

# D4.3 - Mapping of citizen science funding models

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## Table of Contents

List of Tables .....	5
List of Figures .....	6
Executive Summary .....	7
<b>1 Introduction.....</b>	<b>8</b>
1.1 Context and Purpose .....	8
1.2 Scope and Approach.....	8
1.3 Structure of this Deliverable .....	9
1.4 Key definitions .....	10
1.4.1 Funding Model.....	10
1.4.2 Financial Sustainability .....	11
<b>2 Literature Review.....</b>	<b>12</b>
2.1 Funding Models: a general overview .....	12
2.1.1 Taxonomy of funding models .....	12
2.1.2 Characteristics and prerequisites.....	13
2.1.3 Sustainability and scalability factors .....	14
2.1.4 Conceptual Framework.....	14
2.2 Funding Models in Citizen Science.....	15
2.2.1 Current state of citizen science funding.....	15
2.2.2 Mapping general models to citizen science practice .....	16
2.2.3 Gaps and opportunities .....	17
<b>3 Empirical Analysis .....</b>	<b>18</b>
3.1 Methodology and Data Sources .....	18
3.2 Funding Models in Practice .....	19
3.2.1 Public and EU Grant Funding: The Dominant Model.....	19
3.2.2 Private Sector and Industry Partnerships .....	21
3.2.3 Philanthropic Funding.....	22
3.2.4 Crowdfunding and Community Funding .....	22
3.2.5 Membership and Subscription Models .....	23
3.2.6 Hybrid and Diversified Models.....	23
3.2.7 In-Kind Contributions .....	24
3.3 Barriers and Challenges .....	24
3.3.1 The Temporal Mismatch .....	24
3.3.2 Institutional Design Bias .....	27
3.3.3 Skills and Capacity Gaps .....	28
3.3.4 Categorical Misfit.....	28
3.4 Sustainability Strategies .....	29
3.4.1 Clear Value Proposition and Demonstrable Data Use .....	29
3.4.2 Funding Diversification .....	30
3.4.3 Community Ownership and Long-Term Engagement.....	30
3.4.4 Cascading Funding Mechanisms.....	31
3.4.5 Policy Integration and Institutional Embedding .....	31
3.5 Accessibility and Inclusiveness .....	31



<b>3.6 Recommendations from the Field</b> .....	<b>32</b>
3.6.1 <i>For Funders and Policymakers</i> .....	33
3.6.2 <i>For Practitioners</i> .....	33
3.6.3 <i>For CS supporters: the need for differentiated approaches</i> .....	34
<b>4 Mapping of Citizen Science Funding Models</b> .....	<b>35</b>
4.1 <b>Comprehensive Funding Models Map</b> .....	<b>35</b>
4.2 <b>Funding Models by Organisation Type</b> .....	<b>36</b>
4.3 <b>Terminology Landscape for Citizen Science Funding</b> .....	<b>37</b>
4.4 <b>Funding Model Profiles</b> .....	<b>38</b>
4.4.1 <i>Public and EU Grant Funding</i> .....	38
4.4.2 <i>Private Sector Funding</i> .....	41
4.4.3 <i>Philanthropic Funding (Foundation Grants)</i> .....	43
4.4.4 <i>Crowdfunding</i> .....	44
4.4.5 <i>Membership and Subscription Models</i> .....	45
4.4.6 <i>Hybrid Models</i> .....	46
4.4.7 <i>Social Enterprise</i> .....	47
4.4.8 <i>In-Kind Contributions</i> .....	48
4.4.9 <i>Institutional Base Funding</i> .....	49
<b>5 Conclusions</b> .....	<b>50</b>
5.1 <b>Key Findings</b> .....	<b>50</b>
5.2 <b>Implications for the future: development of protocols (CROPS D4.4)</b> .....	<b>51</b>
5.3 <b>Limitations</b> .....	<b>51</b>
5.4 <b>Final Remarks</b> .....	<b>51</b>
<b>6 References</b> .....	<b>53</b>
<b>Annexes</b> .....	<b>56</b>
<b>Annex 1: Interview Protocol (semi-structured interview script)</b> .....	<b>56</b>
<b>Annex 2: Survey Instruments: CROPS Case Study Survey</b> .....	<b>57</b>

## List of Tables

Table 2.1: Taxonomy of Funding Models by Primary Source .....	12
Table 2.2: Mapping Funding Models to Citizen Science Practice .....	16
Table 3.1: Data sources for empirical analysis.....	18
Table 4.1: Comprehensive mapping of citizen science funding models.....	35
Table 4.2: Funding model suitability by organisation type.....	36



## List of Figures

Figure 2.1: Framework for analysing funding model applicability to citizen science .....	15
Figure 3.1: Funding models used by CS Projects mapped in CROPS WP2 .....	19
Figure 3.2: Perceptions of CS practitioners on the relevance of the different funding models for citizen science initiatives .....	20
Figure 3.3: Perceptions of CS practitioners on the difficulty to implement funding tasks.....	25
Figure 3.4: Distribution of statuses (active/ inactive) of CS Projects mapped in CROPS WP2 .....	26
Figure 3.5: Duration (in years) of CS Projects mapped in CROPS WP2 .....	26
Figure 3.6: Leadership of CS Projects mapped in CROPS WP2, by type of organisation .....	27
Figure 3.7: Overview of sustainability strategies for CS projects .....	29
Figure 3.8: Recommendations from the field for CS Funders & Policymakers and Practitioners .....	32
Figure 4.1: Terminology Landscape for Citizen Science: citizen science related terms.....	37



## Executive Summary

This deliverable presents a comprehensive mapping of citizen science funding models across Europe, addressing a fundamental challenge: how to sustain citizen science initiatives beyond their initial funding periods. The analysis draws on systematic review of 30 literature sources spanning academic literature, EU project deliverables, and policy documents, complemented by primary data collection including ten expert interviews, two practitioner surveys (n=42 combined), and mapping of 487 citizen science projects across the five Horizon Europe Missions.

Key findings reveal a landscape dominated by short-term public grant funding, with +50% of projects relying primarily on EU or national grants. This concentration creates structural vulnerability: the WP2 mapping found 40% of projects show no evidence of continuation and nearly 50% have durations shorter than five years. The fundamental mismatch between short funding cycles (typically 1–3 years) and the long-term requirements of citizen science (continuous monitoring, community building, sustained data collection) represents the central sustainability challenge.

Alternative funding models remain underutilised despite evidence of their potential. Private sector engagement accounts for only 6–8% of projects; philanthropic funding is rare in the European context; and hybrid/diversified models – identified as most sustainable in the literature – characterise only 8% of mapped initiatives. Accessibility barriers compound these challenges: funding structures designed for research institutions systematically exclude grassroots initiatives, which represent only 4% of mapped projects despite citizen science's emphasis on public participation.

The mapping identifies promising pathways including cascading funding mechanisms (FSTP), policy integration through citizen-generated data frameworks, membership models for established communities, and carefully structured private sector partnerships. These findings directly inform the *Protocol for mobilising funding and ensuring sustainability (D4.4)*, which will be developed in a later stage within CROPS.



## 1 Introduction

### 1.1 Context and Purpose

In the past decade, citizen science has become a proven methodology across scientific disciplines, generating data that both complements and extends traditional collection methods. European funding frameworks have recognised this potential: Horizon Europe positions citizen science within its Open Science framework, with integration opportunities across the five Missions addressing climate, cancer, oceans and waters, cities, and soil health (MLE Report, 2022).

Yet this growth has not been matched by equivalent attention to sustainability. Most initiatives remain dependent on short-term project funding that does not align with the long-term nature of citizen science activities. The CROPS<sup>1</sup> project addresses this gap by developing mechanisms to support the upscaling and sustainability of citizen science across Europe.

This deliverable presents findings from Task 4.3, designed to map current funding models, analyse their effectiveness, and identify pathways toward improved sustainability.

### 1.2 Scope and Approach

The mapping employs a mixed-methods approach combining four complementary data sources, designed to triangulate findings and ensure comprehensive coverage of the European citizen science funding landscape:

**1) Literature Review:** 30 sources were analysed, comprising peer-reviewed academic articles (e.g. Sauermann *et al.*, 2019; Foster *et al.*, 2009; Mendell, 2010; Alter, 2007); EU project deliverables (e.g. DITOs D6.6, COESO D4.1, IMPETUS policy briefs, MLE Report 2022); policy documents and position papers (including ECSA Position Paper 2024, EC reports); grey literature sources from authoritative organisations (Bridgespan Group, ASU Lodestar Center). The literature review established a general taxonomy of funding models drawing from nonprofit, social enterprise, research funding policy, and citizen science scholarship; and mapped these models to citizen science practice, identifying current usage patterns, constraints, and gaps.

**2) Expert Consultation:** 10 semi-structured interviews (approximately 60 minutes each) were conducted between May and July 2025 with citizen science funding specialists. The interview protocol covered six thematic areas: funding landscape overview, sustainability challenges, barriers to funding access, governance and accountability, accessibility and inclusiveness, and recommendations for practitioners and policymakers. Interviewees represented diverse perspectives: academic researchers, platform developers, foundation programme officers, and EU project coordinators. Thematic analysis was conducted using

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<sup>1</sup> Curating, Replicating, Orchestrating, and Propagating Citizen Science across Europe, GA 101131696, <https://crops-cs.eu/>.



an inductive-deductive approach: initial codes were derived from the literature review framework, with additional themes emerging from the data. All quotes are presented with anonymised attribution.

- 3) **Surveys:** Two complementary surveys provided quantitative and qualitative data on funding experiences: the *CROPS Case Study Survey* (July 2025, n=12 CS initiatives with scalability potential, across EU Missions) addressing topics related to funding sources, adequacy ratings, challenges, and recommendations; and the *CROPS Scalability Survey* (Feb-May 2025, n=30 practitioners across EU Missions, implemented within Task 3.2 of CROPS), including six funding-focused questions on funding sources, challenges, and support needs.
- 4) **CROPS CS Projects Mapping:** Partners of CROPS' WP2 conducted systematic mapping of 487 citizen science projects across the five Horizon Europe Missions between January and November 2024. Among other aspects, projects were assessed for funding type, organisational leadership, project status (ongoing/completed/discontinued), and scalability potential. This dataset provides the most comprehensive quantitative picture of the European citizen science funding landscape currently available.

**Integration of data sources and analytical framework:** The analysis integrates findings across all data sources using a framework derived from the Bridgespan research on nonprofit funding models (Foster *et al.*, 2009; Kim *et al.*, 2011) that considers:

- (i) *organisational prerequisites:* what structures, capacities, and status are required for each funding model;
- (ii) *funding characteristics:* predictability, scale potential, and administrative burden; and
- (iii) *sustainability factors:* replicability, mission alignment, and long-term viability.

This framework provides lens for comparing funding approaches.

### 1.3 Structure of this Deliverable

This deliverable is organised as follows:

**Chapter 2 - Literature Review:** establishes a taxonomy of funding models drawing from nonprofit, social enterprise, and research funding literature, and maps these general models to citizen science practice, identifying current usage patterns and gaps.

**Chapter 3 - Empirical Analysis:** presents findings from the primary data collection, organised thematically: funding models in practice, barriers and challenges, sustainability strategies, accessibility and inclusiveness, and recommendations from the field.

**Chapter 4 - Mapping of Citizen Science Funding Models:** synthesises the literature review and empirical findings into a comprehensive mapping framework. This includes a detailed



funding model typology, analysis by organisation type, and practical funding model profiles with prerequisites, examples, and sustainability assessments.

**Chapter 5 - Conclusions:** synthesises key findings, discusses implications for future, and acknowledges limitations.

## 1.4 Key definitions

This section defines core terms used throughout this deliverable.

### 1.4.1 Funding Model

#### **Funding Model**

*A methodical and institutionalized approach to building a reliable revenue base that will support an organisation's core programs and services.*

Source: Kim, Perreault & Foster (2011), The Bridgespan Group

A funding model is distinct from *ad hoc* fundraising or opportunistic revenue generation. According to the Bridgespan Group research, a funding model has three defining characteristics:

- 1. Type of funding:** The model typically revolves around a single type of funding (such as government, foundation, or individual donations) which constitutes the majority of the organisation's revenue and in which the organisation invests disproportionately. Other sources may play complementary roles but are not the primary focus.
- 2. Funding decision makers:** Within that principal source, the model focuses on a particular set of people who dictate the flow of funds – perhaps government administrators, foundation programme officers, or individual donors with specific motivations.
- 3. Funder motivation:** A funding model takes advantage of natural matches between funder motivations and the organisation's mission and beneficiaries. These motivations range from altruism to collective interest to self-interest (Foster *et al.*, 2009).

The Bridgespan research on 144 large nonprofits found that successful organisations typically concentrate on one dominant funding model rather than diversifying across many sources. This finding has implications for citizen science, where the dominant model (competitive grants) may not align well with long-term sustainability needs.



### ***Distinguishing funding model from business model***

A funding model addresses how an organisation secures revenue. A business model is broader, encompassing the combination of impact model (how the organisation creates value), revenue model (how it captures value), and cost structure (how it deploys resources). In nonprofit contexts, the beneficiaries who receive services are often not the same as the funders who pay for them – creating a ‘two-customer’ dynamic that distinguishes nonprofit business models from commercial ones (Bridgespan Group, 2017).

#### 1.4.2 Financial Sustainability

##### **Financial Sustainability (of a funding model)**

*A funding model is sustainable when the approach to raising revenue has been established and proven reliable over multiple years, and does not depend on unique assets such as specific leaders or exceptional relationships.*

Source: Kim, Perreault & Foster (2011), The Bridgespan Group

This definition emphasises two critical elements: reliability over time and replicability independent of specific individuals.

- 1. Reliability:** A sustainable funding approach generates consistent revenue across multiple years, not just during a single grant period or fundraising campaign. This distinguishes sustainable models from project-based funding that ends when the grant concludes.
- 2. Replicability:** The model should continue functioning if key staff members or funders depart. If the funding depends entirely on one charismatic leader’s personal relationships or a single funder’s discretionary support, it is vulnerable rather than sustainable (Kim *et al.*, 2011).

In the context of citizen science, this definition highlights why the dominant funding model (competitive grants) poses sustainability challenges: grants are time-limited by design, and successful reapplication often depends on the specific relationships and track records of individual researchers rather than institutionalised approaches.



## 2 Literature Review

### 2.1 Funding Models: a general overview

#### 2.1.1 Taxonomy of funding models

Understanding how organisations secure financial resources require a systematic framework. Foster, Kim, and Christiansen (2009) identified ten funding models used by large nonprofit organisations, based on three defining characteristics: funding type, key decision-makers, and funder motivations. The Bridgespan Group subsequently developed practical guidance for applying this framework (Kim, Perreault & Foster, 2011). Their research on 144 nonprofits reaching \$50 million in revenue found that successful organisations typically concentrate on one dominant funding model rather than diversifying across many sources.

Complementary literature on social enterprise (Alter, 2007; Mendell, 2010) and research funding mechanisms provides additional categories. [Table 2.1](#) synthesises these sources into a taxonomy organised by primary funding source. This taxonomy serves as a reference framework for analysing citizen science funding patterns in subsequent sections.

*Table 2.1: Taxonomy of Funding Models by Primary Source*

Category	Model Type	Description	Key sources
Government / Public	Competitive grants	Peer-reviewed funding for defined projects/periods	Research councils, EC Framework Programmes; David <i>et al.</i> (2000); Riley <i>et al.</i> (2011); COESO (2021); MLE Report (2022)
	Public Provider	Contracts to deliver services aligned with government programmes	Foster <i>et al.</i> (2009); Kim <i>et al.</i> (2011); Bridgespan Group (2017)
	Policy Innovator	Government funds innovative approaches demonstrating superior impact	Foster <i>et al.</i> (2009); Kim <i>et al.</i> (2011); Sauermann <i>et al.</i> (2020)
Philanthropic / Foundation	Big Bettor	Large grants from few wealthy donors/foundations for time-bound goals	Foster <i>et al.</i> (2009); Kim <i>et al.</i> (2011); Green For All (2012)
	Foundation grants	Project or operational support from private foundations	Green For All (2012), Foster <i>et al.</i> (2009); ASU Lodestar (2016)
Individual / Community	Heartfelt Connector	Many small donations driven by emotional connection to cause	Foster <i>et al.</i> (2009); Kim <i>et al.</i> (2011)
	Member Motivator	Membership fees from community with shared collective interest	Foster <i>et al.</i> (2009); Kim <i>et al.</i> (2011); DITOs (2018)
	Crowdfunding	Online campaigns soliciting small contributions for specific projects	Sauermann <i>et al.</i> (2019), Dahlhausen <i>et al.</i> (2016); Mollick (2014)



Earned Income	Fee-for-service	Revenue from services (training, data products, consulting)	Alter (2007); ASU (2016); Mendell (2010); Le <i>et al.</i> (2024)
	Social enterprise	Mission-driven business generating revenue reinvested in social goals	Mendell (2010); Alter (2007); ASU Lodestar (2016); Green For All (2012); Le <i>et al.</i> (2024)
Hybrid / Diversified	Mixed model	Combination of multiple sources (e.g., grants + membership + earned income)	DITOs (2018); Kim <i>et al.</i> (2011); Bridgespan Group (2017)

### 2.1.2 Characteristics and prerequisites

Each funding model carries distinct requirements that organisations must meet to access and sustain funding.

- **Government/public funding** requires formal organisational status, administrative capacity for compliance and reporting, and alignment with policy priorities. David, Hall, and Toole (2000) examined whether public R&D spending complements or crowds out private investment, finding that the relationship depends heavily on programme design and sector characteristics. Competitive grants demand peer-review competitiveness and often require institutional affiliation.
- **Philanthropic funding** typically requires nonprofit status for tax-deductible donations. The Green For All Working Group (2012) notes that foundation grants require proposal writing capacity and alignment with foundation priorities. Big Bettor relationships depend on access to wealthy individuals or foundations and the ability to articulate time-bound, measurable goals (Foster *et al.*, 2009).
- **Individual/community funding** requires broad public appeal and communication capacity. Member Motivator models need a defined community with shared interests and infrastructure for membership management. Crowdfunding requires digital marketing skills, compelling narratives, and existing networks – Sauermann, Franzoni, and Shafi (2019) found campaigns rarely succeed without initial support from personal networks. Dahlhausen *et al.* (2016) provide practical guidance on running scientific crowdfunding campaigns, noting that institutional outreach and social media engagement are critical success factors.
- **Earned income models** require business capabilities often absent in research-focused organisations. The ASU Lodestar Center (2016) cautions that social enterprise models supplement rather than replace traditional funding, and that few nonprofits operate without philanthropic support. Le *et al.* (2024) propose an integrative financing model for social enterprises, combining organisational capability theory with resource dependence perspectives.



### 2.1.3 Sustainability and scalability factors

The literature identifies several factors affecting long-term sustainability across funding models:

- **Revenue predictability:** Membership fees and institutional funding provide more stable revenue than project-based grants or crowdfunding. A sustainable funding model, according to Bridgespan guidance (Kim *et al.*, 2011), is one where the approach to raising revenue has been established and proven reliable over multiple years.
- **Replicability:** Sustainable models should not depend on unique assets such as specific leaders or exceptional relationships. If one staff member or funder departed, the approach should continue functioning (Kim *et al.*, 2011).
- **Scalability:** Government funding can scale with programme expansion but involves proportional administrative burden. Crowdfunding struggles to scale – median amounts raised on Experiment.com were approximately \$3,500 (Sauermann *et al.*, 2019). Membership models scale with community growth but require continuous engagement investment.
- **Mission alignment:** Earned income and certain government contracts risk ‘mission drift’ when revenue-generating activities diverge from core purpose (Mendell, 2010). Dees (1998, cited in Mendell 2010) warned that pressure to generate revenue through trading activities could force deviation from organisational priorities.

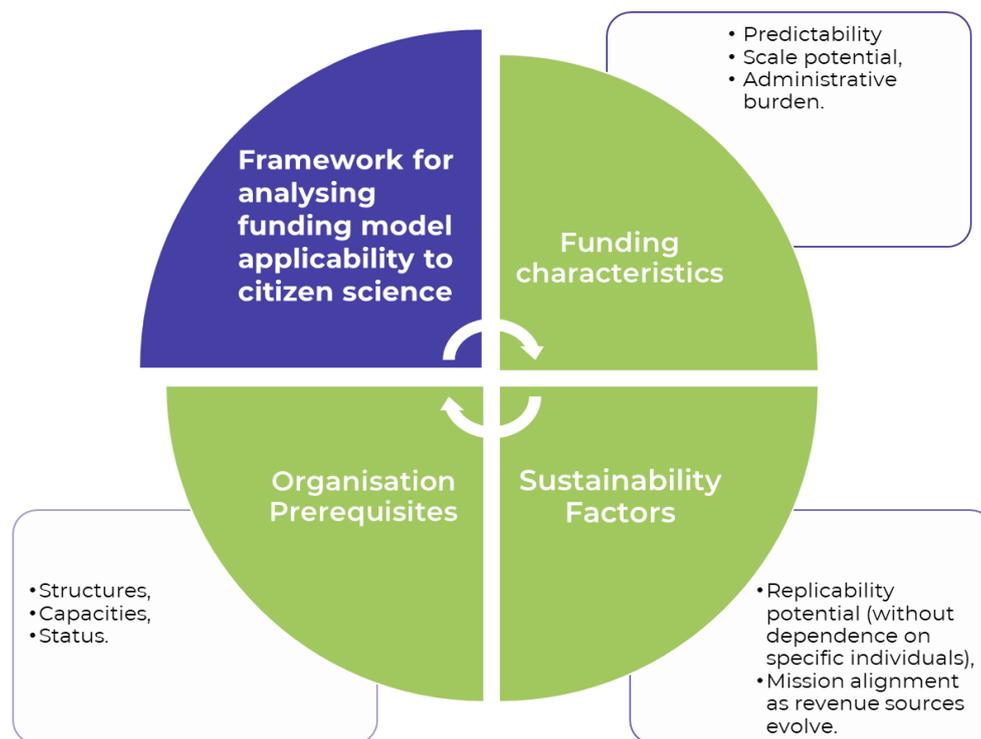
### 2.1.4 Conceptual Framework

Based on the taxonomy and characteristics reviewed above, we propose a framework for analysing funding model applicability to citizen science. The framework considers three dimensions:

- Organisational prerequisites:** What structures, capacities, and status are required? Grassroots initiatives face different barriers than university-hosted projects or established NGOs.
- Funding characteristics:** What are the predictability, scale potential, and administrative burden of different funding sources? Project-based grants offer scale but limited duration; membership models offer stability but require engagement infrastructure.
- Sustainability factors:** Is the model replicable without dependence on specific individuals? Does it maintain mission alignment as revenue sources evolve?

This framework informs the empirical analysis presented in Chapter 3.





**Figure 2.1: Framework for analysing funding model applicability to citizen science**

Source: Elaborated based on literature review, namely Foster et al., 2009; Kim et al., 2011

## 2.2 Funding Models in Citizen Science

### 2.2.1 Current state of citizen science funding

The DITOs project *deliverable D6.6* provides the most systematic analysis of citizen science business models. Through examination of 35 CS projects, the analysis identified five operational business models archetypes: *Motivated Individual* (volunteer-driven, minimal funding), *Small Crowdsourcing* (crowdfunded, short-term), *Outreach* (institutional programme component), *Research & Innovation* (competitive research grants), and *Long-Term NGO* (diversified funding, established organisations). The Long-Term NGO archetype – exemplified by organisations like the British Trust for Ornithology – demonstrates greatest sustainability through combined membership, donations, and grants (DITOs, 2018).

European funding has grown significantly (MLE Report, 2022). Horizon Europe positions citizen science within its Open Science framework, with potential for integration across the five Missions. However, the COESO deliverable D4.1 documents significant gaps. Many national funding structures lack dedicated CS schemes (Skarzauskiene and Mačiulienė, 2021). Most funding institutions began supporting CS only in the 21st century, with typical project durations of 1-3 years – insufficient for initiatives requiring sustained community engagement.



## 2.2.2 Mapping general models to citizen science practice

**Table 2.2** applies the general funding taxonomy to citizen science, identifying current usage, applicability, and constraints based on the reviewed literature.

*Table 2.2: Mapping Funding Models to Citizen Science Practice*

Model	Current CS Usage	CS Examples	Constraints for CS	Key sources
<b>Competitive grants</b>	High – dominant model for larger CS projects	H2020/HE citizen observatories; national programmes (e.g., Sparkling Science)	Requires institutional affiliation; short project cycles (2-4 years); administrative burden	DITOs (2018); COESO (2021); MLE Report (2022); ECSA (2024)
<b>Public Provider</b>	Moderate – emerging for environmental monitoring	CS data integrated into official environmental monitoring systems	Data quality concerns; regulatory acceptance barriers	EC Policy Briefs (2022, 2024); Wehn <i>et al.</i> (2021)
<b>Big Bettor</b>	Low – limited foundation focus on CS	Some conservation CS funded by environmental foundations	Requires access to major donors; CS outcomes harder to define as time-bound	Foster <i>et al.</i> (2009); Green For All (2012)
<b>Member Motivator</b>	High – common in established conservation CS	BTO, RSPB, National Audubon Society	Requires established community identity; long time to build membership base	DITOs (2018); Kim <i>et al.</i> (2011)
<b>Crowdfunding</b>	Moderate – growing for small/pilot projects	Experiment.com campaigns; participatory research pilots	Small amounts (median ~\$3,500); high effort relative to funds; not scalable	Sauermann <i>et al.</i> (2019); Dahlhausen <i>et al.</i> (2016)
<b>Hybrid/ Diversified</b>	High – characteristic of sustainable CS initiatives	Long-Term NGO archetype (DITOs); eBird, iNaturalist	Requires capacity to manage multiple funding streams; organisational maturity	DITOs (2018); Foster <i>et al.</i> (2009); Bridgespan (2017)
<b>Social enterprise</b>	Low – rare in CS context	Some data service providers; training organisations	Tension with open science values; business skills gap; mission drift risk	Mendell (2010); Alter (2007); ASU Lodestar (2016); Le <i>et al.</i> (2024)

The mapping reveals that CS funding is dominated by competitive grants at the project level and member-based models for established organisations. Hybrid approaches characterise the most sustainable initiatives, combining grants with community-based revenue. Social enterprise and major philanthropic models remain underutilised.



### 2.2.3 Gaps and opportunities

The literature identifies several gaps in the current CS funding landscape:

- **Sustainability gap:** Project-based funding dominates, but 2-4 year cycles are insufficient for long-term data collection. The COESO analysis documented that “typical project durations of 1-3 years are insufficient for initiatives requiring long-term data collection” (COESO, 2021). Near project end, resources are depleted with limited capacity for sustainability planning (EC, 2022). Kieslinger *et al.* (2018) note that adequate funding mechanisms are required to promote CS innovation, yet sound evaluation procedures to inform such decisions remain underdeveloped.
- **Accessibility gap:** Small-scale and grassroots initiatives struggle to access formal funding. Current processes are 'not well adapted to their needs' (Sprinks *et al.*, 2025). The DITOs analysis found that the 'Motivated Individual' archetype – representing volunteer-driven, minimal-funding initiatives – faces structural barriers to formal funding (DITOs, 2018). The COESO study documented that SSH researchers may not identify their work as 'citizen science', limiting access to relevant funding streams (COESO, 2021).
- **Recognition gap:** Limited academic and career recognition for CS participation creates barriers to institutional engagement. Scepticism about data quality persists among traditional funders and researchers (MLE Report, 2022). A meta-analysis of citizen science projects found that three-quarters produced no peer-reviewed publications, raising questions about how funders assess CS outcomes (Davis *et al.*, 2023).
- **Integration gap:** CS data are often not integrated into official systems (environmental monitoring, policy processes), limiting the case for sustained public investment. Recent EC policy briefs document emerging opportunities for citizen-generated data in environmental monitoring and SDG tracking (EC, 2022; 2024). Sauermann *et al.* (2020) argue that CS can support sustainability transitions through problem identification, resource mobilisation, and socio-technical co-evolution – but this requires appropriate funding frameworks.

Opportunities emerge from this analysis. The Horizon Europe Missions offer alignment potential for CS addressing climate, health, and environmental challenges. Crowdfunding, while limited in scale, serves as a complementary mechanism for pilot projects and community building. The hybrid model – combining grants, membership, and potentially earned income – offers the most promising path to sustainability but requires organisational maturity that takes time to develop.

**These gaps and opportunities frame the empirical investigation in the following sections, where we examine how CS practitioners and experts experience these funding realities and what strategies they employ or recommend.**



### 3 Empirical Analysis

This chapter presents findings from the primary data collection conducted. The analysis integrates evidence from four complementary sources (expert interviews, case study surveys, practitioner surveys, and project mapping) organised thematically to provide a coherent picture of the citizen science funding landscape. Throughout, connections are drawn to the conceptual frameworks established in the literature review (Chapter 2).

#### 3.1 Methodology and Data Sources

A mixed-methods approach was employed to triangulate findings on citizen science funding. Four data sources provided complementary perspectives:

*Table 3.1: Data sources for empirical analysis*

Data Source	Sample	Period	Purpose
Expert Interviews	n = 10	May - Jul 2025	In-depth qualitative insights from funding specialists, platform developers, foundation officers, and EU project coordinators
Scalability Survey	n = 30	Feb - May 2025	Broader practitioner perspectives on funding challenges, spanning across all five EU Missions, linked to CROPS' Task 3.2.
Case Study Survey	n = 12	July 2025	Targeted assessment of CS initiatives with potential for scalability, across all five EU Missions.
CROPS WP2 Project Mapping	n = 487	Jan - Nov 2024 (data analysed by June 2025) <sup>2</sup>	Systematic mapping of CS projects across five EU Missions, assessing funding types, status, and scalability potential.

The expert interviews followed a semi-structured protocol (Annex) covering funding landscape, sustainability strategies, challenges, governance, accessibility, and recommendations. Interviewees represented diverse expertise:

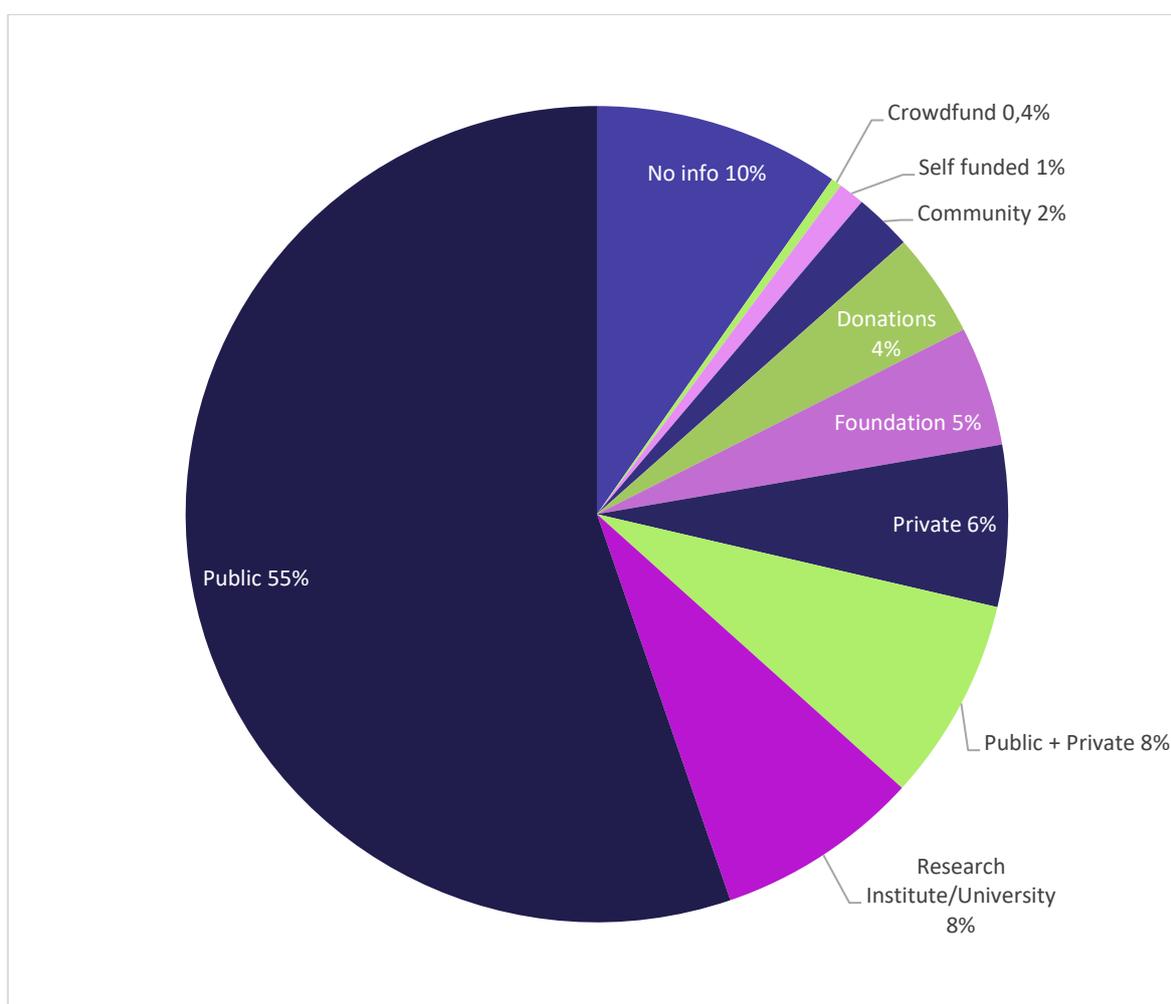
- Antonella Passani (T6 Ecosystems/IMPETUS),
- Attila Szantner (Massively Multiplayer Online Science),
- Christopher Maloney (Foundation Programme Officer),
- Gefion Thuermer (academic researcher),
- João Gonçalo Soutinho (BioDiversity4All),
- Kris Vanherle (technical expert),
- Liz Dowthwaite (University of Nottingham),
- Muki Haklay (UCL),
- Olivier Schubaum (Platoniq Foundation),
- and Patricia Tiago (BioDiversity4All).

<sup>2</sup> For more details on CROPS WP2 work, consult *D2.1: Review results and final version of the Scalability Assessment Framework and criteria* and *D2.2: Scalability Potential Assessment*, available in CROPS website: <https://crops-cs.eu/deliverables>

## 3.2 Funding Models in Practice

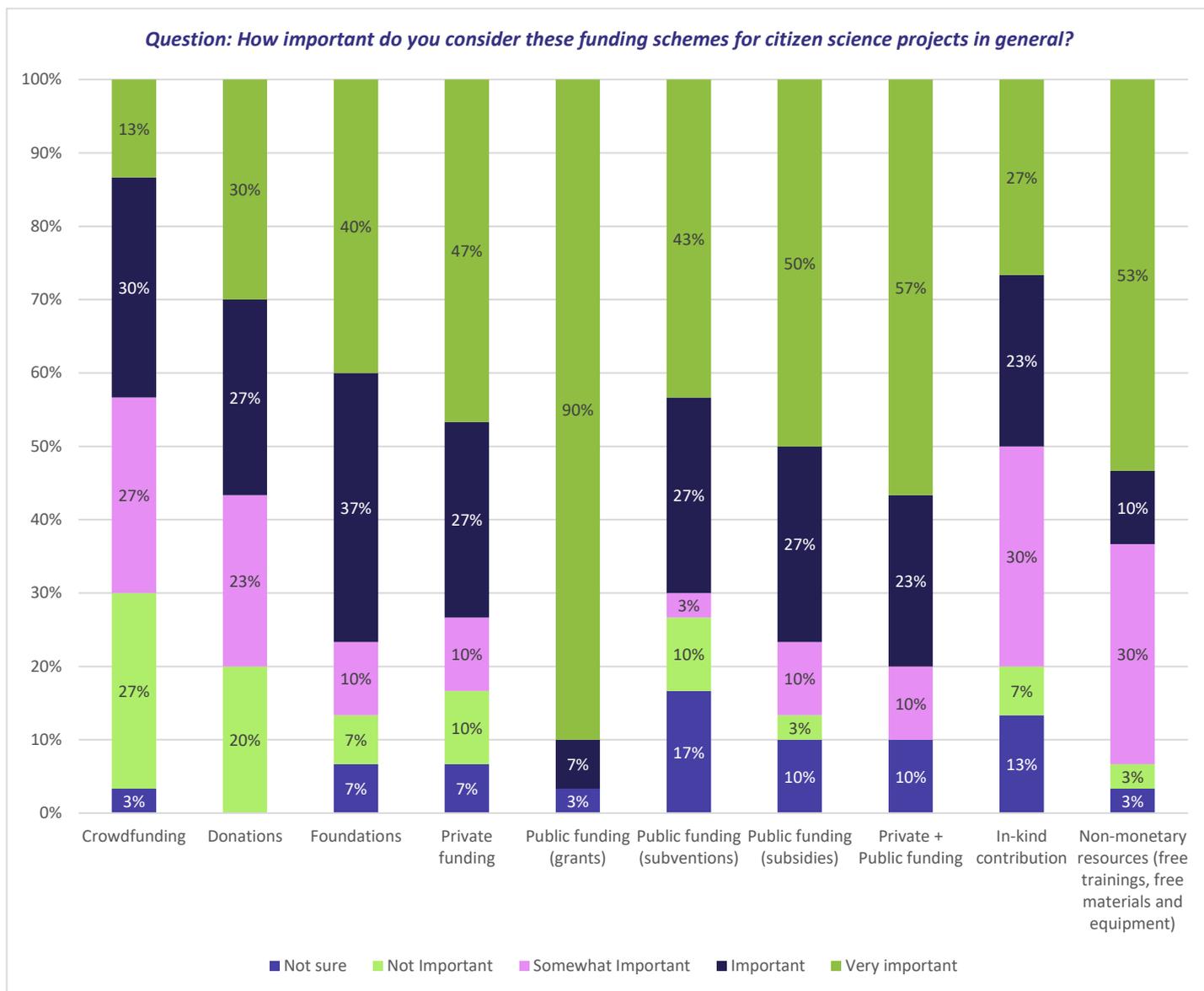
### 3.2.1 Public and EU Grant Funding: The Dominant Model

**Public and EU grant funding emerged as the dominant model across all data sources,** confirming the DITOs finding that the ‘Research & Innovation’ archetype (competitive research grants) is most prevalent. The WP2 mapping found that 55% of 487 projects rely primarily on public funding (EU, national or regional public funding, **Figure 3.1**). The respondents of the CROPS Scalability Survey corroborate this by clearly and widely identifying the public funding as *very important* for citizen science initiatives (**Figure 3.2**).



**Figure 3.1: Funding models used by CS Projects mapped in CROPS WP2**

Source: CROPS CS Projects Mapping (D2.2).



**Figure 3.2: Perceptions of CS practitioners on the relevance of the different funding models for citizen science initiatives**  
 Source: CROPS Scalability Survey (T3.2).

Expert interviews provided qualitative depth to these figures. The reliance on public funding was described as near-universal:

*“The main thing is that these organisations, the majority of these organisations, rely on public funding. So it’s very difficult to go from public funding to other solutions.” (Interviewee 5)*

*“We have grants primarily. So the biggest, the time when we need to make the biggest leaps forward in the project or progress, that was based on major scientific grants.” (Interviewee 6)*



This dominance aligns with the Bridgespan observation that successful organisations typically concentrate on one funding model matched to their mission. However, the concentration creates vulnerability when that model provides only short-term support, a tension explored further in [Section 3.3](#).

### 3.2.2 Private Sector and Industry Partnerships

**Private funding remains scarce in citizen science.** The WP2 mapping found only 6% of projects with private sector involvement as the main source of funding, often opportunistic rather than strategic. The number increases slightly to 8% when private funding is combined with public funding ([Figure 3.1](#)). The *Case Study Survey* recorded also a low rate of funding models with private funding components. This underutilisation is notable given the Bridgespan framework's identification of corporate partnerships as a viable model for mission-aligned organisations.

One exceptional case demonstrates the potential. Interviewee 6's organisation has developed sustained commercial relationships with gaming companies:

*"We are probably among the very few or maybe the only one who have actual contracts with our partners, so the game industry partners actually pay us a monthly fee for our services." (Interviewee 6)*

**CS practitioners consider private funding important:** 77% of the respondents to the CROPS Scalability Survey classified the private funding as important or very important ([Figure 3.2](#)). However, interviewees identified significant resistance within the citizen science community to private sector involvement:

*"Citizen science has an allergy to the private sector. Weather.com got something called Weather Underground 30 years ago – weather stations plugging into their company system. For a very long time and successfully. They say this is not citizen science because the data is commercial." (Interviewee 9)*

Legitimate ethical concerns underpin some of this resistance:

*"They risk being used for greenwashing or diversity washing... I remember a project that said we're working on water pollution and there was a chemical industry that wanted to finance us, but because it's a main polluter in our region, we didn't want to." (Interviewee 5)*

Corporate Social Responsibility (CSR) programmes offer a middle path, though they require careful navigation. Interviewee 7 noted that companies creating sensors and IoT devices sometimes have citizen science workstreams, financially enabling CS while also generating commercial value.



### 3.2.3 Philanthropic Funding

**The Bridgespan ‘Big Bettor’ model** (i.e. large grants from wealthy donors or foundations) **remains underutilised in European citizen science.** This contrasts with the United States, where philanthropic funding plays a more significant role in research. Interviewee 4 explained the distinctive characteristics of philanthropic funding:

*“Philanthropic money is more flexible, they are much more open to trust funding. As you don’t have to respond to taxes, you don’t have to show results as strict. It really depends on the philanthrope.” (Interviewee 4)*

However, experts cautioned about the instability of philanthropic support in the European context:

*“Philanthropy is a dangerous form of funding. They can change their mind. Not so stable. In Europe, it’s because public research is seen as something the state or government does, so we don’t put money into this.” (Interviewee 9)*

Interviewees mentioned the Gulbenkian Foundation<sup>3</sup> as one of the few European philanthropic sources supporting citizen science, but noted such funding remains exceptional rather than systematic.

### 3.2.4 Crowdfunding and Community Funding

**The literature identified crowdfunding as a growing, yet limited funding source.** Sauermann *et al.* (2019) found median amounts on Experiment.com were approximately \$3,500 – useful for pilots but insufficient for sustained operations. The empirical data confirmed this assessment. Only one *Case Study Survey* respondent relied primarily on community funding, describing it as inadequate. In the *CROPS Scalability Survey*, crowdfunding appears as the funding model with the highest classifications of irrelevancy for the CS initiatives in the opinion of the respondents (Figure 3.2).

Experts offered nuanced perspectives on crowdfunding’s potential and limitations:

*“Crowdfunding and video games, that’s quite common. But probably 10 years ago, crowdfunding was very efficient because there were not many projects. Now there are so many projects. Getting noticed is almost like the same as with app stores – a huge challenge and huge investment.” (Interviewee 6)*

*“Crowdfunding could work super, super well, but it would require quite a large buy-in at the start, quite a lot of effort. And it does mean you’re*

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<sup>3</sup> <https://gulbenkian.pt/>



*going to have to spend resources on more engagement.” (Interviewee 2)*

Interviewee 1 emphasised that crowdfunding works best when embedded within community relationships:

*“We are not doing company financing; we are doing crowdfunding. Citizen science needs a community of practitioners around it. Sometimes you don’t need companies, you just need a community and an organisation. Ideally, projects would end up being cooperative.” (Interviewee 1)*

### 3.2.5 Membership and Subscription Models

The DITOs ‘Long-Term NGO’ archetype – characterised by diversified funding combining membership, donations, and grants – demonstrates greatest sustainability. The Bridgespan ‘Member Motivator’ model requires an established community with shared interests and infrastructure for membership management. Established conservation organisations exemplify this approach.

*“Garden Watch: subscription of 70 pounds – good model. Birdwatch – half a million people being asked immediately to give 5 pounds. Even if success rate is 1% it covers publicity. Lucky because it runs since 1969. BBC mentions it, other news channels too, because it’s such a long-term programme. They have a warm feeling about it.” (Interviewee 9)*

The longevity factor is significant: **membership models require years to build a sustainable base.** New initiatives cannot easily replicate this approach without substantial initial investment in community building.

### 3.2.6 Hybrid and Diversified Models

**The WP2 mapping found only 8% of projects using hybrid funding approaches, despite the literature suggesting these characterise the most sustainable initiatives.** CS practitioners recognise the relevance of hybrid models, as identified in the *CROPS Scalability Survey* (Figure 3.2).

Training programmes within EU projects now specifically address the need for diversification:

*“The training that we do in IMPETUS is exactly for helping them diversify the funding sources. And there are good examples of how to use crowdfunding, or how to create services on top of citizen science projects that can give a little bit of sustainability to the organisation.” (Interviewee 5)*

Interviewee 10 described the diversified approach of a CS EU project:



*“European projects, sometimes we take part to do a task. FCT [national funding]. We applied to Gulbenkian for associations – platform management... For smaller things – municipalities, companies for activities or projects.” (Interviewee 10)*

### 3.2.7 In-Kind Contributions

Non-monetary resources play a significant supporting role, though they **rarely constitute a primary funding model**. The *CROPS Scalability Survey* found in-kind contributions rated as ‘moderate to high’ importance by practitioners (Figure 3.2).

*“IBM – aligned with their interests. Using cloud computing capabilities and engineers from IBM running a network. Resource sharing – companies willing to give cloud space for citizen science. Amazon giving cloud credits. Google Summer of Code.” (Interviewee 9)*

Volunteer time represents the most substantial in-kind contribution to citizen science, though its economic value is rarely quantified in funding assessments.

## 3.3 Barriers and Challenges

The empirical data reveals a consistent pattern of challenges across all sources. These barriers align with and extend the gaps identified in the COESO deliverable D4.1 and the MLE Report on citizen science implementation.

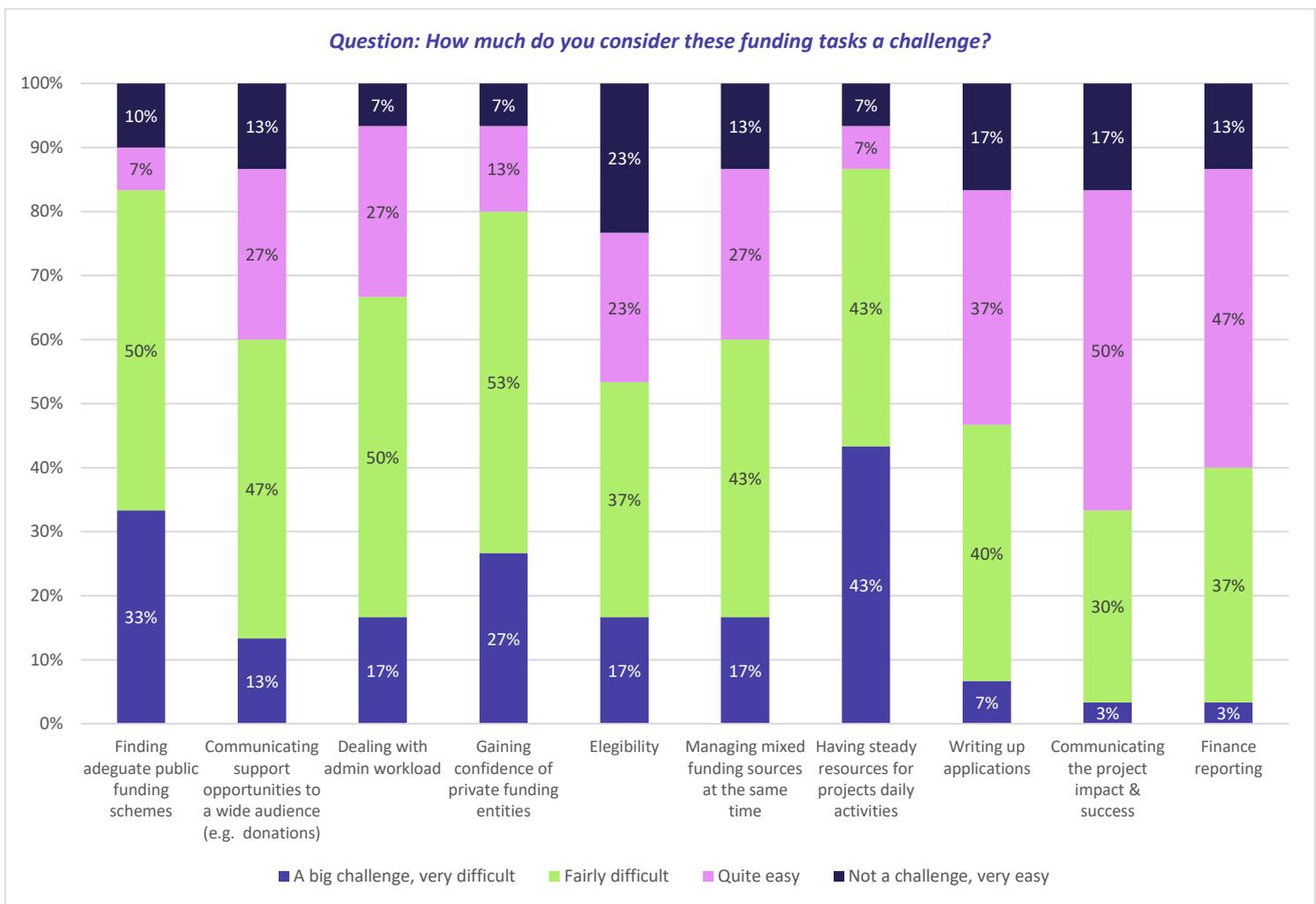
### 3.3.1 The Temporal Mismatch

**The fundamental tension between short-term funding cycles and long-term citizen science requirements emerged as the most significant structural barrier.** The COESO analysis noted that ‘typical project durations of 1-3 years are insufficient for initiatives requiring long-term data collection.’ All ten expert interviewees confirmed this finding.

*“It’s not common to have multiyear funding longer than three years. It’s usually limited to one to two year chunks.” (Interviewee 4)*

The consequences are severe. The *CROPS Scalability Survey* found 86% of practitioners rate ‘having steady resources for daily activities’ as difficult (Figure 3.3). One expert referenced research suggesting catastrophic mortality rates:

*“He showed a graph where he placed different citizen science projects based on size and type of funding, and he said that 95% of the projects that you see on this plot are already dead. So that shows that there is a big problem with sustainable funding.” (Interviewee 6)*



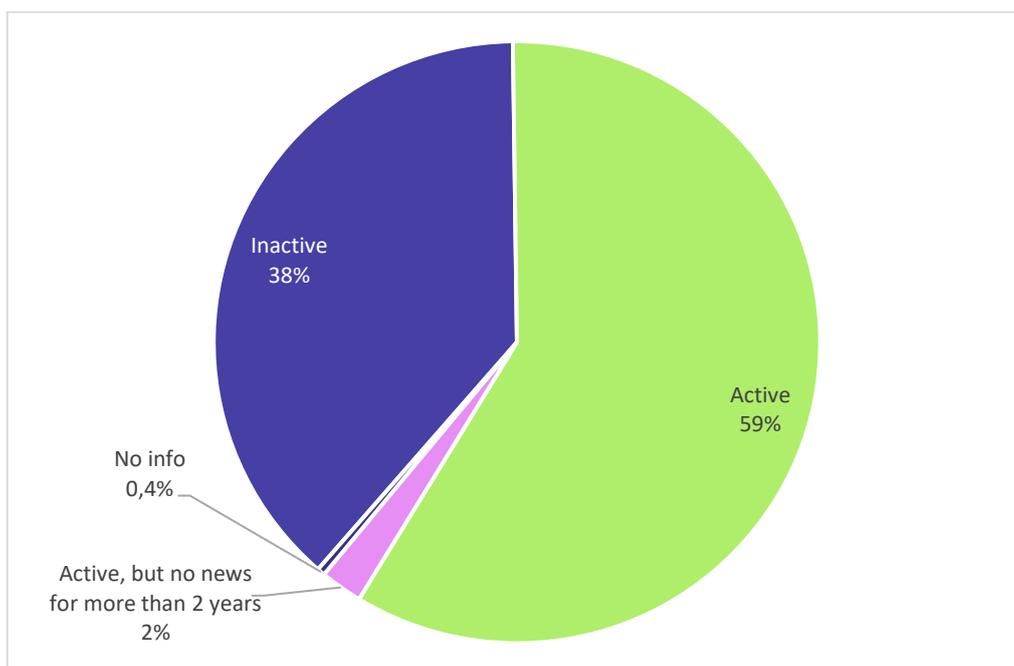
**Figure 3.3: Perceptions of CS practitioners on the difficulty to implement funding tasks**

Source: CROPS Scalability Survey (T3.2).

The WP2 mapping provides quantitative corroboration: 40% of 487 mapped projects show no evidence of continuation (websites down, resources unavailable, no updates for 2+ years, [Figure 3.4](#)) and nearly 50% have durations shorter than five years ([Figure 3.5](#)).

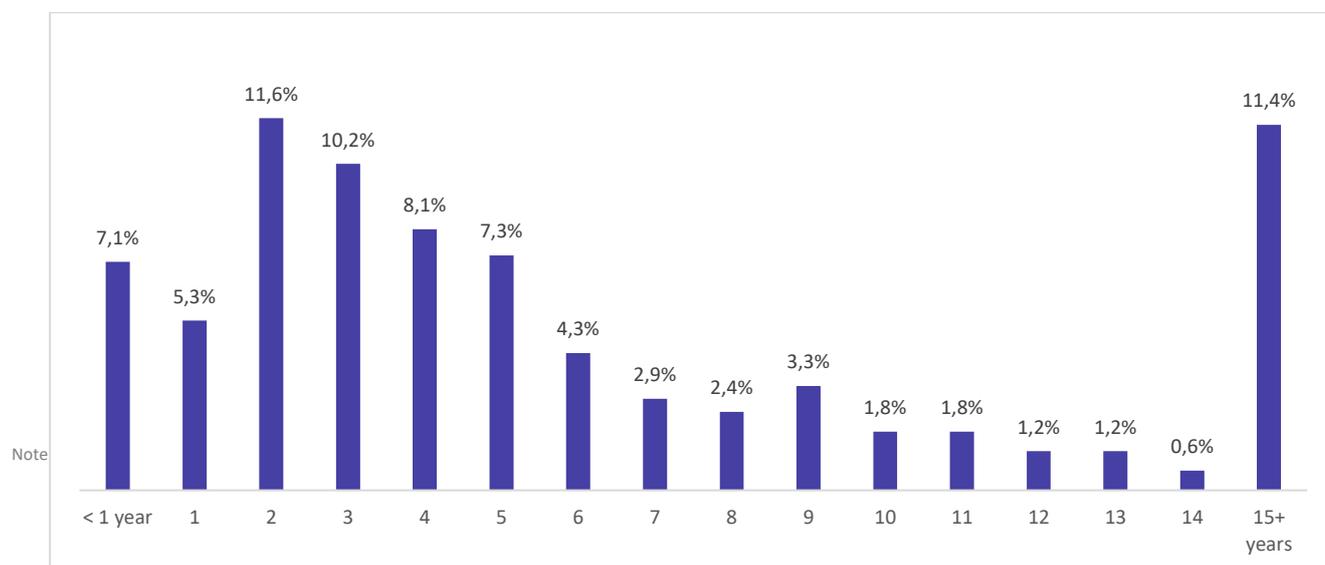
CROPS Case Study Survey respondents articulated the problem clearly: *“The grant model of the EU is not really suited towards long-term initiatives, which is not very sustainable, since it favours short-term (1-5 year) projects over long-term and proven projects (20+ years).”*

One respondent offered a particularly sharp critique: *“Funding scope of Citizen Science is to produce as many initiatives as possible that are being shut down and stopped at the end of funding, with the goal to reapply for more funding trying to do the same under a different name. It became a business model.”*



**Figure 3.4: Distribution of statuses (active/ inactive) of CS Projects mapped in CROPS WP2**

Source: CROPS CS Projects Mapping (D2.1 and D2.2).



**Figure 3.5: Duration (in years) of CS Projects mapped in CROPS WP2**

Source: CROPS CS Projects Mapping (D2.1 and D2.2).

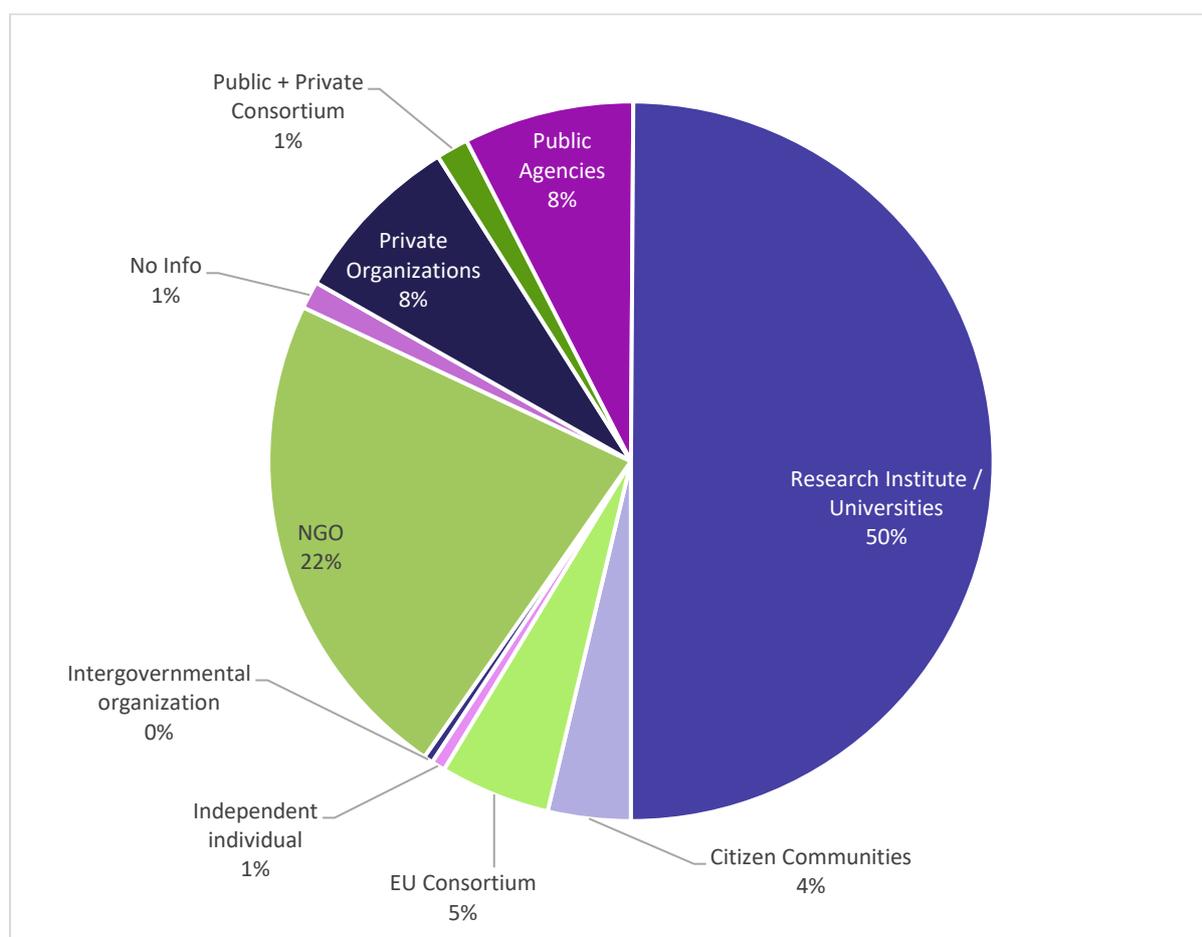


### 3.3.2 Institutional Design Bias

**Funding structures are designed for established research institutions, creating systematic disadvantages for grassroots initiatives, NGOs, and community-led projects.** The WP2 mapping found that 50% of projects are led by research institutes or universities, while only 4% are community-led (Figure 3.6).

*“It’s pretty inaccessible. It’s an art, not a science. It’s very ‘networky’. There can be language issues, location issues, funding issues. Power asymmetry. Consortia help to have a faster connection to an important institution.” (Interviewee 4)*

*“National research funding was designed in a way to go to research universities. Citizen science requires equitable sharing with NGOs, external organisations, paying citizens... the structure of funding is not designed for this.” (Interviewee 9)*



**Figure 3.6: Leadership of CS Projects mapped in CROPS WP2, by type of organisation**

Source: CROPS CS Projects Mapping (D2.1 and D2.2).



Even simplified funding mechanisms continue to exclude some potential applicants:

*“If you work with project calls, you already cross out grassroots initiatives, even if it’s simple. IMPETUS is an example – they still lose a lot of applicants, for example explaining budget. Not accessible to grassroots communities, but they have no idea how to set up this organisational structure.” (Interviewee 8)*

*“Motivated bottom-up projects don’t have writing skills but are passionate.” (Interviewee 7)*

### 3.3.3 Skills and Capacity Gaps

The ASU Lodestar Center (2016) analysis cautioned that social enterprise models require **business capabilities often absent** in research-focused organisations. The empirical data confirms this skills gap extends to fundraising and corporate engagement more broadly.

*“They don’t want to create a business. They want to count mosquitoes for the rest of their life. Is it OK to ask them to look for funding, to become expert about fundraising, to become expert about talking with companies? Entrepreneurs are a specific kind of person.” (Interviewee 5)*

The CROPS Scalability Survey found that 47% of practitioners rate “writing applications” as difficult, while 80% struggle with “gaining confidence of private funding entities” and 60% mention being difficult to “manage mixed funding sources at the same time” (Figure 3.3). These capacity constraints suggest the need for intermediary support structures rather than expecting all initiatives to develop commercial capabilities.

### 3.3.4 Categorical Misfit

The COESO analysis noted terminological barriers: SSH researchers may not identify their work as “citizen science”, limiting access to relevant funding. The empirical data reveals a broader problem of **initiatives not fitting established funding categories**.

*“We are so unique that we don’t fit into these boxes that grant calls are defining. We have to find people on the other side who understand the implications. I talked to foundations who are trying to fund scientific communication, they said sorry, we don’t fund citizen science.” (Interviewee 6)*

### 3.4 Sustainability Strategies

Despite the challenges, the empirical data identifies strategies that enable longer-term sustainability. These align with the characteristics of the DITOs ‘Long-Term NGO’ archetype and the Bridgespan guidance on building replicable funding models.



*Figure 3.7: Overview of sustainability strategies for CS projects*

*Source: Own elaboration, based on literature review and empirical data.*

#### 3.4.1 Clear Value Proposition and Demonstrable Data Use

The Bridgespan framework emphasises that **sustainable funding models must be matched to organisational mission and demonstrate clear value to funders**. For citizen science, this translates to articulating **how data serves identified needs** – particularly government or policy needs.

*“Everybody has their own goal. The first step is being clear on your value proposition and what you are trying to do and what you are seeking. The integrity of the project has to be clear.” (Interviewee 4)*

*“Going back to the example in Ghana, they have a lot of data gaps and are constantly looking for new ways to report on them. The project showed success – it had a direct use on what they could do to reduce*



*marine litter. If the project doesn't have a clear client, it's not good for sustainability." (Interviewee 4)*

The importance of monitoring data use was emphasised:

*"Some think tanks are generating good research but they don't track who is using their data. Before they make the grant, they ask the grantees which are the ways they track if the information is being used. There must exist a monitoring mechanism." (Interviewee 4)*

### 3.4.2 Funding Diversification

The Bridgespan research found that successful nonprofits typically concentrate on one dominant funding model. However, the citizen science context – where the dominant model (grants) is inherently short-term – may require a different approach. The DITOs analysis found that **the most sustainable CS initiatives use hybrid approaches.**

Service creation offers one diversification pathway:

*"Create services on top of citizen science projects that can give a little bit of sustainability to the organisation to, you know, have the moment between one public funding and the next one." (Interviewee 5)*

*"Spotteron, Natural Aptitude – in tech, if you find someone who needs tech for regulatory or professional purposes, they can cross-subsidise activities." (Interviewee 9)*

### 3.4.3 Community Ownership and Long-Term Engagement

**Community ownership provides both sustainability and legitimacy.** Projects with deep community roots can draw on volunteer commitment even during funding gaps. This aligns with the Bridgespan 'Member Motivator' model and the DITOs 'Long-Term NGO' archetype.

*"Keep citizens involved, keep getting data. Consider them as part of the project. Not one-way research, keep it open. Create an environment for citizen initiatives. You cannot force this. Be more open and allow the messiness." (Interviewee 8)*

*"It's a question of trust. Public bodies have to trust the community who is designing a project. We encourage people to slowly grow, in a fairer way. It's better to start with a small community and then grow." (Interviewee 1)*

### 3.4.4 Cascading Funding Mechanisms

**Cascading funding** – where large EU projects provide sub-grants to smaller initiatives with simplified requirements<sup>4</sup> – **emerged as particularly promising for addressing accessibility barriers.**

*“Cascading funding from the EU really works – make funding available at large scale with low threshold with a lot of support. Small organisations with small cascading grants build networks and become part of the EU community. If you do one, you can join larger consortia.” (Interviewee 7)*

The FSTP (Financial Support to Third Parties) mechanism was cited as an example, with IMPETUS alone distributing more than €2.5 million in cascading grants to citizen science initiatives.

### 3.4.5 Policy Integration and Institutional Embedding

**Linking citizen science data to official processes offers long-term sustainability potential:**

*“There must be a link to a government need so that the government funds it, or the organisation has to build an internal capacity to fund itself.” (Interviewee 4)*

*“When we look at the statistical national statistical offices and the fact that in some countries they are more open to incorporate citizens generated data. So this can be another pathway.” (Interviewee 5)*

Interviewee 4 highlighted momentum in related policy areas:

*“There is a lot of energy for funding Citizen Generated Data. The Collaborative on Citizen Data and the Copenhagen Framework... A lot of the funding going to Citizen Data could go to Citizen Science because they are very similar.” (Interviewee 4)*

## 3.5 Accessibility and Inclusiveness

The empirical data reveals significant gaps in terms of accessibility and inclusiveness in citizen science funding.

The *CROPS Scalability Survey* found that 83% of practitioners consider “finding adequate public funding schemes” difficult (**Figure 3.3**). Yet the problem is not simply scarcity – it is

<sup>4</sup> Cascade Funding calls, at EU Funding and Tenders: [https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/calls-for-proposals?order=DESC&pageNumber=1&pageSize=10&sortBy=startDate&isExactMatch=true&type=8&status=31094501\\_31094502](https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/calls-for-proposals?order=DESC&pageNumber=1&pageSize=10&sortBy=startDate&isExactMatch=true&type=8&status=31094501_31094502)



structural exclusion. As documented in Section 3.3.2, funding structures systematically favour institutionally-affiliated initiatives.

Geographic and linguistic barriers compound these structural issues:

*“There can be language issues, location issues, funding issues. Power asymmetry.” (Interviewee 4)*

The WP2 mapping found community-led projects represent only 4% of the 487 mapped initiatives (Figure 3.6), despite citizen science’s rhetorical emphasis on public participation. This suggests that current funding structures effectively filter out the most grassroots forms of citizen science.

One Case Study Survey respondent offered a stark assessment: *“There is no funding for public good activities. If you do something with the aim of long-term sustainability you’re out of funding scope.”*

### 3.6 Recommendations from the Field

The expert interviews concluded with recommendations for improving the citizen science funding landscape. These are organised by target audience.

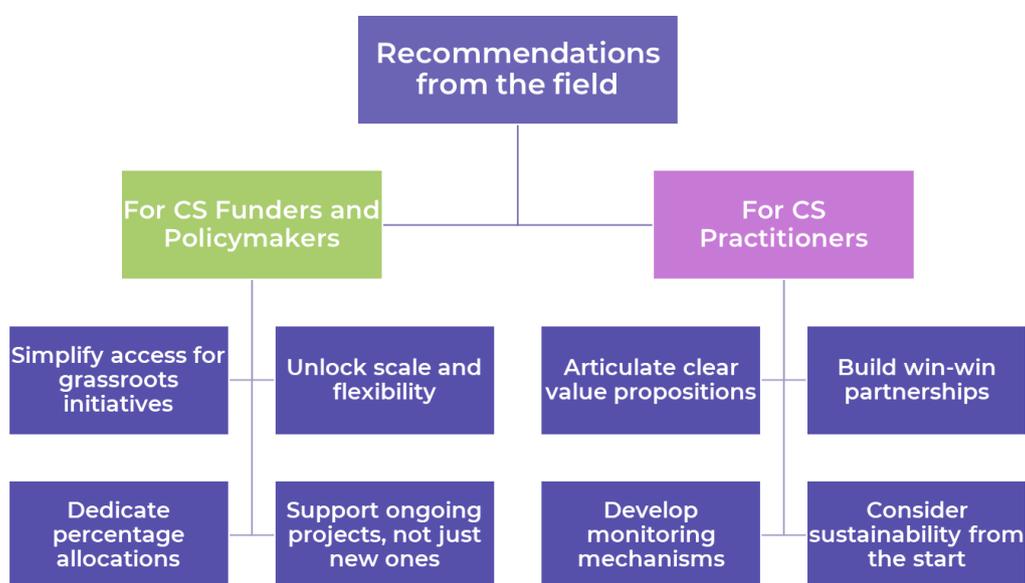


Figure 3.8: Recommendations from the field for CS Funders & Policymakers and Practitioners

Source: Own elaboration, based on literature review and empirical data.



### 3.6.1 For Funders and Policymakers

**Simplify access for grassroots initiatives:** Current application processes exclude community-led projects. Lower thresholds and simplified forms could expand participation.

*“Have even lower standards, a simple form. Cap it at 10K, higher risk of misaligned resources, but at least there will be more people applying. After this small trial you can take the next step to something bigger.” (Interviewee 8)*

**Unlock scale and flexibility:** Current funding mechanisms are neither large enough nor flexible enough to support citizen science at scale.

*“What can be done to unlock both the scale and the flexibility of multilateral funding?” (Interviewee 4)*

**Dedicate percentage allocations:** Rather than competing within general calls, citizen science could benefit from dedicated allocations.

*“10% CERN.” (Interviewee 9 suggesting a dedicated percentage allocation model)*

**Support ongoing projects, not just new ones:** Current incentives favour novelty over sustainability.

As one Case Study Survey respondent noted: *“We don’t need constant innovation; we need to support projects that have been running for several years, improving and developing them further.”*

### 3.6.2 For Practitioners

**Articulate clear value propositions:** Funders need to understand what problem you solve and for whom.

*“We help rebuilding the project so it’s understandable for someone who will review it. We try to simplify the complex projects. It’s more about the story behind: who are the protagonists, who is more affected, who are the beneficiaries.” (Interviewee 1)*

**Build win-win partnerships:** Private sector engagement requires demonstrating mutual benefit.

*“We proposed a set up for all participants that we managed to frame as a win-win-win setup. It was clear that we could put down some key points where it made a lot of sense for them to jump on this.” (Interviewee 6)*



**Develop monitoring mechanisms:** Track and demonstrate how your data is used.

**Consider sustainability from the start:** Plan for life beyond the grant cycle from project inception.

### 3.6.3 For CS supporters: the need for differentiated approaches

A recurring theme was that **different organisation types require different support:**

*“Focus on different target groups of such a process – different organisations have different angles. Valuable citizen science, but they need different types of support. Is one protocol enough? One size fits all runs a risk.” (Interviewee 7)*

This insight suggests the need for pathways, capacity-building tailored to organisational maturity, institutional affiliation, and funding history.

## 4 Mapping of Citizen Science Funding Models

This chapter provides a consolidated visual summary of citizen science funding models, synthesising the literature review frameworks with empirical findings. The tables below serve as reference tools for practitioners and policymakers.

### 4.1 Comprehensive Funding Models Map

**Table 4.1** maps each funding model identified in the literature against empirical evidence on its current usage, sustainability characteristics, and applicability to different citizen science contexts.

*Table 4.1: Comprehensive mapping of citizen science funding models*

Category	Model	Description	Prevalence	Sustainability	Best Suited For
Public/EU Grants	Competitive Grants (EU)	Peer-reviewed funding for defined project periods (H2020, HE)	Very High	Low: ends with grant; requires continuous reapplication	Research-oriented CS; university-led projects; technology development
	National/Regional Public	Research councils, regional authorities, government programmes	Moderate	Variable: some ongoing programmes exist	Nationally-focused CS; environmental monitoring; policy-linked data
	Cascading Grants (FSTP)	Sub-grants from larger EU projects with simplified requirements	Growing	Low: project-dependent; but good entry point	New/small initiatives; grassroots projects; capacity building
Private Sector	Corporate CSR	Corporate social responsibility programmes	Low	Variable: depends on corporate priorities	Tech-enabled CS; projects with visibility/PR value
	Industry Partnership	Commercial contracts or revenue-sharing arrangements	Very Low	High if established: recurring revenue possible	Data-generating CS; gaming integrations; sensor networks
Philanthropic	Foundation Grants	Grants from private foundations, often theme-focused	Low	Moderate: flexible but unpredictable	Thematically-aligned CS (environment, health); Global South
Crowdfunding	Online Campaigns	Campaigns for specific projects (Kickstarter, Experiment.com)	Very Low	Low: one-time; median ~\$3,500; high effort	Pilot projects; community-embedded initiatives; bridge funding
Membership	Membership/Subscription	Regular contributions from engaged community members	Low-Mod	High: predictable revenue if community established	Established NGOs; conservation CS; long-running programmes
Hybrid	Diversified Model	Combination of multiple funding sources	Low	High: resilience through diversification	Mature organisations; long-term initiatives

	Social Enterprise	Revenue from services (training, data products, consulting)	Very Low	High if viable: self-sustaining model	Technology providers; consultancy-capable organisations
In-Kind	In-Kind Support	Cloud computing, engineering time, equipment, volunteer labour	Supplementary	Variable: reduces costs but not standalone	Tech-dependent CS; partnerships with tech companies
	Institutional Base	University or research institute core funding	Moderate	Moderate: stable while institutionally embedded	Academic-led CS; teaching-linked initiatives

## 4.2 Funding Models by Organisation Type

**Table 4.2** provides a practical reference for matching funding model suitability to different organisation types. The matrix below draws on empirical patterns observed in the WP2 mapping and expert insights, identifying primary models, secondary options, key barriers, and sustainability pathways for each organisation type.

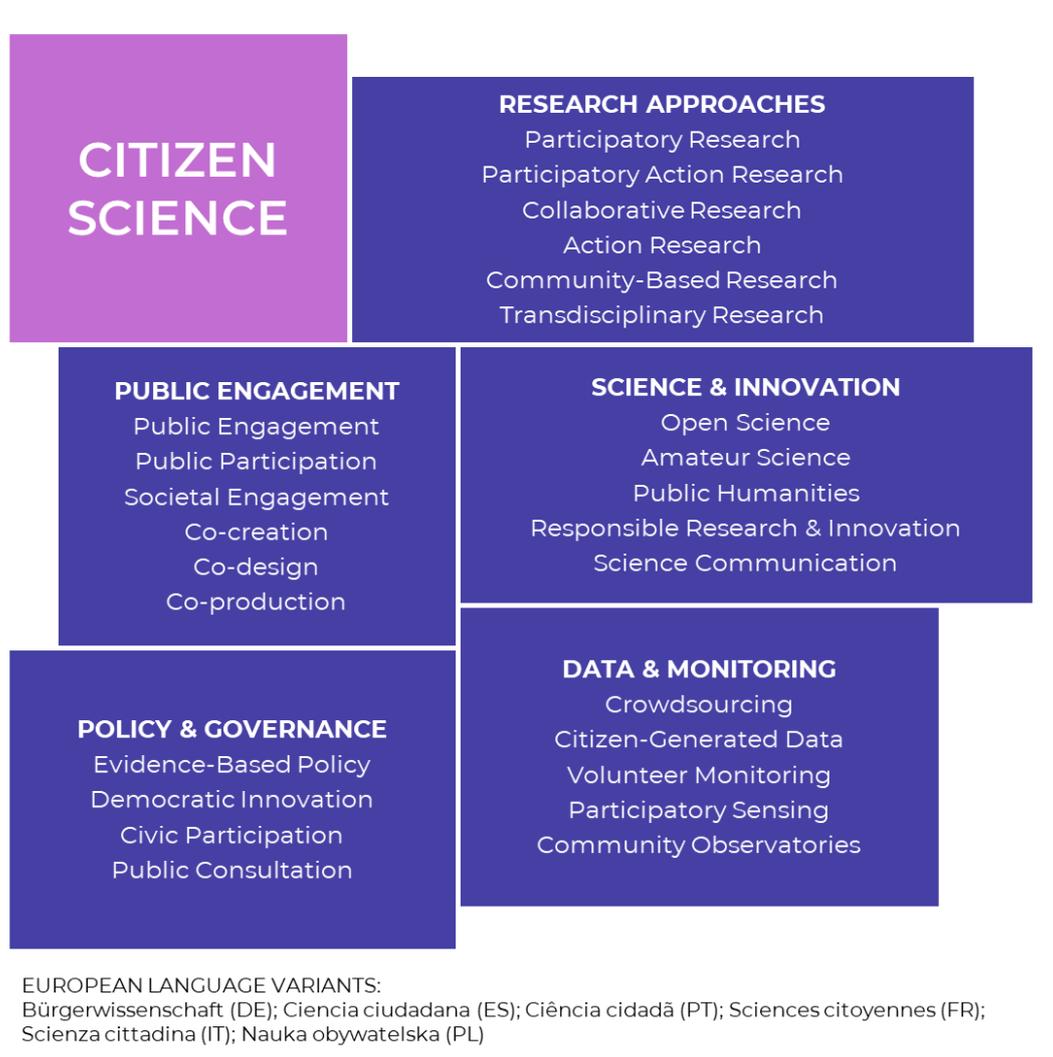
*Table 4.2: Funding model suitability by organisation type*

Organisation Type	Primary Model	Secondary Options	Key Barrier	Sustainability Path
University/ Research Institute	Competitive grants	Institutional base; industry partnership	Short cycles; project-to-project survival	Policy integration; data services; institutional embedding
Established NGO	Membership + grants	Philanthropy; crowdfunding; CSR	Maintaining member engagement over time	Diversification; community ownership
New/ Small NGO	Cascading grants	Crowdfunding; in-kind; local grants	Access; capacity; lack of track record	Build community first; seek umbrella organisation
Community/ Grassroots	Volunteer/ self-funded	Crowdfunding; local government; in-kind	Structural exclusion from formal funding	Partner with institution; formalise structure
Technology Provider	Social enterprise	Industry partnership; grants for R&D	Balancing mission and revenue generation	Cross-subsidisation; B2B services
Public Agency	Government budget	EU grants for innovation components	Political priorities; bureaucratic constraints	Embed CS in statutory obligations



### 4.3 Terminology Landscape for Citizen Science Funding

A significant barrier to accessing funding lies in terminology. Funding opportunities may not explicitly mention “citizen science” but use related expressions that practitioners may not immediately recognise. The COESO D4.1 study revealed an interesting paradox: while practitioners recognise many different terms as “citizen science”, they predominantly use “citizen science” when searching for funding. This suggests practitioners may be missing funding opportunities that use alternative terminology. **Figure 4.1** maps different terms associated to citizen science.



**Figure 4.1: Terminology Landscape for Citizen Science: citizen science related terms**

Source: Own elaboration, based on COESO D4.1 (2021); Haklay et al. (2021); Eitzel et al. (2017)



## 4.4 Funding Model Profiles

This section provides detailed profiles (“ID cards”) for the funding models identified in the literature and empirical research, and condensed in *Table 4.1*. Each profile synthesises characteristics, requirements, examples, and resources to serve as a practical reference for practitioners seeking to understand or adopt specific funding approaches.

### 4.4.1 Public and EU Grant Funding

#### 4.4.1.1 Competitive Grants (EU)

Competitive Grants (EU)	
<b>Description</b>	Peer-reviewed funding for defined project periods through European Commission framework programmes (Horizon 2020, Horizon Europe). Typically 2–4 year projects with specific deliverables, milestones, and reporting requirements.
<b>Prevalence in CS</b>	Very High
<b>Typical Amount</b>	€500,000 – €5,000,000 for CSAs; €2–15 million for RIAs
<b>Duration</b>	Typically 2–4 years
<b>Sustainability Rating</b>	Low: ends with grant; requires continuous reapplication
<b>Prerequisites</b>	Legal entity status; consortium formation capability; administrative capacity for EU reporting; alignment with call topics; often requires institutional affiliation.
<b>Best Suited For</b>	Research-oriented CS; university-led projects; technology development; large-scale transnational initiatives.
<b>Key Constraints</b>	Higher administrative burden; short cycles misaligned with long-term CS needs; inaccessible to grassroots; competitive success rates (<15%).
<b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">IMPETUS</a> (HE GA 101058677);</li> <li>• <a href="#">CROPS</a> (HE GA 101131696);</li> <li>• <a href="#">ACTION</a> (H2020 GA 824603);</li> <li>• <a href="#">DITOs</a> (H2020 GA 709443).</li> </ul>
<b>Further Information:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Horizon Europe Programme Guide</a>;</li> <li>• <a href="#">Funding &amp; Tenders Portal</a>;</li> <li>• <a href="#">CORDIS Results Pack on Citizen Science</a>;</li> <li>• <a href="#">ERA Platform – Horizon Europe support for citizen engagement</a>.</li> </ul>



#### 4.4.1.2 National and Regional Public Funding

National and Regional Public Funding	
<b>Description</b>	Funding from national research councils, regional authorities, and government programmes. May include dedicated CS schemes or general research calls. Varies significantly across Member States.
<b>Prevalence in CS</b>	Moderate
<b>Typical Amount</b>	€10,000 – €500,000 typically; varies by country and programme
<b>Duration</b>	1–4 years typically
<b>Sustainability Rating</b>	Variable: some ongoing programmes exist; depends on national priorities
<b>Prerequisites</b>	National eligibility requirements; often requires domestic institutional affiliation; language requirements in some countries
<b>Best Suited For</b>	Nationally-focused CS; environmental monitoring; policy-linked data collection; educational initiatives
<b>Key Constraints</b>	Fragmented landscape across Europe; limited dedicated CS schemes; language barriers; variable requirements
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Sparkling Science (Austria) – dedicated CS programme</a>;</li> <li>• <a href="#">BMBF Citizen Science funding (Germany)</a>;</li> <li>• <a href="#">FCT - Fundação para a Ciência e Tecnologia (Portugal)</a>;</li> <li>• <a href="#">Innoviris Co-Creat (Belgium/Brussels)</a>.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• <a href="#">COESO D4.1 – Landscape study on funding schemes</a> (Annex I: Funding entities);</li> <li>• <a href="#">Science Europe – Briefing Paper on CS (2018)</a>;</li> <li>• <a href="#">Center for Citizen Science Austria</a>;</li> <li>• <a href="#">Citizen Science Strategy 2030 for Germany (White Paper)</a>.</li> </ul>



#### 4.4.1.3 Cascading Grants (FSTP)

Cascading Grants (FSTP)	
<b>Description</b>	Financial Support to Third Parties (FSTP) – sub-grants distributed by larger EU projects to smaller initiatives with simplified application requirements. Designed to widen access to EU funding.
<b>Prevalence in CS</b>	Growing
<b>Typical Amount</b>	€5,000 – €60,000 per entity (EU maximum €60,000/third party)
<b>Duration</b>	6-18 months typically
<b>Sustainability Rating</b>	Low as standalone; High as entry point – builds capacity and networks
<b>Prerequisites</b>	Legal entity status (requirements vary); basic project management; alignment with open call topics; simpler than direct EU applications
<b>Best Suited For</b>	New/small initiatives; grassroots projects; capacity building; pilot activities; widening country organisations
<b>Key Constraints</b>	Dependent on parent project timeline; some admin requirements remain; limited amounts; availability varies
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">IMPETUS Accelerator</a>;</li> <li>• <a href="#">ACTION Accelerator</a>;</li> <li>• <a href="#">ScienceUs Upscale Academy</a>.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• EU Funding and Tenders – <a href="#">FSTP calls for proposals</a>;</li> <li>• EU guidance in <a href="#">HE Model Grant Agreement</a>.</li> </ul>



## 4.4.2 Private Sector Funding

### 4.4.2.1 Corporate Social Responsibility (CSR)

Corporate Social Responsibility (CSR)	
<b>Description</b>	Corporate social responsibility programmes providing funding for projects aligned with company sustainability or community engagement goals. Often one-off or annual grants rather than sustained partnerships.
<b>Prevalence in CS</b>	Low
<b>Typical Amount</b>	€10,000 – €100,000 typically; highly variable
<b>Duration</b>	Usually annual; may be renewed
<b>Sustainability Rating</b>	Variable: depends on corporate priorities; vulnerable to strategy changes
<b>Prerequisites</b>	Alignment with corporate sustainability goals; visibility/PR value; ability to communicate in business terms; formal partnership agreements
<b>Best Suited For</b>	Tech-enabled CS; projects with visibility/PR value; environmental monitoring with corporate relevance
<b>Key Constraints</b>	Greenwashing risks; community resistance; may require branding compromises; unstable as priorities shift
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Corporate partnerships with Earthwatch</a>;</li> <li>• <a href="#">Sensor.Community corporate sponsors</a>.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• DITOs D6.6 - Innovation Management Plan: <a href="#">“Making citizen science work”</a></li> </ul>



#### 4.4.2.2 Industry Partnership

Industry Partnership	
<b>Description</b>	Commercial contracts or revenue-sharing arrangements with mutual benefit. Company pays for services (data, engagement, technology integration) while CS project gains sustainable income stream.
<b>Prevalence in CS</b>	Very Low
<b>Typical Amount</b>	Variable
<b>Duration</b>	Multi-year contracts possible
<b>Sustainability Rating</b>	High if established: recurring revenue possible
<b>Prerequisites</b>	Clear value proposition for company; data or service with commercial value; business development skills; willingness to engage commercially
<b>Best Suited For</b>	Data-generating CS; gaming integrations; sensor networks; projects producing commercially valuable outputs
<b>Key Constraints</b>	Community resistance to commercialisation; open science tensions; business skills gap; mission drift risk
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">MMOS gaming partnerships</a> (EVE Online Project Discovery);</li> <li>• <a href="#">Spotteron app</a> development services;</li> <li>• <a href="#">Natural Apptitude</a> commercial services;</li> <li>• <a href="#">Zooniverse</a>;</li> <li>• <a href="#">Weather Underground</a> (Weather.com).</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• Alter, K. (2007) - <a href="#">Social Enterprise Typology</a>.</li> <li>• Le <i>et al.</i> (2024) - <a href="#">Integrative financing model for social enterprises</a>.</li> </ul>



### 4.4.3 Philanthropic Funding (Foundation Grants)

Philanthropic Funding (Foundation Grants)	
<b>Description</b>	Grants from private foundations, often theme-focused (environment, health, education). More flexible than government grants with less administrative burden. More common in USA than Europe.
<b>Prevalence in CS</b>	Low in European context
<b>Typical Amount</b>	€10,000 - €500,000; major foundations can provide multi-million grants
<b>Duration</b>	1-5 years typically; some offer rolling support
<b>Sustainability Rating</b>	Moderate: more flexible but unpredictable; foundations can change priorities
<b>Prerequisites</b>	Nonprofit status; alignment with foundation priorities; often requires personal networks; clear measurable goals
<b>Best Suited For</b>	Thematically-aligned CS (environment, health); Global South projects; pilot/innovation projects
<b>Key Constraints</b>	Requires access to foundation networks; less common in Europe; priorities can shift; competition for limited funds
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Calouste Gulbenkian Foundation</a> (Portugal);</li> <li>• <a href="#">Gordon and Betty Moore Foundation</a> (USA);</li> <li>• <a href="#">Wellcome Trust</a> (UK);</li> <li>• <a href="#">Volkswagen Foundation</a> (Germany);</li> <li>• <a href="#">Stall Catchers/EyesOnALZ</a> (funded by BrightFocus Foundation).</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• <a href="#">COESO D4.1 – Landscape study on funding schemes</a> (Annex I: Funding entities);</li> <li>• <a href="#">Fund It</a> database – funding opportunities;</li> <li>• Foster <i>et al.</i> (2009) <a href="#">‘Big Bettor’ model</a>.</li> </ul>



#### 4.4.4 Crowdfunding

Crowdfunding	
<b>Description</b>	Campaigns soliciting small contributions from many individuals for specific projects. Typically reward-based or donation-based. Platforms may be general (Kickstarter) or science-specific (Experiment.com).
<b>Prevalence in CS</b>	Very Low
<b>Typical Amount</b>	Median ~\$3,500 on Experiment.com; successful campaigns \$1,000–\$25,000
<b>Duration</b>	Campaign: 30–60 days; one-time funding event
<b>Sustainability Rating</b>	Low: one-time; high effort relative to amount; not scalable for operations
<b>Prerequisites</b>	Compelling narrative; digital marketing skills; existing networks; video production; time for campaign management
<b>Best Suited For</b>	Pilot projects; equipment purchases; community-embedded initiatives; bridge funding; student/early-career projects
<b>Key Constraints</b>	Small amounts; high competition; platform fees (5–10%); all-or-nothing models; declining effectiveness
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Experiment.com</a> – science crowdfunding;</li> <li>• <a href="#">Goteo</a> – civic crowdfunding (Spain);</li> <li>• <a href="#">Kickstarter</a> science projects;</li> <li>• <a href="#">Bighorn Basin Paleontological Institute’s 2017 Field Expedition</a> – Experiment.com campaign for paleontology CS.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• Sauermann <i>et al.</i> (2019). <a href="#">Crowdfunding scientific research</a>;</li> <li>• Dahlhausen <i>et al.</i> (2016). <a href="#">Crowdfunding Campaigns Help Researchers Launch Projects and Generate Outreach</a>;</li> <li>• Mollick (2014). <a href="#">The dynamics of crowdfunding</a>.</li> </ul>



#### 4.4.5 Membership and Subscription Models

Membership and Subscription Models	
<b>Description</b>	Regular contributions (annual/monthly) from community members sharing collective interest. Members receive benefits (newsletters, events, etc.) and governance participation. Bridgespan 'Member Motivator' model.
<b>Prevalence in CS</b>	Low-Moderate; common in established conservation NGOs
<b>Typical Amount</b>	Individual: £5–£100/year; total revenue depends on membership base
<b>Duration</b>	Ongoing – provides predictable annual revenue
<b>Sustainability Rating</b>	High: predictable revenue if community established; enables long-term planning
<b>Prerequisites</b>	Established community; legal structure; membership management infrastructure; clear value proposition; years to build
<b>Best Suited For</b>	Established NGOs; conservation CS; long-running programmes; 'popular topic' areas (birds, wildlife)
<b>Key Constraints</b>	Takes years to build; requires continuous engagement investment; not viable for new initiatives
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">British Trust for Ornithology</a> (BTO) – corporate membership;</li> <li>• <a href="#">RSPB Big Garden Birdwatch</a> – individual membership;</li> <li>• <a href="#">National Audubon Society</a> (USA);</li> <li>• <a href="#">British Mycological Society</a>.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• Foster <i>et al.</i> (2009). '<a href="#">Member Motivator</a>';</li> <li>• DITOs D6.6 - Innovation Management Plan: "<a href="#">Making citizen science work</a>" – 'Long-Term NGO' archetype.</li> </ul>



## 4.4.6 Hybrid Models

Hybrid Models	
<b>Description</b>	Combination of multiple funding sources providing resilience through diversification. Typically: grants + membership/donations + earned income. No single source dominates.
<b>Prevalence in CS</b>	Low; characteristic of most sustainable initiatives
<b>Typical Amount</b>	Variable – often €100,000–€1M+ annual budget for established organisations
<b>Duration</b>	Ongoing – model provides continuous operation capability
<b>Sustainability Rating</b>	High: resilience through diversification; can survive individual funding stream disruptions
<b>Prerequisites</b>	Organisational maturity; capacity to manage multiple streams; diverse skill sets; years to develop
<b>Best Suited For</b>	Mature organisations; long-term initiatives; established NGOs transitioning from grant dependence
<b>Key Constraints</b>	Requires significant capacity; takes time; management complexity; may require hiring different skills
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">BioDiversity4All</a> (Portugal);</li> <li>• <a href="#">eBird/Cornell Lab of Ornithology</a>;</li> <li>• <a href="#">iNaturalist</a>;</li> <li>• <a href="#">CoCoRaHS</a> (Community Collaborative Rain, Hail, Snow Network).</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• Kim <i>et al.</i> (2011) <a href="#">Finding Your Funding Model</a>;</li> <li>• DITOs D6.6 - Innovation Management Plan: <a href="#">“Making citizen science work”</a> – ‘Long-Term NGO’ archetype.</li> </ul>



#### 4.4.7 Social Enterprise

Social Enterprise	
<b>Description</b>	Revenue from services (training, data products, consulting) reinvested in mission. Mission-driven business generating income that cross-subsidises citizen science activities.
<b>Prevalence in CS</b>	Very Low – rare in CS context
<b>Typical Amount</b>	Highly variable; depends on service market
<b>Duration</b>	Ongoing if viable
<b>Sustainability Rating</b>	High if viable: self-sustaining model
<b>Prerequisites</b>	Marketable service or product; business development skills; ability to balance mission and revenue; market demand
<b>Best Suited For</b>	Technology providers; consultancy-capable organisations; training providers
<b>Key Constraints</b>	Tension with open science values; business skills gap; mission drift risk; market development required
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Spotteron</a> – app services cross-subsidise CS;</li> <li>• <a href="#">Natural Apptitude</a> – technology services;</li> <li>• <a href="#">Hackuarium</a> - not-for-profit Swiss association;</li> <li>• <a href="#">Fix My Street</a> (UK) – charity.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• Alter, K. (2007) - <a href="#">Social Enterprise Typology</a>.</li> <li>• Le et al. (2024) - <a href="#">Integrative financing model for social enterprises</a>.</li> </ul>



#### 4.4.8 In-Kind Contributions

In-Kind Contributions	
<b>Description</b>	Non-monetary support: cloud computing, engineering time, equipment, volunteer labour, office space. Reduces operational costs but typically supplementary rather than standalone.
<b>Prevalence in CS</b>	Supplementary – common but rarely sole support
<b>Typical Amount</b>	Variable value
<b>Duration</b>	Variable – project-based or ongoing
<b>Sustainability Rating</b>	Variable: reduces costs but not standalone funding
<b>Prerequisites</b>	Partnership relationships; alignment with provider interests; ability to utilise technical contributions
<b>Best Suited For</b>	Tech-dependent CS; partnerships with tech companies; academic collaborations
<b>Key Constraints</b>	Not a complete funding solution; dependent on partner priorities; may come with conditions
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">Google Summer of Code</a> – mentorship;</li> <li>• <a href="#">World Community Grid</a> – volunteer computing.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• DITOs D6.6 - Innovation Management Plan: <a href="#">“Making citizen science work”</a>.</li> </ul>



#### 4.4.9 Institutional Base Funding

Institutional Base Funding	
<b>Description</b>	University or research institute core funding supporting staff time and infrastructure. CS activities embedded within institutional roles rather than externally funded.
<b>Prevalence in CS</b>	Moderate
<b>Typical Amount</b>	Variable – typically covers staff time, not direct project costs
<b>Duration</b>	Ongoing while institutionally embedded
<b>Sustainability Rating</b>	Moderate: stable while institutional commitment continues
<b>Prerequisites</b>	Institutional affiliation; alignment with institutional mission; academic position or embedded role
<b>Best Suited For</b>	Academic-led CS; teaching-linked initiatives; long-term monitoring programmes
<b>Key Constraints</b>	Dependent on institutional priorities; limited flexibility; vulnerable to restructuring; typically supplementary
 <b>Examples:</b>	<ul style="list-style-type: none"> <li>• <a href="#">European Ladybird Survey</a>;</li> <li>• <a href="#">Project Soothe</a>.</li> </ul>
 <b>Further Information:</b>	<ul style="list-style-type: none"> <li>• DITOs D6.6 - Innovation Management Plan: <a href="#">“Making citizen science work”</a> – ‘Motivated Individual’ archetype.</li> <li>• Shirk <i>et al.</i> (2012). <a href="#">Public Participation in Scientific Research</a>. – institutional frameworks.</li> </ul>



## 5 Conclusions

### 5.1 Key Findings

The mapping of citizen science funding models reveals a field dominated by short-term public grant funding, with significant sustainability challenges and underutilised alternative models.

**Public funding dominance creates vulnerability.** More than 50% of citizen science projects rely primarily on EU or national grant funding. While this model enables major advances during funded periods, it provides no pathway to long-term sustainability. The 40% discontinuation rate observed in the WP2 mapping, and the expert observation that ‘95% of projects are already dead,’ underscore the severity of this structural problem.

**A sustainability crisis is evident.** Three-quarters of practitioners find securing funding challenging. The fundamental mismatch between short funding cycles (1–3 years) and long-term citizen science requirements (continuous monitoring, community building, data series) creates a structural barrier that individual initiatives cannot overcome alone.

**Alternative models are underutilised.** Despite evidence that diversified and hybrid funding approaches offer greater sustainability, only 8% of mapped projects use them. Private sector engagement, philanthropic funding, membership models, and social enterprise remain rare – constrained by both structural barriers and community resistance.

**Accessibility remains problematic.** Funding structures designed for research institutions systematically exclude grassroots initiatives. Community-led projects represent only 4% of mapped initiatives. Even simplified cascade funding mechanisms lose applicants due to residual administrative requirements.

**Promising pathways exist.** Cascading funding mechanisms, policy integration (particularly citizen-generated data frameworks), membership models for established communities, and carefully managed private sector engagement all show potential. The DITOs ‘Long-Term NGO’ archetype – combining membership, donations, and grants – offers a model that more initiatives could adapt with appropriate support.

**Evaluation frameworks remain underdeveloped.** The challenge of demonstrating citizen science impact creates a circular problem: without demonstrated impact, securing continued funding becomes difficult, yet demonstrating impact requires resources that short-term funding rarely provides (Kieslinger *et al.*, 2018; Wehn *et al.*, 2021).



## 5.2 Implications for the future: development of protocols (CROPS D4.4)

The findings have direct implications for the *Protocol for mobilising funding and ensuring sustainability (D4.4)*, which will be developed as part of CROPS project:

**Differentiated pathways are essential.** One-size-fits-all guidance will not serve the diverse citizen science landscape. The protocol should provide tailored pathways for different organisation types (university-based, NGO, grassroots, technology provider), different maturity levels (new initiatives, established programmes), and different funding histories (first-time applicants, experienced grant holders).

**Practical tools should address identified gaps.** The protocol should include: funding landscape navigation guides; templates for value proposition articulation; guidance on corporate engagement that addresses ethical considerations; transition planning frameworks for moving from grant-dependence to diversified models; and community engagement strategies that build sustainability through ownership.

**Systemic recommendations should accompany practitioner guidance.** Beyond advice for initiatives, the protocol should articulate recommendations for funders and policymakers: dedicated citizen science funding schemes with appropriate timescales; simplified access mechanisms; support for intermediary structures; and integration pathways for citizen-generated data.

## 5.3 Limitations

The analysis focuses on European citizen science funding; patterns may differ in other geographic contexts, particularly the United States where, as we have seen, philanthropic funding plays a larger role. Finally, the funding landscape is dynamic; mechanisms like cascading grants continue to evolve, and new policy frameworks (such as those around citizen-generated data) may create opportunities not fully captured in this report.

## 5.4 Final Remarks

The mapping presented in this deliverable reveals both the challenges and opportunities facing citizen science funding in Europe. The current landscape – dominated by short-term grants, with high discontinuation rates and significant accessibility barriers – is not sustainable. Yet the evidence also points toward viable pathways: diversification, cascading mechanisms, policy integration, and community ownership.

The fundamental challenge is structural: funding systems designed for traditional research institutions and short-term projects do not align with the long-term, community-based nature of citizen science. Addressing this requires action at multiple levels – from individual initiatives developing diversified strategies, to funders creating dedicated schemes, to policymakers recognising citizen-generated data within official frameworks.



As *Interviewee 5* observed, researchers “want to count mosquitoes for the rest of their life” – and there is value in enabling them to do so. The protocol developed in D4.4 will translate these findings into practical guidance, supporting citizen science initiatives in navigating a complex funding landscape while advocating for the systemic changes that would make that landscape more hospitable to their essential work.





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## Annexes

### Annex 1: Interview Protocol (semi-structured interview script)

#### Introduction

- About CROPS project
- Goal of interview
- Consent request

#### Questions

1. Could you briefly tell me about your experience with citizen science initiatives and your role in relation to funding?
2. Based on your experience, what would be the key elements of an ideal protocol to help citizen science initiatives mobilize sustainable funding? What usual steps and recommendations do you usually take to mobilise funds?
3. What funding models have you observed in citizen science initiatives:
4. What are, in your opinion, the best practices of in-kind contributions or non-monetary resources in CS (e.g., volunteer work, data sharing)?
5. Could you describe the most successful and effective sustainability approaches and strategies you have encountered to keep a CS project running?
6. What are the most significant challenges when securing funding for citizen science projects?
7. Have you observed links between RRI and funding acquisition?
8. Do you believe that existing funding policies/programmes, both at the EU and national levels, adequately support citizen science initiatives?
9. In your opinion, how accessible is the existing funding landscape to CS?
10. What recommendations do you have for improving the current funding landscape for citizen science initiatives, keeping in mind project sustainability (i.e. ensuring that necessary resources are available in the long term)?
11. Are you familiar with any emerging funding or sustainability approaches that are innovative, and you consider particularly promising?
12. Do you think that private funding could be leveraged for CS? If so, how?
13. Is there anything else about funding models or sustainability practices in citizen science that you think is important for us to consider as we develop this protocol?



## Annex 2: Survey Instruments: CROPS Case Study Survey

Which Citizen Science project are you representing? Please provide name(s) and website(s)

**1. Which funding sources have been most critical to the success of your citizen science initiatives?**

**2. How would you rate the adequacy of your current funding model in supporting the long-term sustainability of your Citizen Science project? Very Inadequate to Very Adequate**

**2.1. Justify.**

**3. What are the main challenges you face regarding your Citizen Science project's funding model? Select as many as applicable to your case.**

- Calls that are too generic (not specific for CS)
- Lack of dedicated funds for CS
- Lack of long-term sustainability (project continuation)
- Lack of private funding (commercialisation)
- Dependence on public funding
- Lack of competences, skills, knowledge
- Language Barriers (mother tongue not being EN)
- Difficulty in assessing opportunity related information (knowing about calls and deadlines)
- The need to anticipate costs
- Lack of trust between the candidate and the funder
- Uncertainty about the continuity of funding (budget)
- Funding is constrained by external factors (economy, wars, changes in politics, etc.)
- Other:

**3.1. Please elaborate on your answers in question 3, by providing comments and justifications about your selections.** We want to understand better the scope and specifications of the challenges faced by your projects.



**4. To what extent does your current Citizen Science funding mechanism encourage or hinder accessibility/inclusiveness (who can access it) and community ownership?**

Strongly hinder to Strongly encourage

**4.1. Please justify.**

**5. What improvements or innovations would you suggest to enhance your current funding model and sustainability for Citizen Science initiatives?**

- Create dedicated funding for CS
- Foster funding for ongoing projects (not new ones)
- Prioritize RRI
- Make projects scalable (revenue generation attached to project)
- Address different target groups
- Making sure a project can go on after the end of the funding
- Focus on communities that are already built (network)
- Other:

**5.1 Please justify your answer in question 5, allowing us to have a better understanding of your suggestions.**