a case study report

How did we get here?

- Why is this report relevant?
- Research Questions
- Methods and Results
- Thoughts and considerations



Community gardens

Purpose



Interdependence



Resilience



Empowerment

Community gardens



Impact



(Mental) health



Food production



Literacy/Culture

Community gardens



Interest grows...



...but not many well-documented examples in Portugal

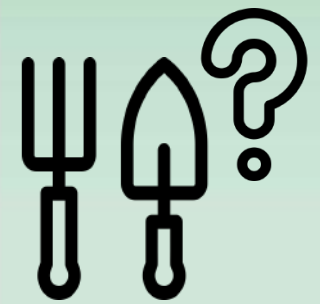


Create scientific support

Community gardens



Interest grows...



...but not many well-documented examples in Portugal

Translate this reality to numbers and quantitative indicators



Create scientific support



Why HortaFCUL?



University of Lisbon's Faculty of Sciences



Almost 15 years of existence

Why HortaFCUL?



University of Lisbon's Faculty of Sciences



Almost 15 years of existence

+ 75 guardians



Why HortaFCUL?



University of Lisbon's Faculty of Sciences



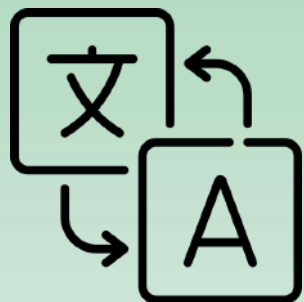
Almost 15 years of existence
+ 75 guardians
5 subprojects at campus



Study background: 1st research question



What is the real **positive impact** of HortaFCUL?



Ecosystem **services**



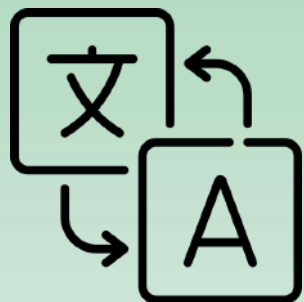
Which ecosystem **services** does HortaFCUL provide to the **local community**?



Study background: 2nd research question



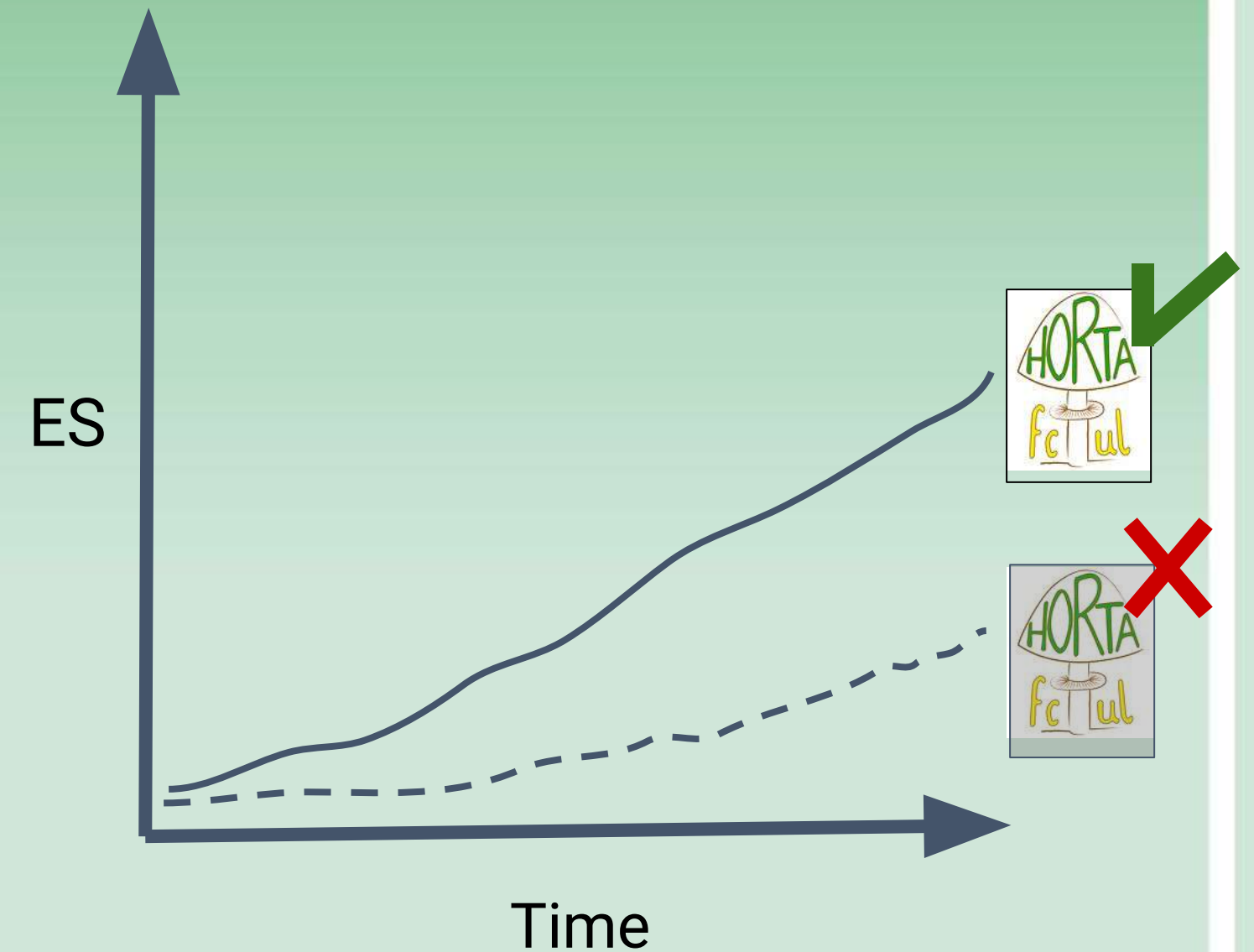
What if HortaFCUL **didn't exist**?



Measure ecosystem services provided by the **faculty** and within **3 Horta's subprojects**



What is the project's **added value**?



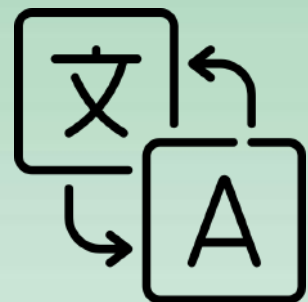
Study background: 2nd research question



What if HortaFCUL **didn't exist**?



Hortinha
15 years



Measure ecosystem services provided by the **faculty** and within **3 Horta's subprojects**

PermaLab
7 years

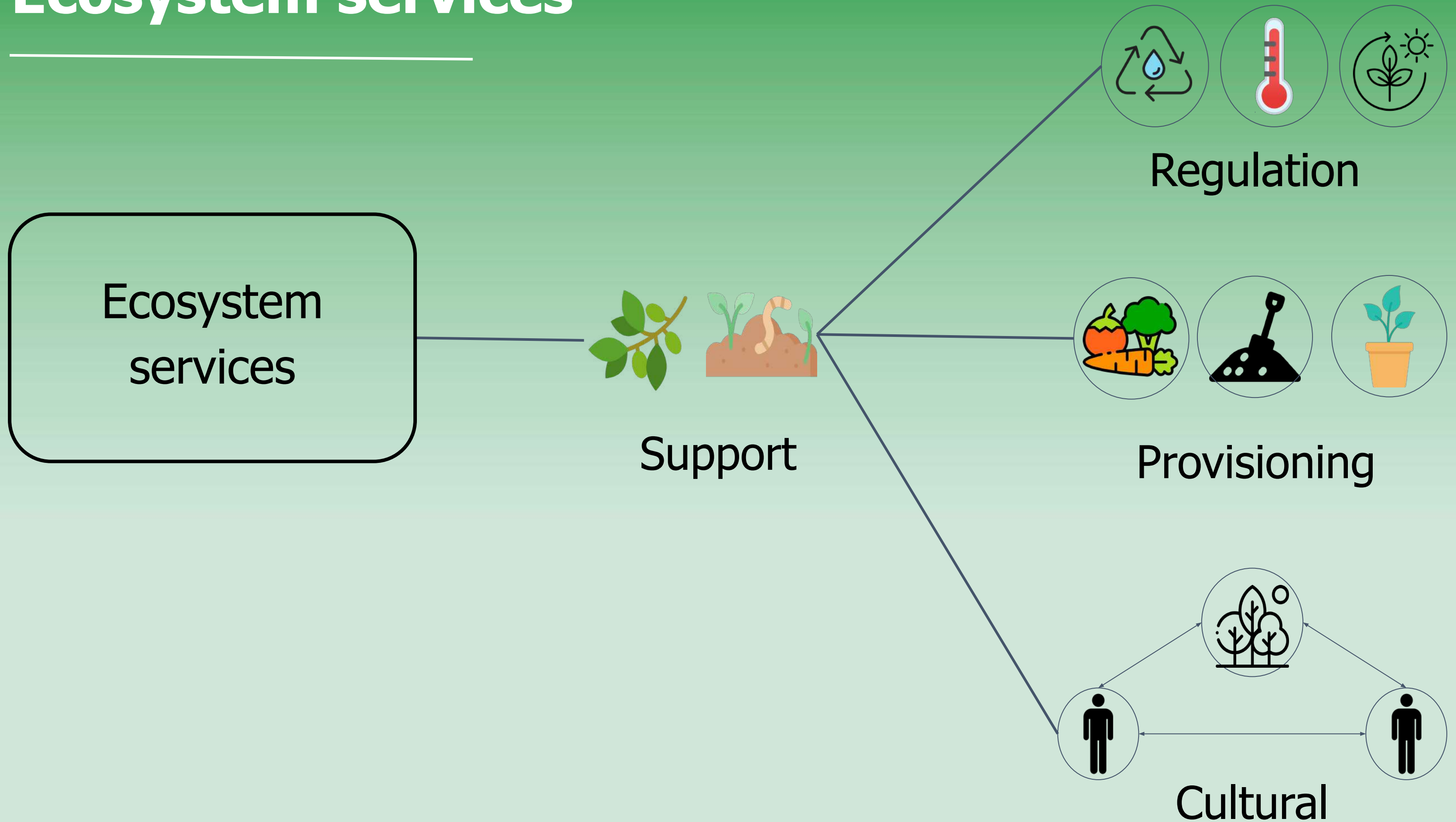


What is the project's **added value** in relation to the **baseline** (campus)?



FCULresta
3 years

Ecosystem services



Selecting quantitative indicators

Cultural services

Education

*Number of participants
in workshops*

Type of ecosystem
service

Group

Indicator



RESULTS

RESULTS Supporting services

Plant species richness: Perennial species

FCUL lawns

FCULresta

PermaLab

Hortinha

Total

80 spp.

Average

1 sp. / 100m²

Total

46 spp.

Average

15 spp. / 100m²

Total

65 spp.

Average

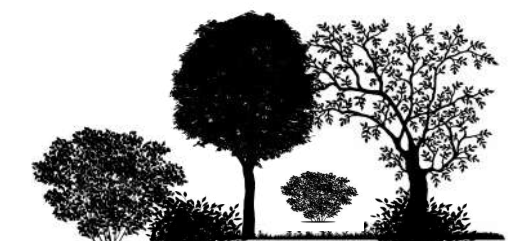
9 spp. / 100m²

Total

61 spp.

Average

36 spp. / 100m²

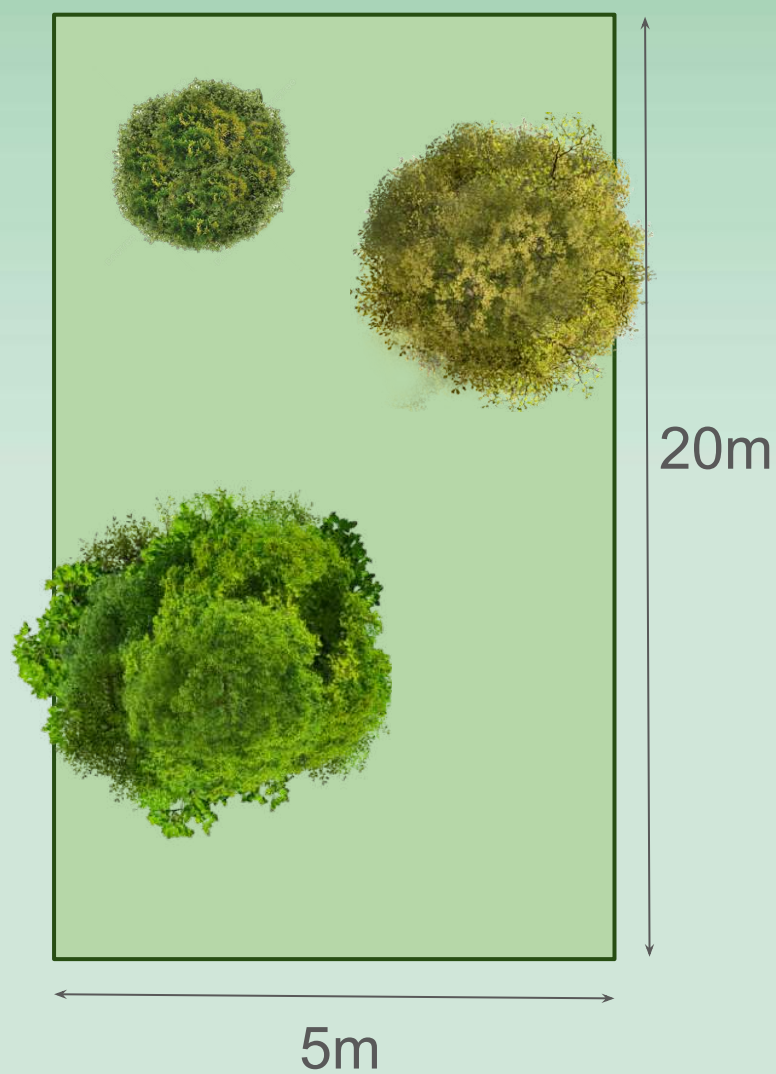


RESULTS Regulation services

Tree cover: Proxy of temperature regulation

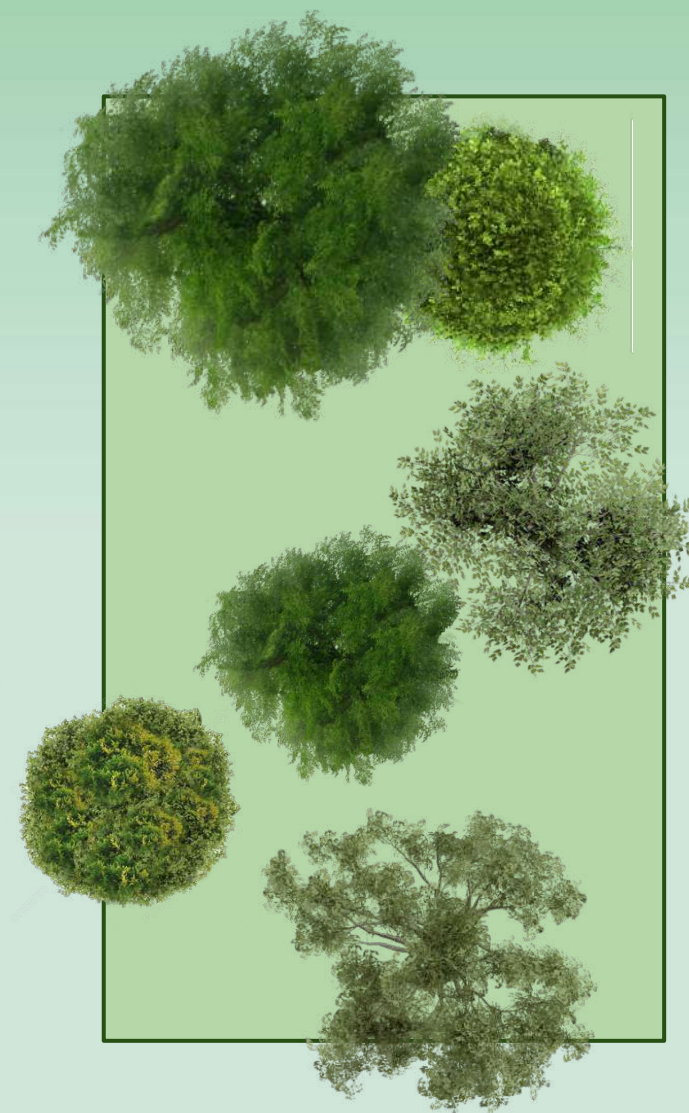
FCUL lawns

45m² trees / 100m²



FCULresta

78m² trees / 100m²



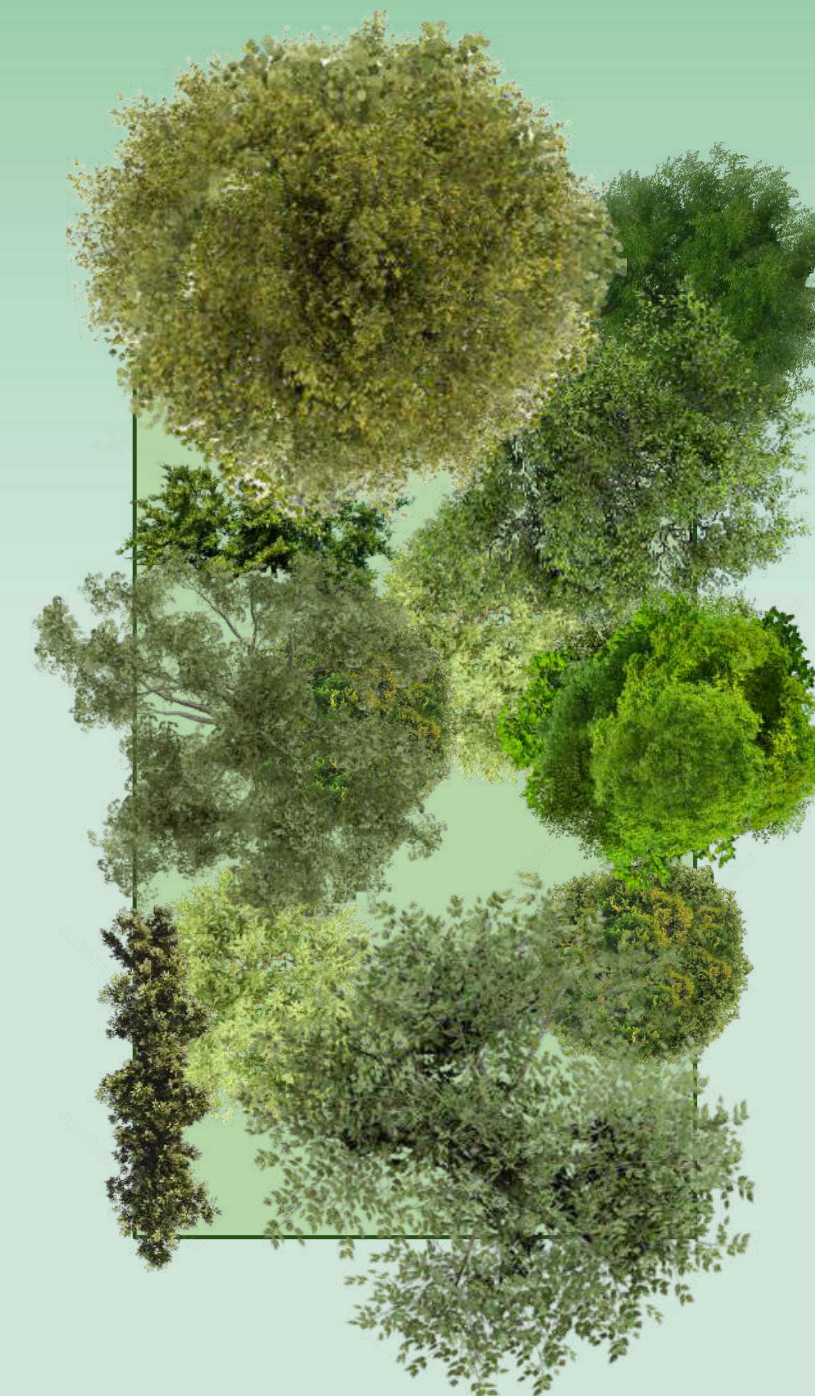
PermaLab (zone4)

126m² trees / 100m²

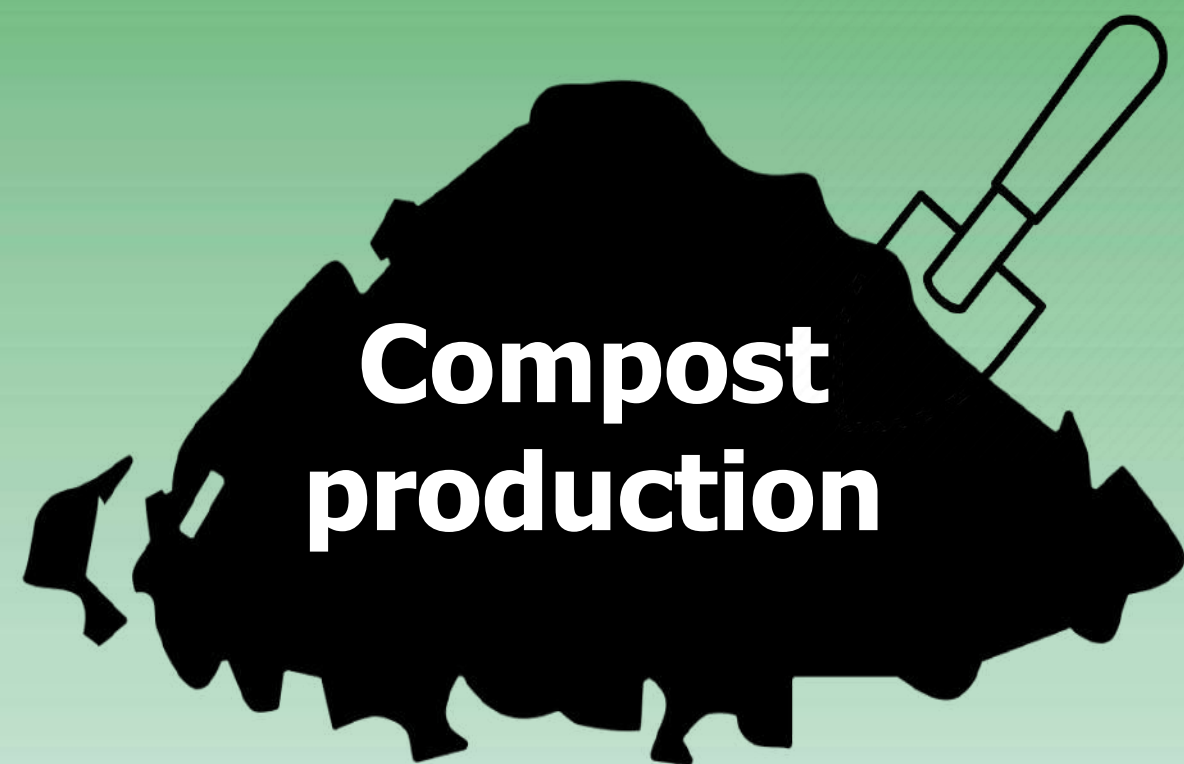


Hortinha

143m² trees / 100m²



RESULTS Provisioning services

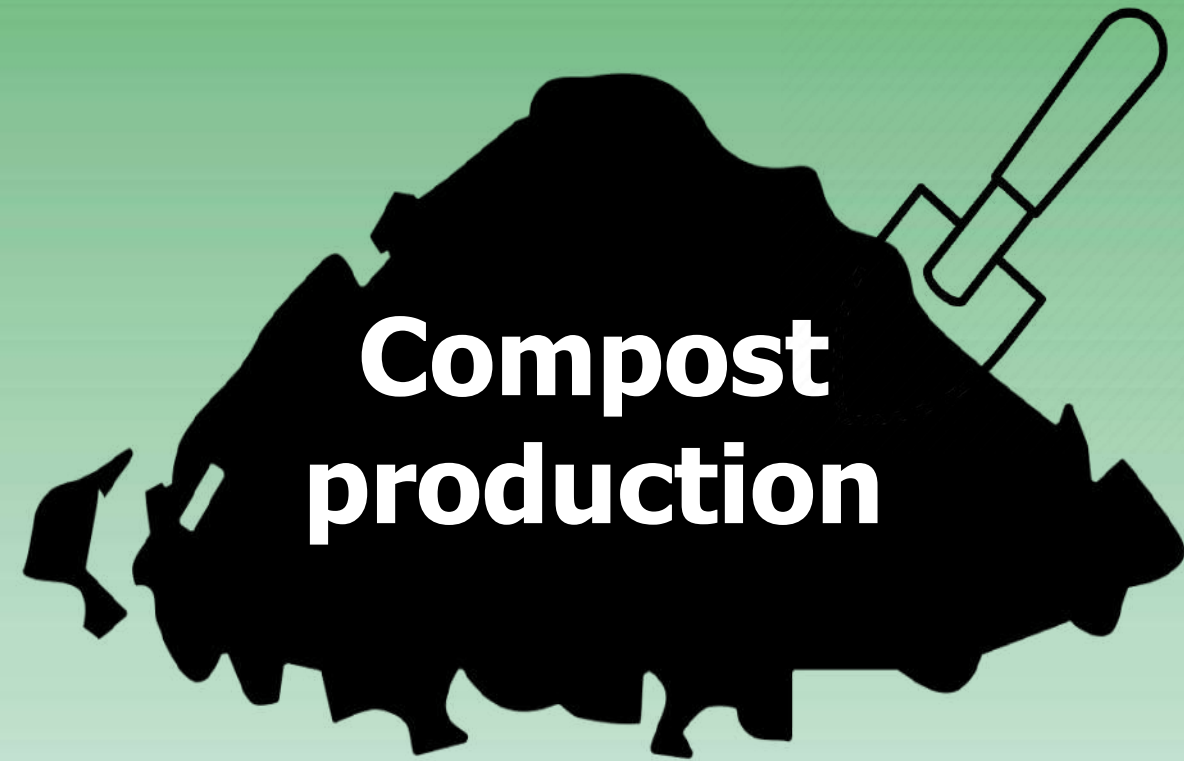


Before HortaFCUL

0 kg

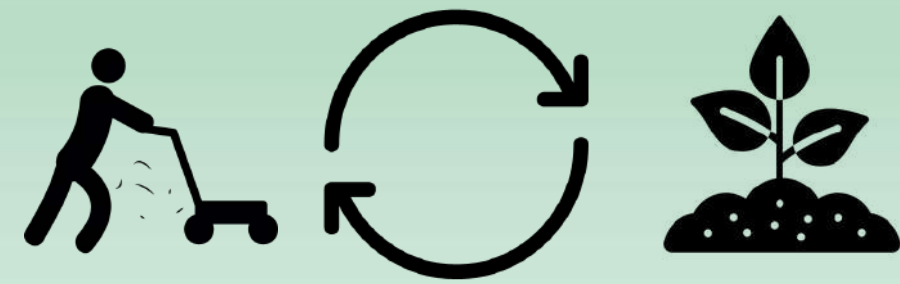


RESULTS Provisioning services



2016 → 2023

47.95 tones



RESULTS Cultural services

Event record: screening Facebook, Email, Whatsapp...

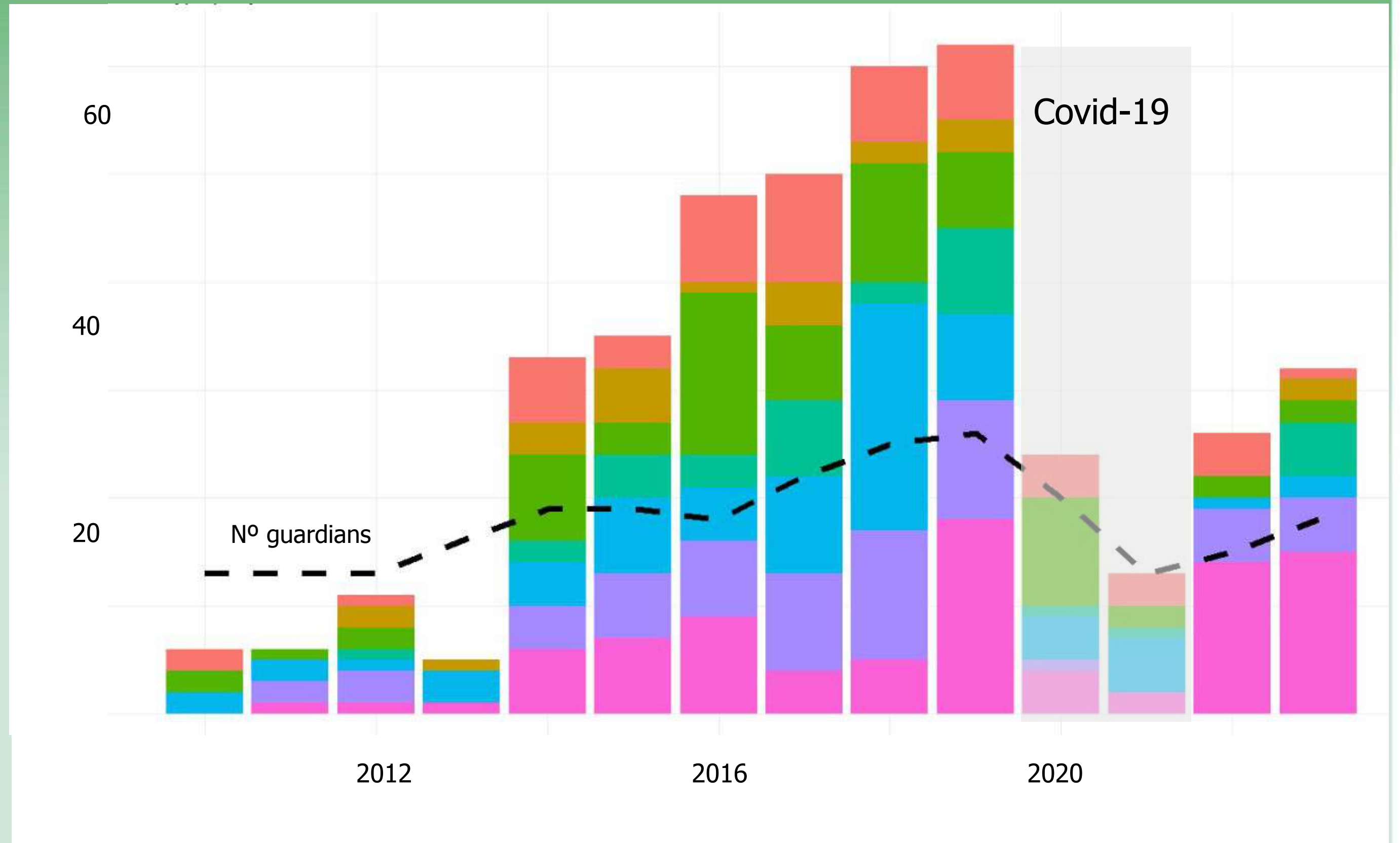
1	2	3	4	5	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
year	month	activity_type	n_partn	location	dist	dist_partne	n_guard	n_guar	n_pai	n_hours	n_day	description	main_partne	School	Media	Community	Project Supj	Constructoi	Rese
2010	1	Talk		1 EPED, Almac	regional	regional	NA	NA	20		3	1 Visita à EPED (Escola Profissional EPED			1	0	0	0	0
2010	1	Talk		1 ES José Afon	regional	regional	NA	NA	80		3	1 Visita à Escola Secundária José Afon	ES José Afons		1	0	0	0	0
2010	3	Article		1 FCUL	campus	campus	1	1	NA NA			1 Entrevista ao IMPROP - Jornal da AEFCL			0	1	1	0	0
2010	4	Partnership		1 Oeiras	regional	regional	NA	NA	NA NA			1 Colaboração na criação da "Horta c Horta de Oeira			0	0	0	1	0
2010	9	Partnership		1 FCUL	campus	campus	2	2	NA NA		NA	Apoio da iniciativa TUF CUL	TUF CUL		0	0	0	1	0
2010	11	Article		1 Hortinha	campus	campus	6	1	10		2	1 Reportagem sobre a HortaFCUL	RTP		0	1	1	0	0
2011	1	Tour		1 Hortinha	campus	campus	NA	NA	NA		2	1 Visita da Iniciativa de Transição em Transição em			0	0	0	1	0
2011	3	Talk		1 Telheiras	local	local	NA	NA	NA		2	1 Apresentação: "Ah! Permacultura E Transição em			0	0	0	0	0
2011	3	Workshop		1 Oeiras	regional	regional	NA	NA	NA		4	1 Exemplo de construção de uma ho Festival 5Elem			0	0	1	0	1
2011	4	Talk		4 FCUL	campus	campus	NA	NA	NA		14	7 Co-organização no evento Abril Cor FCUL, AEFCL			0	0	0	0	0
2011	5	Tour		1 Hortinha	campus	campus	NA	NA	NA		5	1 Dia Aberto FCUL	FCUL		0	0	0	0	0
2011	6	Partnership		1 Telheiras	local	local	NA	NA	NA NA			1 Construção de uma Espiral de Aror Transição em			0	0	0	1	1
2012	1	Talk		1 Hortinha	campus	national	NA	1 NA			2	1 Tertulia Aldeia de Sonho	Aldeia de Sonh		0	0	0	1	0
2012	1	Partnership		1 Hortinha	campus	campus	NA	1 NA			30	30 parceria para aprendizagem	CCIAM		0	0	0	1	0
2012	2	Article		1 Online	online	national	5	1 NA	5 NA		NA	Reportagem na revista LuxWOMAN	LuxWoman		0	1	1	0	0
2012	4	Partnership		1 NA	online	national	NA	NA NA	NA NA		NA	Incriacao como sócios colectivos	Colher para Se		0	0	0	1	0
2012	5	Tour		1 Hortinha	campus	campus	NA	NA NA	NA		5	1 Dia Aberto FCUL	FCUL		0	0	1	0	0
2012	9	Tour		0 Hortinha	campus	NP	3	3 NA	40		4	2 Visita À Horta com os novos alunos	NA		0	0	1	0	0
2012	10	Workshop		0 Hortinha	campus	NP	3	3 NA	12		3	1 Workshop sobre Monda	NA		0	0	1	0	0
2012	10	Tour		0 Hortinha	campus	NP	4	4 NA	10		3	1 Encontro de Biodiversidade	NA		0	0	1	0	0
2012	10	Practics		0 NA	campus	NP	NA	NA NA	NA		NA	Concurso para a criação do logo di		0	0	0	0	0	0
2012	10	Fair		0 FCUL	campus	NP	NA	NA NA			6	1 1ª Feira da HortaFCUL	NA		0	0	1	0	0
2012	10	Party		0 Hortinha	campus	NP	10	10 NA	50		5	1 Festa da Horta	NA		0	0	1	0	0
2012	12	Fair		0 FCUL	campus	NP	7	3 NA			8	1 II F.E.I.R.A. da Horta	NA		0	0	1	0	0
2013	3	Workshop		1 Hortinha	campus	campus	4	4 NA	4		6	2 Workshop sobre Poda	Filipe Maçanico		0	0	0	0	0
2013	3	Talk		1 FCUL	campus	campus	4	1 NA	10		2	1 Tertulia sobre Biomimetismo	TU-FCUL		0	0	0	0	0
2013	3	Talk		0 FCUL	campus	NP	NA	NA NA			2	1 Tertúlias da Horta (Sobre)Vivência"		0	0	0	0	0	0
2013	5	Party		0 FCUL	campus	NP	NA	NA NA			5	1 Celebração Convergir para a Suste		0	0	0	1	0	0
2013	5	Talk		5 FCUL	campus	local	4	4 NA	40		10	1 Convergir para a Sustentabilidade	UL, Universida		0	0	1	0	0
2013	10	Party		0 FCUL	campus	NP	10	10 NA	100		5	1 Reggae dub free party	NA		0	0	0	0	0
2013	12	Fair		1 FCUL	campus	campus	NA	2 NA			4	1 Feira de Natal AEFCL	AEFCL		0	0	1	0	0
2014	1	Partnership		1 NA	campus	regional	1	1 NA NA			NA	Doacao de pes de legumes e semxprojecto270			0	0	0	1	0
2014	2	Practics		1 FCUL	campus	campus	2	2 NA NA			NA	Criacao da banca da dadiva	FCUL		0	0	1	0	0
2014	2	Workshoo		1 Escola Secur	local	local	NA	NA NA			3	1 Workshop poda de árvores de frutoAPEE Escola S			1	0	0	0	0

RESULTS Cultural services

442 occurrences

65 events +
(2019)

- Articles
- Fairs
- Partnerships
- Practics
- Talks
- Tours
- Workshops



RESULTS Cultural services



~450 working days



Highest activity in
October and March



84 workshops



86 direct supports



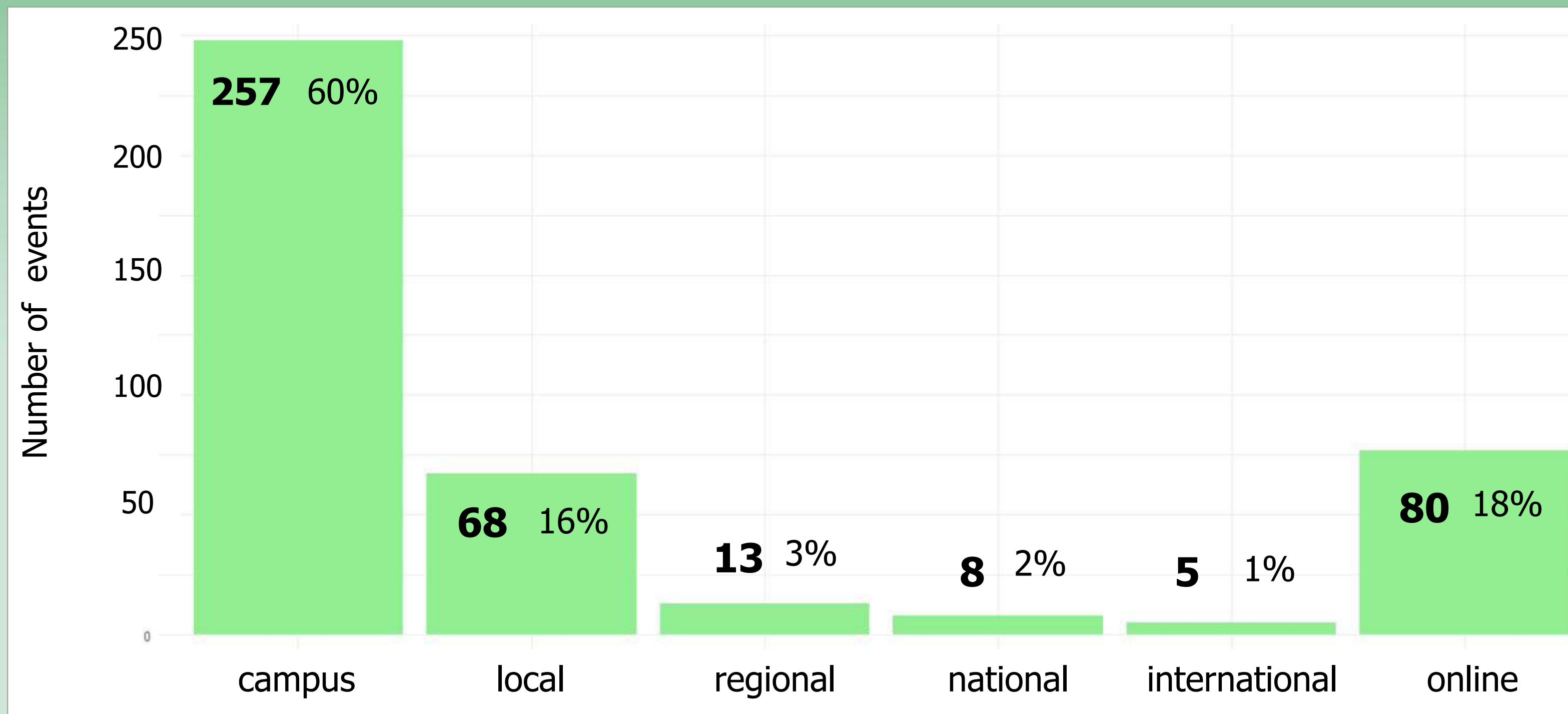
74 guardians (92.5% from FCUL)
Max = 25 guardians (2019)



44.1% (average)
Max = 52.1% (2019)

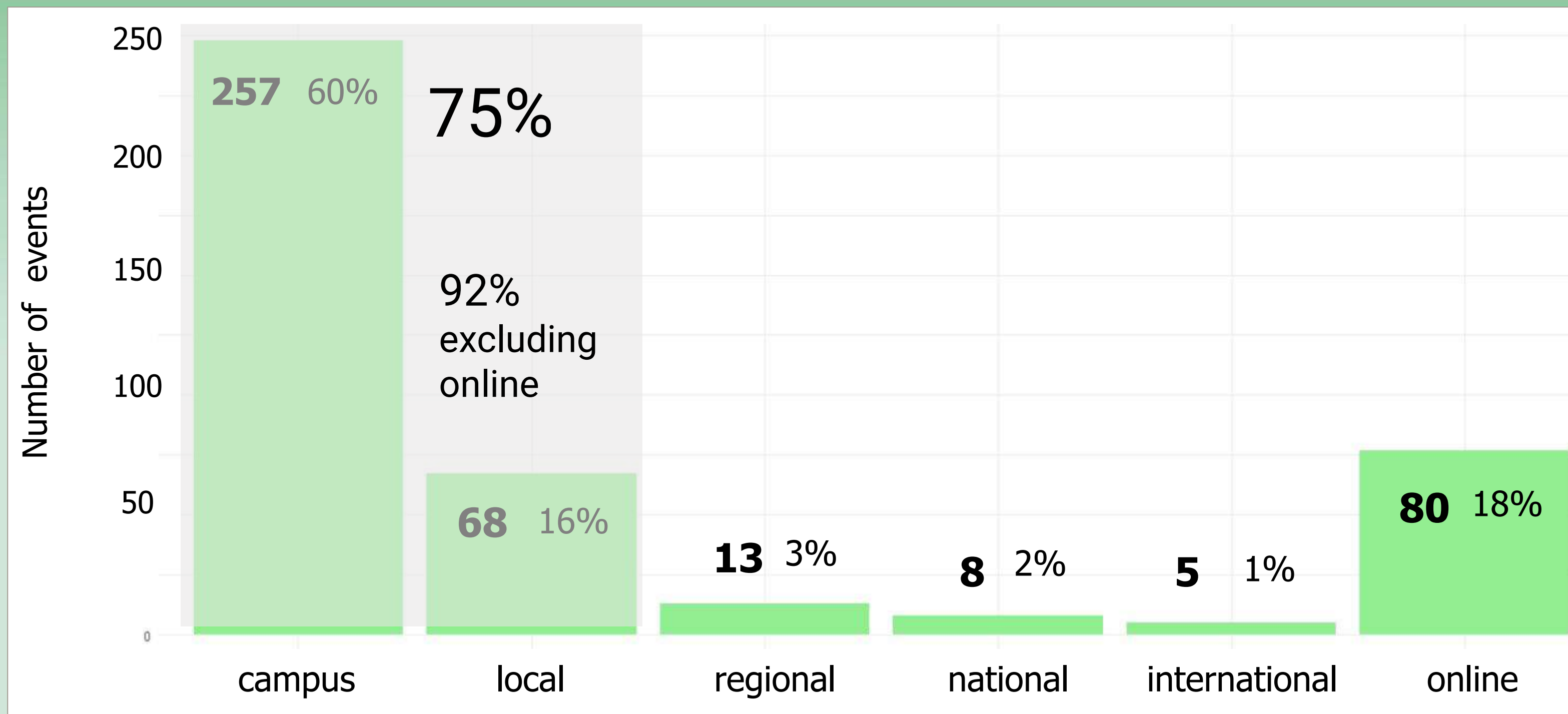
RESULTS Cultural services

Localisation of the project's activity



RESULTS Cultural services

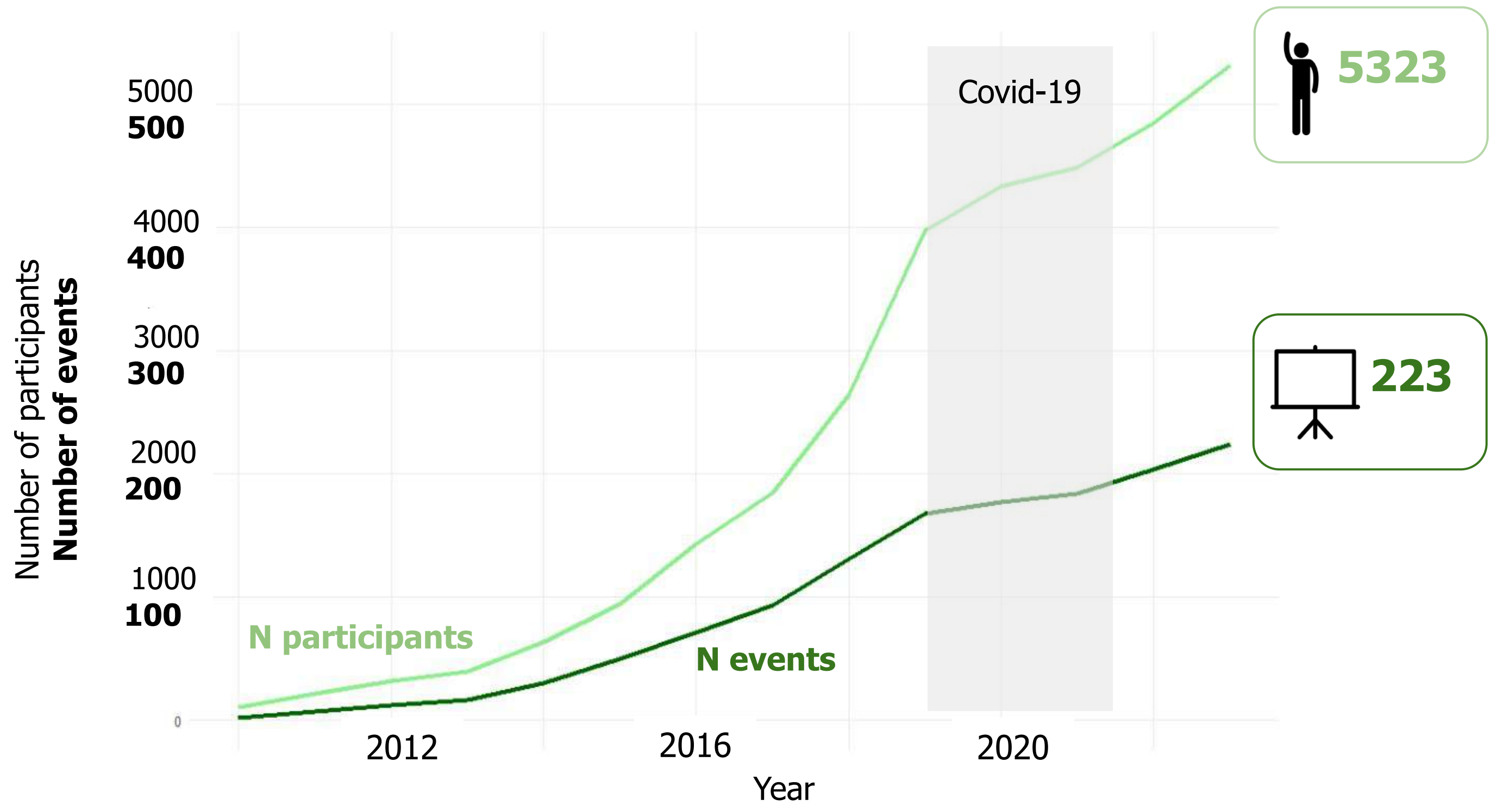
Localisation of the project's activity



RESULTS Cultural services

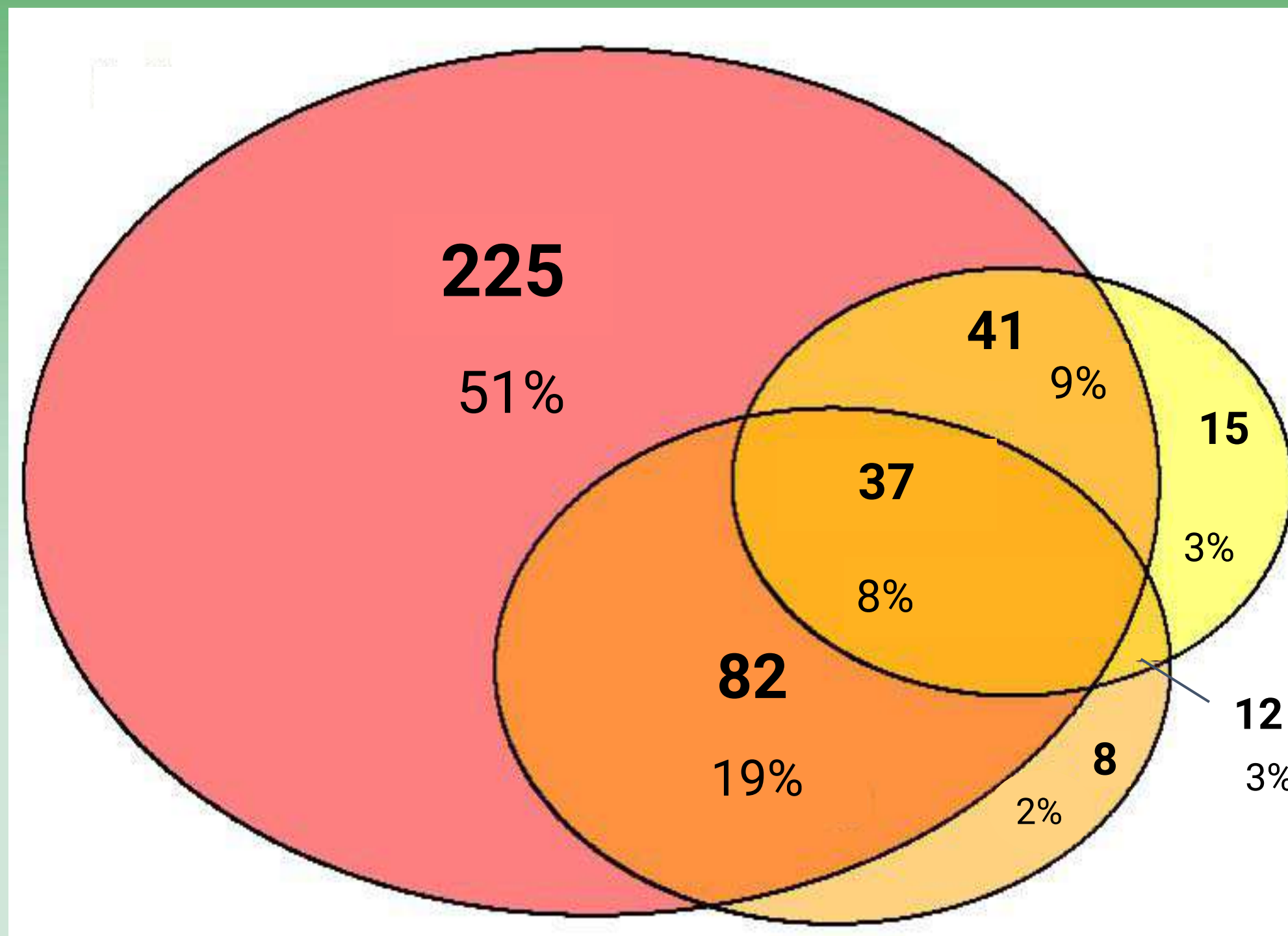
Cumulative participation in:

- Workshops
- Talks
- Guided tours



RESULTS Overall ecosystem services in events

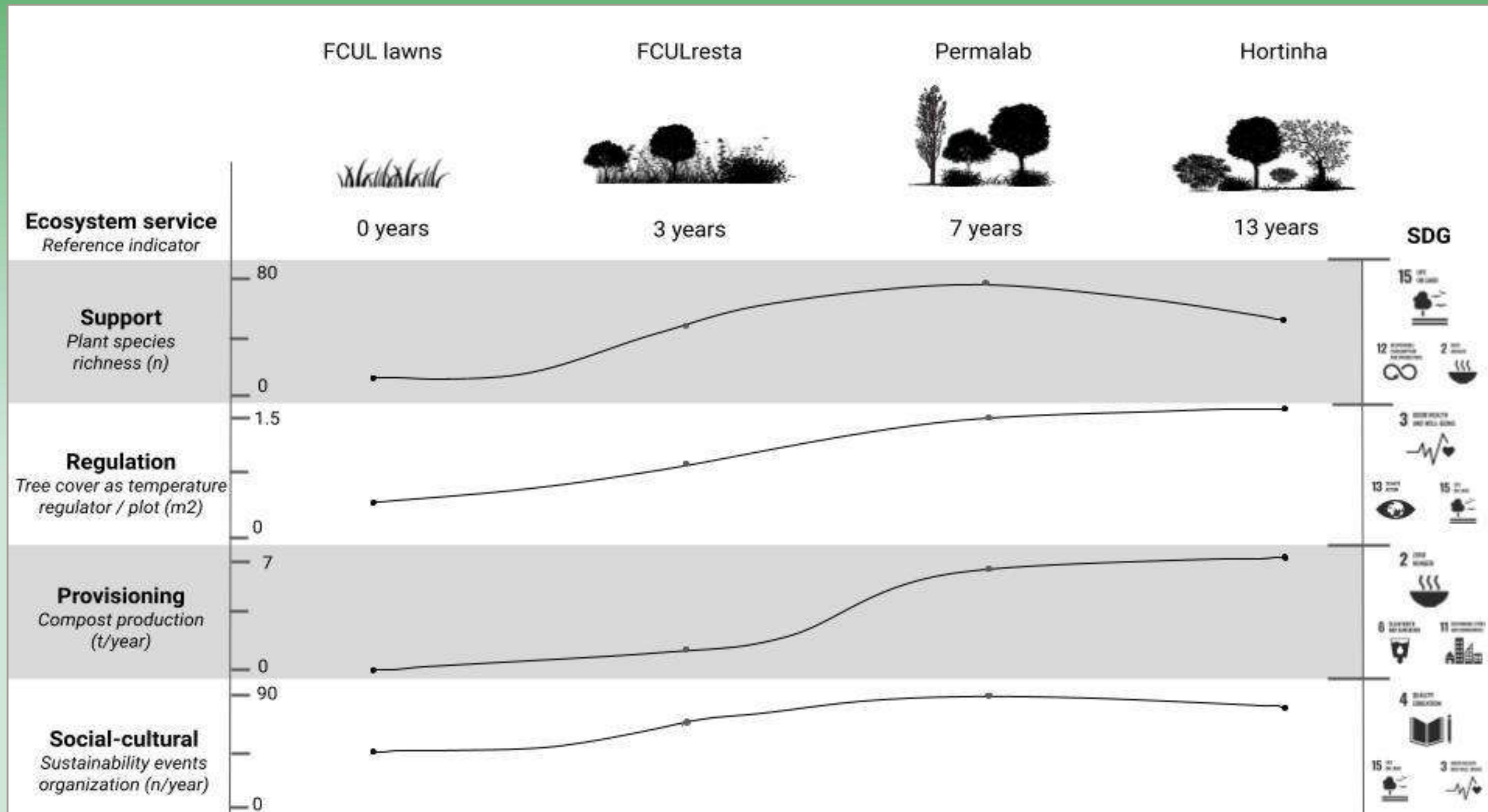
Socio-cultural
(n=385, 88%)



Regulation
(n=105, 24%)

Provisioning
(n=139, 32%)

RESULTS Report's graphical abstract

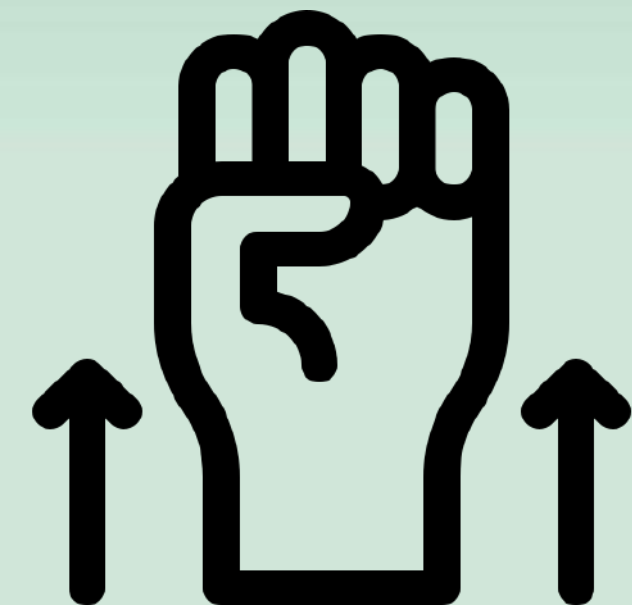
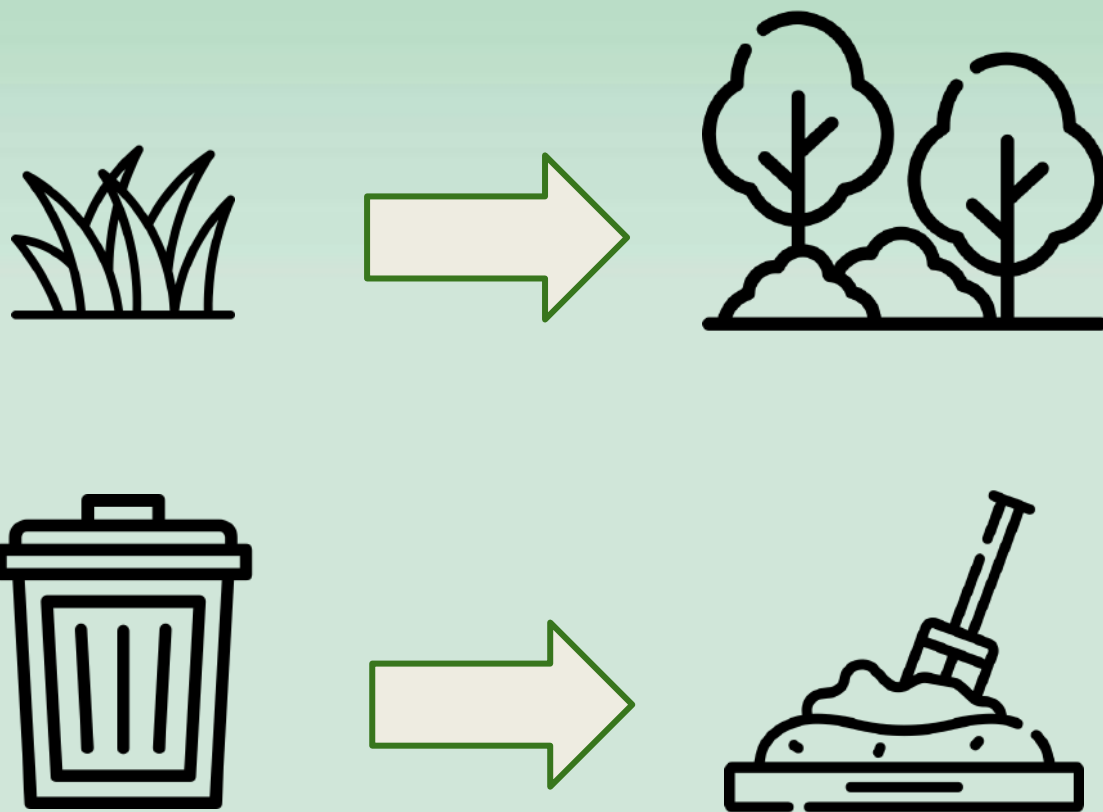


WRAP-UP TOPICS

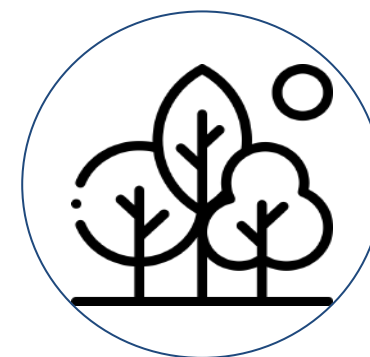
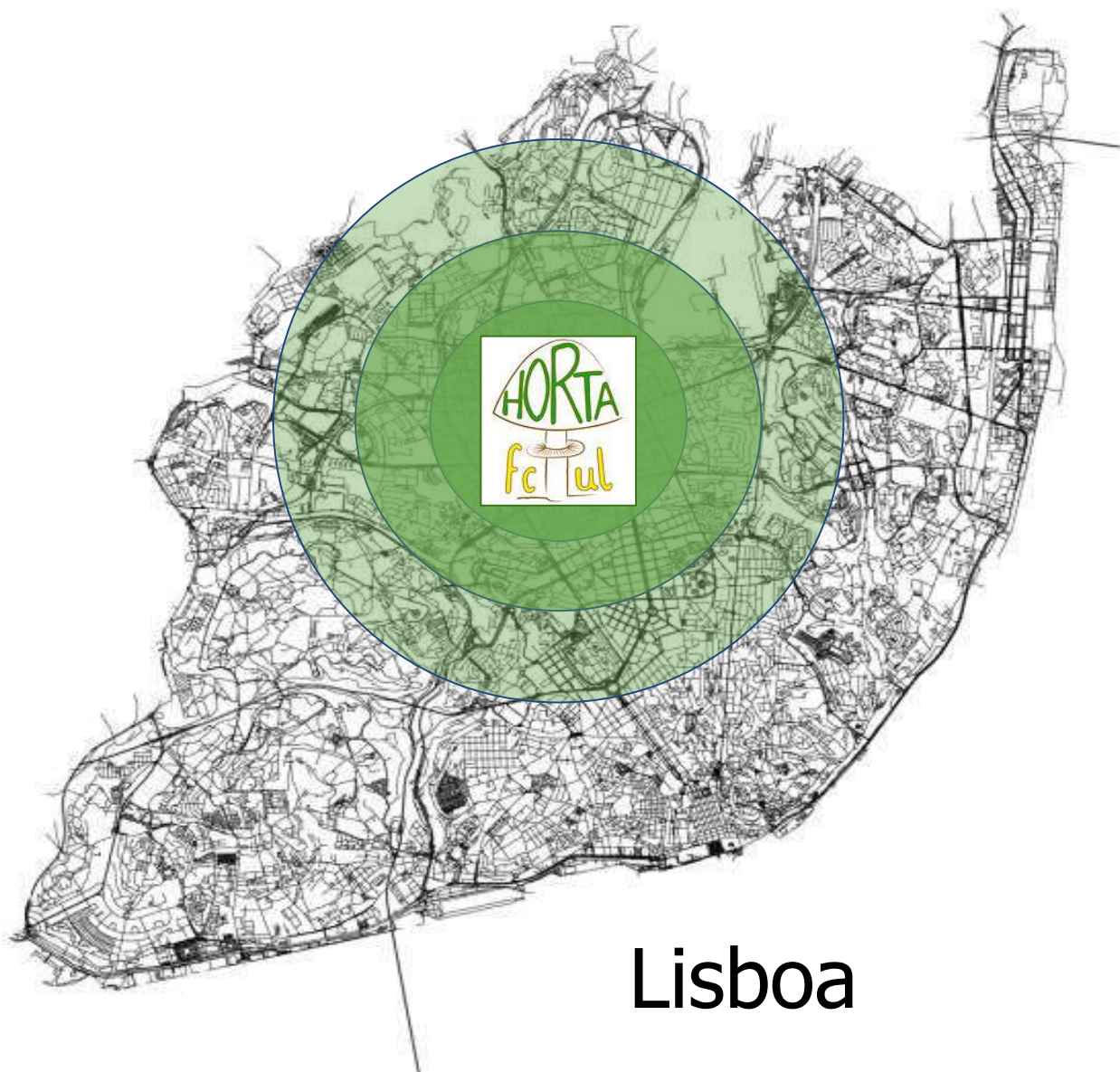
HortaFCUL's added value to the community is **significant**

Positive impacts are mostly **local based**

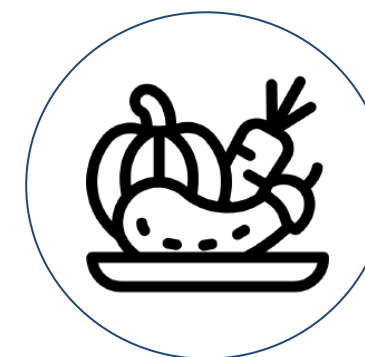
Social/cultural services have a **larger reach** and expression



FINAL CONSIDERATIONS



Biodiversity



Food
production

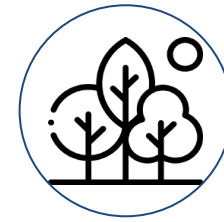
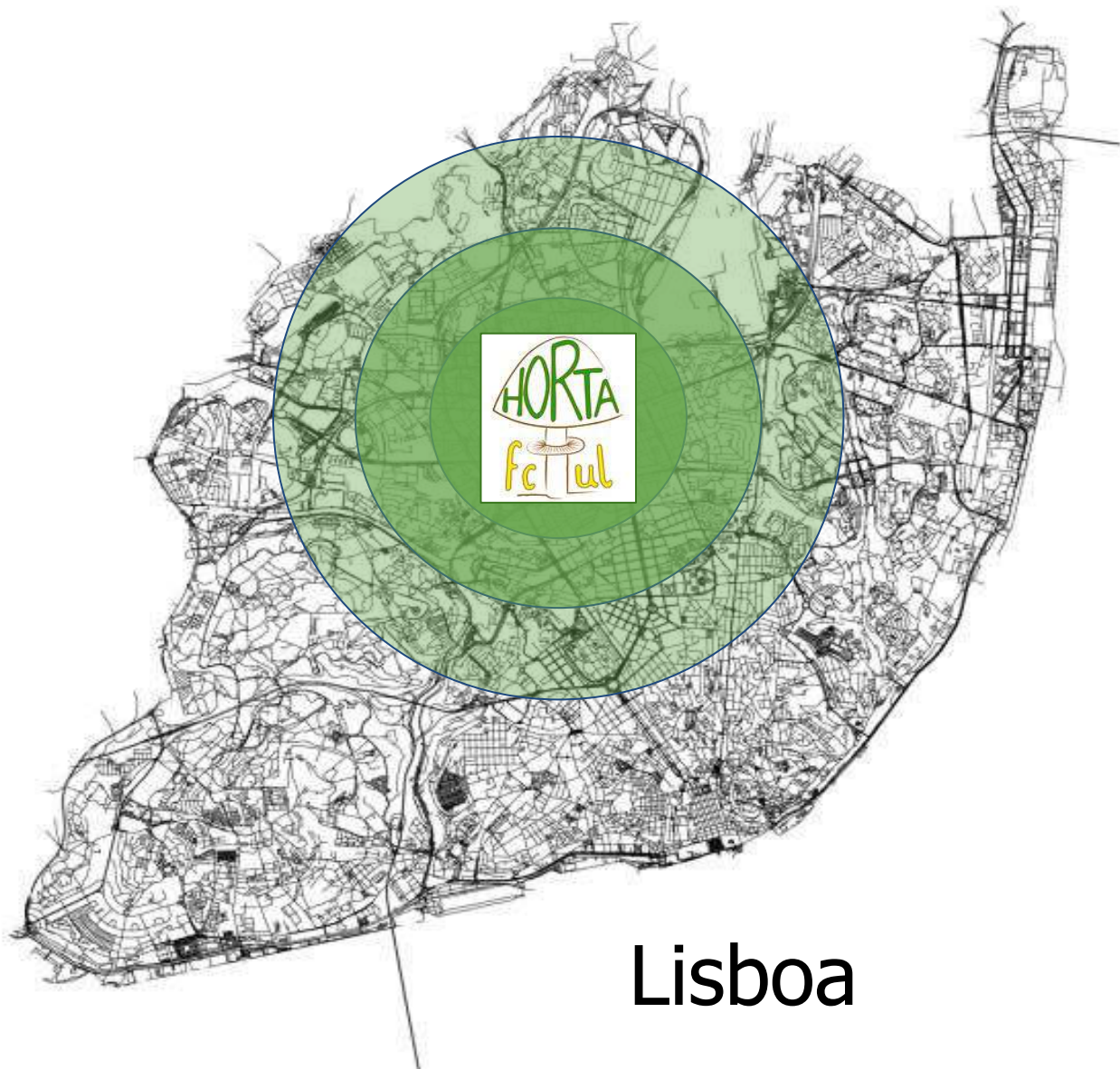


Social
responsibility

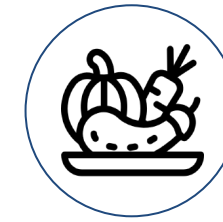


Adaptation
Resilience

FINAL CONSIDERATIONS



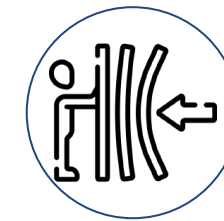
Biodiversity



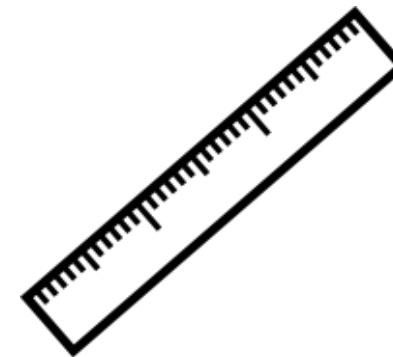
Food
production



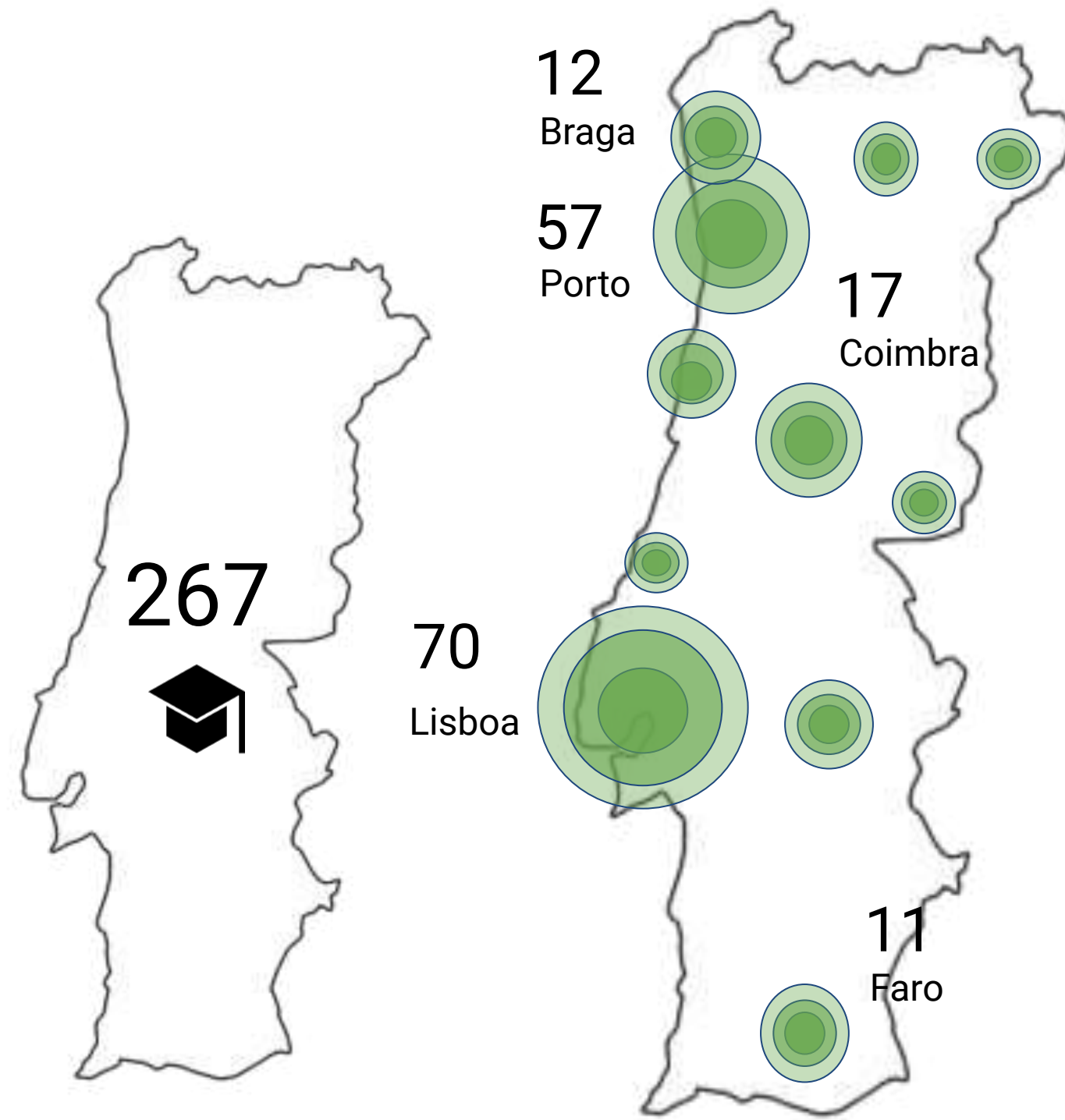
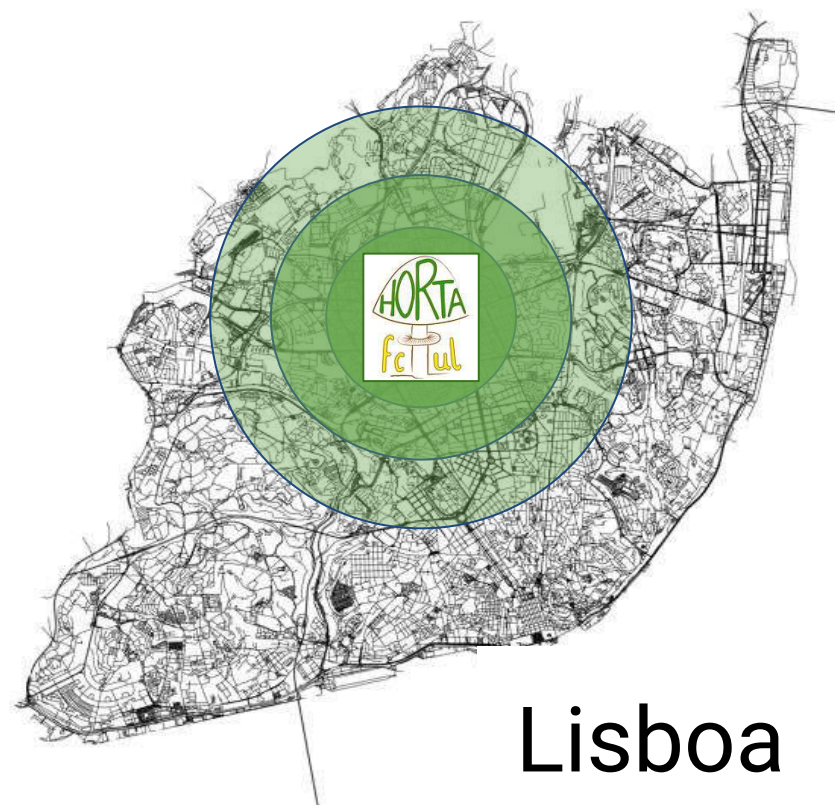
Empowerment



Adaptation
Resilience



FINAL CONSIDERATIONS



Is it meaningful
to scale up
these projects?

If so, what do we
need to to
achieve it?

Join the wave. Thank you!



HortaFCUL guardians celebrating the project's 10 years (2019)



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