



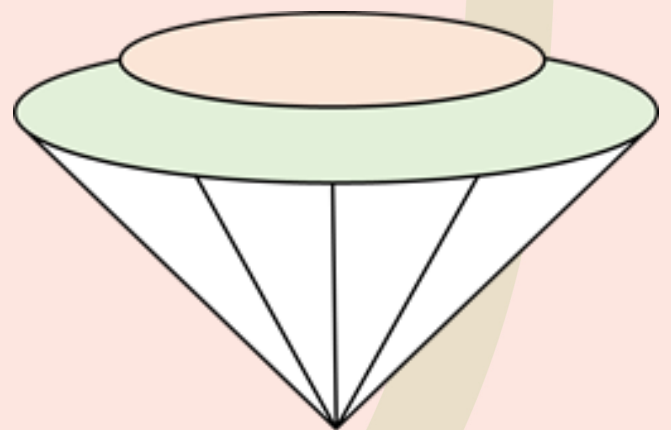
**Edible Cities Network**

**Edible Cities Network – Integrating Edible City Solutions for social, resilient and sustainably productive cities**

# EdiCitNet

**Deliverable D6.6**

## **ECSI Business Model Analysis & Typology**



EdiCitNet has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 776665.

## About this document:

Deliverable lead beneficiary: Wageningen University (WU)

Dissemination Level: PU (Public)

Submission Date: 01.12.2021

### Author:

Wageningen University (WU): Bischof, Alice

### Support:

Wageningen University (WU): Hagelaar, Geoffrey L.F.; Wubben, Emiel F.M.

Humboldt Universität zu Berlin (UBER): Reddy, Suhana

Nabolagshager (NABOLAGSHAGER): Martinez, Laura; Curtis, Adam

### Contributors:

Krachtgroen, de Groene Connectie, Groen010 (ECSI FRC ROTTERDAM): Bouwhuis, Nienke

Coöperatie Ondergrond (ECSI FRC ROTTERDAM): De Graaf, Paul

Stadskwekerij De Kas (ECSI FRC ROTTERDAM): Versteeg, Marja

FRC ANDERNACH: Karlsson, Anneli

MUNDRAUB: Gildhorn, Kai; Sepahzad, Jasmin

NOLDE & PARTNER: Nolde, Erwin

### Acknowledgment:

We would like to thank all ECSI that contributed to developing the present work. It was an iterative co-creation between science and practice.

### Quality assurance:

OSLO KOMMUNE (OSLO): Degenhardt, Stephanie

**For any comments please contact: [edicitnet-coordinator@eurtd.com](mailto:edicitnet-coordinator@eurtd.com)**

The document reflects only the views of the authors and the Executive Agency for Small and Medium-sized Enterprises, and the European Commission are not responsible for any use that may be made of the information that the document contains.

# Table of Contents

Executive Summary	5
1. Introduction	6
2. The Business Model Concept in the Context of Edible City Solution Initiatives	8
3. Methodological Approach	14
4. The Organisational Value System	18
5. Typology of Organisational Value Systems	29
6. Strategies for Continuity and Growth	35
7. Discussion	44
8. Ten Key Learnings	47
References	49
Annex	53
Glossary	57

## Figures

Figure 1. The Value Triangle. Source: Author.	12
Figure 2. Workshop with ECSI in Oslo on September 30, 2021.	16
Figure 3. The metaphorical language of the Organisational Value System. Source: Author.	19
Figure 4. Step I (1): Key social and physical resources. Source: Author.	21
Figure 5. Step I (2): Key stakeholders. Source: Author.	23
Figure 6. Step I (3): Stakeholder values. Source: Author.	24
Figure 7. Step I (4): Value channels. Source: Author.	26
Figure 8. Stakeholder resources. Source: Author.	28
Figure 9. Stakeholder resources: Selection. Source: Author.	28
Figure 10. The OVS Value Loop. Source: Author.	29

Figure 11. Type I: Commercial Value Loop.	30
Figure 12. Type II: Social Value Loop.	31
Figure 13. Type III: Nature-based Value Loop.	32
Figure 14. Type IV: Commercial-Social Value Loop.	32
Figure 15. Type V: Social-Nature-based Value Loop.	33
Figure 16. Type VI: Nature-based-Commercial Value Loop.	33
Figure 17. Type VII: Social-Commercial-Nature-based Value Loop.	34
Figure 18. Positive externalities in the OVS.	37
Figure 19. Negative externalities in the OVS.	37
Figure 20. Bricks in the value loop. Source: Author.	38
Figure 21. Gaps in the value loop. Source: Author.	38
Figure 22. The Value Proposition Canvas (Strategyzer, 2021 available at <a href="https://www.strategyzer.com">https://www.strategyzer.com</a> ) as a "plug-in" for the OVS.	45
Figure 23. Building a 3D OVS model of the values of an ECSI in Rotterdam. Workshop on September 22, 2021.	46

## Tables

Table 1. Comparison of the Triple Bottom Line Business Model Canvas (Joyce & Paquin, 2016) and the Organisational Value System (Author, 2021).	17
Table 2. The four steps of conducting an OVS analysis including strategies. Source: Author.	20
Table 3. Typology of ECSI Organisational Value Systems. Source: Author.	29

## Executive Summary

How can the business models of Edible City Solution Initiatives (ECSI) be understood to support their continuity and upscaling?

This is the guiding question the present Deliverable (D6.6) seeks to answer through the analysis and typology of ECSI business models, including the derivation of strategies for continuity and growth per type.

D6.6 is informed by previous work done in D6.5 on the Triple Layered Business Model Canvas (TLBMC). It is part of the action plan of the EdiCitNet Business Consulting Team (D6.4). It connects questions of ECSI scaling and growth raised in D3.3 (forthcoming) with a new analytical tool for ECSI business model analysis.

We found that commercial value creation and capture does not play a major role for many ECSI within EdiCitNet, and that the TLBMC (cf. D6.5) does not offer a useful tool for ECSI business model analysis precisely because it implies commercialisation as primary way of value creation and capture.

Yet, like any type of organisation, all ECSI follow a *basic* mechanism of value creation and capture. The present Deliverable builds on that basic mechanism and develops the Organisational Value System (OVS) to be able to analyse the variety of value creation and capture mechanisms

that ECSI follow – including, but not restricted to, commercialisation (cf. D6.3 and D6.4).

OVS-based analyses and a typology of various ECSI are presented, including strategies for continuity and growth per type. Three archetypes are distinguished:

- Commercial Type
- Social Type
- Nature-Based Type

Further, four mixed types are distinguished:

- Commercial-Social Type
- Social-Nature-based Type
- Nature-based-Commercial Type
- Social-Commercial-Nature-based Type.

For each type, a business model analysis with a case example and strategies for continuity and growth are presented. The proposed typology, strategies for continuity and growth, and the potential applications of the OVS are discussed. The report concludes with ten lessons learnt from the interplay of science and practice that brought the OVS into being.

# 1. Introduction

Edible City Solutions are defined as “[a]ctivities, measures, products and services that support and facilitate sustainable urban food production, distribution and consumption. Examples include urban farming, building-integrated agriculture, agroforestry, indoor and vertical farming, urban beekeeping, food surplus redistribution programmes, community kitchens, closed loop systems for sustainable resource management and urban food-related educational services” (EdiCitNet, 2021b). They thus tackle the sustainability challenges of today’s urban food systems while contributing to greener and more liveable urban environments. Initiatives implementing ECS are called ECS Initiatives (ECSI).

Currently, dominant urban food provision and consumption patterns negatively impact the environment, society, and (socio-)economic equality (Vermeulen et al., 2012; Rockström et al., 2009; Wiskerke, 2009; Swinburn et al., 2011). To ensure food security for all people while staying within the planetary boundaries, urban food systems need to become more sustainable (Rockström et al., 2009; Zurek et al., 2018).

ECSI in their manifold forms address those sustainability challenges: In relation to urban food systems, they can have positive effects on the city

environment, human health, and hold economic potentials (van der Schans, 2015; Lohrberg et al., 2015; Säumel et al., 2019). Integrated in material and energy streams of the city, ECSI take on a multiplicity of functions besides food provisioning, including education about food and the environment, opportunities for economic development, ecological benefits, and social benefits such as community building (cf. ECS “Value Chain”<sup>1</sup>, D6.4, EdiCitNet, 2021a). The precise combination depends on the characteristics of the organisation and its individual goals.

The organisational forms of ECSI range from civil society organisations and municipal public policy programmes to commercial start-ups and grassroots initiatives. Growing systems are variegated, too – they can range from high-tech aquaponics to low-tech ground-level vegetable beds.

Despite their positive impacts, many ECSI struggle for long-term continuity. Reasons for this struggle are variegated; examples include planning insecurity due to earmarked funding; difficulties to involve reliable and committed volunteers; or problems in positioning ECSI products and services in the market.

What all those struggles for continuity have in

common is the need for education, raw resource input, resource and waste recovery, retail, circular economy, distribution (for more details, see D6.4 and 2<sup>nd</sup> PR).

---

<sup>1</sup> The OVS is different from the concept of the ECS Value Chain (EdiCitNet, 2021a). The ECS Value Chain describes product or service categories of ECSI which involve different value propositions, e.g., edu-

common, though, is the challenge to involve stakeholders in the organisation in such a manner that enough and useful value can be captured from those stakeholders in a reliable and recurring manner. Value capture is the prerequisite for an organisation's continuity, and it can enable up-scaling.

Through our work with ECSI, we found that the conventional, commercial business model perspective on ECSI as provided through the Triple Layered Business Model Canvas (TLBMC), for example (Joyce & Paquin, 2016; cf. D6.5), does not offer a useful tool to understand and analyse the range of value creation and capture mechanisms that make ECSI continue and grow. We found that commercialisation does not play a major role for many ECSI. In response, the Organisational Value System (OVS) was developed. The OVS serves as an update to the conventional business model perspective, enabling the analysis of the variety of ECSI value creation and capture mechanisms. Thus, in the remainder of this text, the term Organisational Value System (OVS) will thus mean roughly the same as the term 'business model' regarding value creation and capture mechanisms.

With the OVS, this Deliverable (D6.6) answers the question: How can ECSI business models be understood to support ECSI continuity and upscaling? The Deliverable's objectives are:

1. To develop a typology of ECSI business models;
2. To suggest strategies for continuity and growth of ECSI per type.

To achieve those objectives, this D6.6 builds on and expands insights from the Deliverables D3.3 (forthcoming), D6.2, D6.4 and D6.5. It is part of the action plan of the EdiCitNet Business Consulting Team (BCT) (D6.4). It draws on insights from interviews and surveys with ECSI stakeholders, tailor-made business model workshops, and an in-depth literature review of scientific literature on business models of ECSI (urban agriculture organisations).

First, an overview of the business model concept in the context of ECSI (Chapter 2) will be provided. Then, the origin of the methodological approach to analysing and typifying ECSI with the OVS is explained (Chapter 3). Chapter 4 introduces the OVS analysis step by step at the example of the ECSI 'Flower' (anonymised). Chapter 5 presents a typology of ECSI OVS with anonymised case examples from different Front Runner Cities (FRC). Chapter 6 suggests strategies for continuity and growth. D6.6 concludes with a discussion (Chapter 7) and Key Lessons Learnt (Chapter 8). Practical resources for the analysis of ECSI OVS are provided in the Annex.

## 2. The Business Model Concept in the Context of Edible City Solution Initiatives

*This section provides some theoretical background and definitions of the business model concept in the context of ECSI. It is not essential for the understanding of the OVS and can be jumped by practice-oriented readers.*

A business model is the logic according to which an organisation enacts specific values and builds an activity system that ensures the continuous creation and capture of value (Amit & Zott, 2015; Laasch, 2019; also cf. Gehman et al., 2013). In other words, the business model of an organisation describes how people, information and resources are orchestrated to create value that is then offered to the organisation's stakeholders, and how the organisation captures value from the organisation's stakeholders.

This mechanism can be easily understood when we look at a commercial business model: A customer pays a price set by a business for a product or service. The price is the expression of value that the buyer and the company agree on, and it thus enables value to be captured from the client in the form of money.

However, many ECSI have other ways of creating and capturing value than creating products or services and capturing money. For example, many ECSI work with volunteers who are not paid. Other ECSI offer workshops and gardening sessions for free; those activities literally 'live off' human motivation and skills without a price tag. Moreover, by definition, ECSI work with ECS, i.e., natural resources and ecosystem services, creating and capturing value even with non-human stakeholders such as earth worms, trees, flowers, and physical entities like the sun, groundwater bodies, and

mineral soil.

In the context of ECSI, the term 'business model' thus needs some explanation and qualifications not to be taken too narrow as a commercialisation mechanism. Certainly, many ECSI do not identify themselves as a 'business' nor claim to have a business model in the conventional sense, implicating that commercialisation of products and services does not play such a big role for the ECSI's value capture mechanism. There are also ECSI that explicitly refrain from commercial value capture because they find this to undermine their purpose, their mission, or their vision. Yet, any organisation needs to capture value in order to survive. What differs, though, is the content of the value that is captured. It is not always or only money that is captured, it may also relate to ecosystem services, emotions, and knowledge, to name a few examples. Thus, in the context of ECSI, we will broaden the meaning of business models to the general mechanism of value creation and capture. In other words: "Every organisation has a business model" (Casadesus-Masanell & Ricart, 2010; Osterwalder & Pigneur, 2011), no matter which organisational type or legal form it has. Thus, every ECSI has a business model.

We will also widen the narrow focus on customers, clients, and shareholders pertaining to the vocabulary of commercial business models, to the more general term 'stakeholders'. Stakeholders are defined as any human or non-human actor that is actively or passively involved in the organisation (affected by or impacting an organisation, intentionally or unintentionally, cf. D6.2).

The following section will give some background



about how we conceptualise ECSI as organisations with ‘business models’ as value creation and capture mechanisms to understand how their continuity and growth can be supported.

## 2.1 What is an ‘organisation’?

To understand how every organisation has a basic mechanism of value creation and capture, the term ‘organisation’ needs to be defined. We define the organisation as

*a socio-physical system of means set up for intentional action with specific material and/or immaterial ends that intending human stakeholders (and potentially other stakeholders) assign positive and desirable value(s) to.*

Now, we break down this definition and explain what it means:<sup>2</sup>

A **socio-physical system** is a system that comprises both social and physical (material) components. An organisation is exactly that: It always has physical components that are related through (social) relations and action. We call this the social and the

physical layer of an organisation. For example, an ECSI that runs a community garden consists of both physical components that make up the garden (the space of the garden, a garden shack, soil, seeds, plants, gardening tools, etc., but also technical infrastructure like water pipes and electricity grids, and computers); and social components – relations, knowledge, capabilities, and social actions that make it work (e.g., volunteers, visitors, the core team organising gardening sessions or events).

---

<sup>2</sup> This definition is based on Dewey’s (1939) *Theory of Valuation*: In order to achieve something of value to humans, humans use means to achieve that particular end of value to them. This is an intentional, directional action; and its existence is an expression of valuation: The means are valued as means to achieve an end of value, and this value is grounded in a certain interest in that end which is based on a human need or desire. Needs and desires can change over time, within and

across societies, and are influenced by the state of individual and societal-level knowledge and trends, such as a concern with sustainability and climate change. For example, advances in science have led to the valuation of CO<sub>2</sub>, and ultimately reached macroeconomic levels of valuation through CO<sub>2</sub> taxation and trading schemes.

**Means** are instruments and processes that the organisation uses to work. So, going back to our previous example of the community garden, we consider the social and the physical components to be those means (soil, seeds, plants, gardening tools; volunteers, visitors, the core team, etc.).

An organisation performs **intentional action**, i.e., means are not related randomly or arbitrarily. An organisation seeks to make sure that material and social components are set up in such a manner that the organisation can reach its objectives. Gardening tools and gardening sessions with visitors, for example, are intentionally planned and put in place in such a manner that the objective of that activity can be reached (taking care of the garden and creating social cohesion, for example). We emphasise **intentional** action over arbitrary action because this is what the organisation actively seeks to do and is designed to do.

**Specific material and/or immaterial ends** are those objectives the organisation seeks to achieve. A material end would be, for example, a vegetable bed where lettuce and tomatoes grow rather than non-edible plants that arbitrarily settle. An immaterial end would be a feeling of community created amongst the participants of the gardening session.

**The intending stakeholders (and potentially other stakeholders)** are those people that intentionally set up and participate in the organisation's activities. This does not comprise all stakeholders of an organisation (Box 1).

So, why does our definition highlight **positive and desirable value assigned (to specific material and/or immaterial ends)**? Some stakeholders might not value an organisation's activities, services or products in a positive way, but negatively. They might not like a product, or they might find a certain service superfluous, for example. We can

reasonably assume that any stakeholder intentionally involved in the organisation, though, values activities, services or products positively.

**Box 1. What are stakeholders?** Stakeholders are defined as any human or non-human actor or entity that is actively or passively involved in the organisation (affected by or impacting an organisation, intentionally or unintentionally). Sometimes, people or non-human actors/entities become unintentional stakeholders of an organisation's activities and do not see the same value in those activities or their effect on them as the intentional stakeholders. An example: Neighbours who chose to live in a certain area because it is particularly quiet may be disturbed by events held in a community garden on a Sunday afternoon that they find too noisy. They become unintentional stakeholders. The same goes for a certain fish species that did not choose to become part of an ECSI when the ECSI was set up, e.g., as part of an aquaponic system. A non-human entity would be, for example, a groundwater body that can be affected by an ECSI's fertilisation activities, or a piece of peat soil that is affected by and affecting the ECSI's possibilities of growing different plant species.

This definition of an organisation is applicable to any type and form of organisation (umbrella organisations, platforms, temporary project-based collaborations, businesses, NGOs, political parties, activist groups, etc.), and across existing legally defined organisational boundaries: It can as well be a temporary collaboration between actors who work together to create a specific end. Those actors themselves can be organisations or individu-

als. It is thus the means-ends relationship that defines what is part of the organisational system and what is outside of it. This definition allows the inclusion of public administrations, political parties, activist groups, NGOs, and even a circle of friends coming together to enjoy each other's presence. It is applicable to all forms and types of organisations and thus, of course, to all ECSI.

Having defined the organisation, we continue with an explanation of how every organisation has a business model.

## 2.2 How does every organisation have a business model?

Due to the range of definitions of what a business model 'is' (cf. Massa et al., 2017), it is also difficult to see how exactly "every organization has a business model" (Casadesus-Masanell & Ricart, 2010). Instead of trying to re-define the concept of the business model again to make it fit that claim, we take the common denominator of all business model definitions to define the business model as the value creation and capture mechanism that every organisation follows.

Conventionally, the term 'business' is equalised with an organisation that follows a commercial logic of value creation and capture by providing products and/or services (value created) in exchange for financial revenue (value capture). Many ECSI, however, follow heterogeneous logics of value creation and capture with commercialisation being one but not the only option.

Furthermore, it is not necessarily the case that the value exchange is neatly tied to value created and value captured. ECSI might capture value from stakeholders that do not even exchange value on purpose with them – think of bees pollinating vegetables, for example. Or, ECSI could offer a recreational space and attract residents enjoying the garden without giving back anything but their

presence. And some ECSI will create value they did not even intend to create in the first place, such as cooling the microclimate when their main intention was to create a green community space. How do those ECSI create and capture value? Existing business model canvasses and concepts do not do justice to the heterogeneity and functioning of ECSI. This is due to the following two main reasons.

First, existing business model canvasses and concepts such as the TLBMC (Joyce & Paquin, 2016) assume commercial value creation and capture. Many ECSI, however, engage in a range of value creation and capture mechanisms that often do include commercialisation, but their mechanisms are much broader.

Second, existing business model canvasses and concepts assume market-oriented organisational forms. While there are ECSI that are organised in the form of commercial businesses, the range of organisational forms extends further to social enterprises, volunteer organisations, grassroots initiatives, government-led initiatives, and activist organisations, to name a few examples. Existing research on business models is restricted to private sector commercial enterprises and social enterprises (Galvão et al., 2020; Schaltegger et al., 2020). Detailed analyses of the value creation and capture mechanisms of non-commercial organisations are generally lacking. Publications dedicated to this topic consider the simultaneous creation and capture of social or environmental and financial value a paradox or a contradiction (e.g., Davies & Chambers, 2018; Gamble et al., 2020; Morales, 2020; Ozanne et al., 2016; Smith & Lewis, 2011, Täuscher & Abdelkafi, 2018; van Bommel, 2018; Verboyen & Vanherck, 2016).

Therefore, we more specifically define a business model as the basic mechanism of how an organisation creates specific values and builds an activity system to continuously create values, and capture

values (Amit & Zott, 2015; Laasch, 2019) from the organisational stakeholders. Stakeholders comprise both social and material elements, which become (intentional and unintentional) stakeholders of the organisation through the process of value creation and capture with the organisation's socio-physical set-up. Specifically for the case of ECSI that are working with natural resources (e.g., soil, water) and ecosystem services (e.g., pollinating insects for plant reproduction, bees for honey production), unintentional non-human stakeholders such as insects or physical entities like soil and water play a pivotal role in value creation and capture.

### 2.3 What is known about ECSI business models?

The term 'Edible City Solutions' is very new (first published in Säumel et al., 2019) and was introduced in the context of the EdiCitNet EU Horizon 2020 project this Deliverable is part of. Thus, there is still hardly any literature about 'ECSI', the more extended literature on urban agriculture and urban agriculture organisation business models may, however, offer an initial insight. Regarding business models of urban agriculture organisations, this literature focusses on commercial business models (Torquati et al., 2020; Pölling et al., 2016; Pölling et al., 2017; van der Schans, 2015). Different types of urban agriculture organisations are distinguished by growing system or by goal, including social and environmental goals (Krikser et al., 2016). In parallel to the general business model literature (section 3.2), extant publications do not offer a general perspective on the value creation and capture mechanisms going beyond commercialisation of *all* types of urban agriculture organisations or ECSI.

ECSI are particularly dependent on their stakeholders to survive and grow. The values created are complex and not always translated straight-

forward into monetary terms. This can make it difficult for ECSI to capture value from stakeholders. Commercial businesses usually create a straightforward way of making matching stakeholders recognise the value produced and capturing value from those stakeholders in the form of payments.

### 2.4 What is 'value'?

In the context of commercial business models, 'value' is an attribute of something (product or service) offered to the customer (value created), and it is value captured by the business, usually in the form of financial revenues. ECSI, however, create *both* a wide range of values not restricted to products and services (Pölling et al., 2016; Pölling et al., 2017), *and* capture values including but not restricted to financial revenue. Generally, though, value does not need to be expressed in the form of finances; it can be expressed in time, materials, or space, for example (Arend, 2013; Laasch, 2018). To do justice to this wider understanding of value, we developed the concept of the Value Triangle (Fig. 1). It defines 'value' as the interplay of what is of value to whom and how.

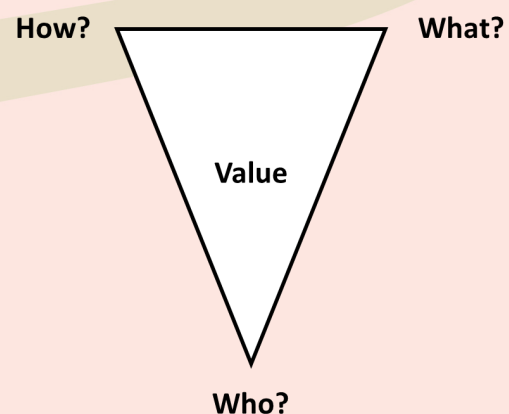


Figure 1. The Value Triangle. Source: Author.

*What* is of value to *Whom* can be very diverse. Different stakeholders can see an organisation creating different values. For example, a municipality might value that the ECSI takes care of public

green, while the volunteers within this ECSI value it for the feeling of community the ECSI creates. Furthermore, there are many ways value is perceived by stakeholders, constituting the quality of the *What*. The municipality may perceive of the public green care as a value through the improved aesthetics of the city, plus a win in the overall budget because the ECSI offers a service with volunteers and is thus cheaper than the service provider the municipality hired in the previous years. The volunteers may perceive the value of community through direct engagement in the activities of the ECSI, taking care of public green together.

*How* stakeholders express their valuation towards the organisation for creating the value they see, builds the third of the value triangle – it is the value capture mechanism. In the case of commercial business models, stakeholders (customers) usually express their valuation by paying a certain price for a product or service (value created) to the organisation. Here, we widen the ways stakeholders can give back to organisation under the umbrella term ‘stakeholder resources’. Stakeholder resources are anything that a stakeholder gives to the organisation. This can be money, but it can also be knowledge, time, skills, material donations, a space for gardening, access to water, or

even talking about the ECSI (publicity!). We will discuss stakeholder resources more in detail in Section 7 (Box 3).

Thus, value is defined as the triangle between who expresses value perceived towards the organisation, what value that stakeholder perceives, and how this value is expressed.

## 2.5 Conclusion

Based on the literature review that evidenced the lack of publications on value creation and capture mechanisms for ECSI beyond commercialisation, we concluded that in order to analyse the business models of ECSI, a concept was needed that allows for the analysis of all sorts of value creation and capture mechanisms from and with all types of stakeholders including, but not restricted to, commercialisation. This goes hand in hand with opening the concept of value itself towards the Value Triangle. We continue detailing this new business model concept, named OVS, that better suits ECSI.

## 3. Methodological Approach

*This section explains the methods that led to the development of the Organisational Value System (OVS). It can be jumped by practice-oriented readers.*

To develop a concept that allows for the analysis of all sorts of value creation and capture and all types of stakeholders, the following steps were taken:

1. Review of Business Model Literature and Canvasses;
2. Survey and Interviews;
3. Analysis and Learnings;
4. Development and Application of the OVS.

### 3.1 Business Model Canvas and Literature Review

After a literature review of the business model literature (cf. Section 3), the first step of the exploratory inquiry into ECSI business models was based on the Triple Layered Business Model Canvas (TLBMC) (Joyce & Paquin, 2016; cf. also D6.5).

### 3.2 Survey and Interviews

Based on the TLBMC, we developed an interview schedule with multiple choice questions and some

open-ended questions. It was further refined through the integration of feedback from pilots with ECSI and ECSI business model research experts.<sup>3</sup> The interview schedule could be answered in different manners: online, via phone, or through face-to-face conversation. The survey was distributed to 2 ECSI partners in WP6 – MUNDRAUB and NABOLAGSHAGER –, 32 ECSI in Rotterdam, and 12 ECSI in Munich, expanding the Edible Cities Network. In preparation of interviewing, web searches were conducted to gather basic information about the ECSI, which checked with interviewees for actuality and completeness. Additionally, information from grey literature (such as newspaper articles or accounting reports) was integrated. Data from those three different sources was integrated into the structure of the TLBMC schedule, with an additional notes section at the end of the schedule to allow for findings that exceeded its structure.

It was found that if answers were retrieved through the online option only, a temporary and generalised snapshot of ECSI value creation and capture mechanisms resulted, lacking a differentiation regarding processes and practitioners' perspectives. More detailed and process-oriented information was retrieved when the interview was conducted via phone or face-to-face.

---

<sup>3</sup> NABOLAGSHAGER, UBER, MUNDRAUB, and two experts on urban agriculture business models: the COST-Action Urban Agriculture Europe researcher

Dr. Pölling (Fachhochschule Südwestfalen), and Dr. Weegels (Wageningen University)

Hence, more detailed and differentiated information was gathered using a set of strategies: phone interviews with ECSI<sup>4</sup> in addition to information from ECSI's websites, plus on-site visits at ECSI in Rotterdam. Further, information from a series of 17 semi-structured interviews with a total of 34 ECSI from Rotterdam was integrated.<sup>5</sup> Another set of interviews based on the questions of the online survey from 17 ECSI throughout The Netherlands (Kuen, 2020).

### 3.3 Analysis and Learnings

The data gathering described so far (interviews and literature research) resulted in four key learnings and associated requirements that a business model concept for ECSI should fulfil. These are:

**Learning 1:** ECSI create a wide range of values (e.g., physical health + mental health + community + public green care).

Requirement: Concept should be based on the

values ECSI create and capture in all their complexity, including the possibility for showing a range of values created and captured.

**Learning 2:** It is important to ECSI to make the range of values visible to stakeholders. This is crucial for access to resources (e.g., subsidies, volunteers / participants, land). Different stakeholders have different perspectives on the organisation and see different values in it.

Requirement: Concept should distinguish stakeholders, showing which values are created for whom and how.

**Learning 3:** ECSI think of their business models or rather, how their organisations function, in terms of process and circularity. They frame growth/up-scaling as an organic process.

Requirement: Concept should take a systems perspective towards understanding the organisation's business model.

**Learning 4:** There are many ways ECSI capture

<sup>4</sup> ECSI from Rotterdam and Munich, plus MUNDRAUB and NABOLAGSHAGER

<sup>5</sup> From November 2019 to May 2020, a series of 17 semi-structured interviews with 34 ECSI from Rotterdam was conducted in the form of moderated conversations between two ECSI representatives, respectively. Conversations took between 40 and 90 minutes and were based on 24 questions compiled by an umbrella ECSI from Rotterdam. The idea behind this method design is that ECSI of Rotterdam examine 'themselves' to understand their needs and to initiate forming a network with each other. The

interviewer was a researcher external to the organisations from Wageningen University whose role was to moderate the conversation by reading out the questions and making sure all questions are covered in the answers. The conversation took place in Dutch language. Conversations were recorded, transcribed, and reviewed by interviewees. The transcripts were analysed and summarised in a report by a representative of the ECSI umbrella organisation in Rotterdam (Henneman, 2020). The report itself further informed the present research.

value; commercialisation is only one possibility to do so.

**Requirement:** Concept should distinguish a diversity of value capture mechanisms, including insights into how value creation and capture enable continuity and growth to support ECSI continuity and upscaling.

### 3.4 Development and Application of the OVS

The reason these requirements exist are related to the nature and diversity of ECSI. With conventional business model concepts, ECSI business models cannot be aptly analysed. Following the four requirements we iteratively arrived at the concept that we labelled the Organisational Value System (OVS).

The following Table 1 compares the TLBMC (Joyce & Paquin, 2016) with the characteristics of the OVS (Section 3.5). The main difference between the two concepts lies in their perspectives on value creation and capture. Regarding the operationalisation, the TLBMC lacks a systematic approach and requires quantification of environmental (physical) and social data. While the OVS is open to quantified data, it does not stipulate quantification in the first place. This lowers the threshold for ECSI to analyse their business models (or rather, OVSs), because many do not keep track of the exact amounts of resources they use. At the same time, the OVS follows clearly defined steps to offer a systematic analytical approach.

#### **Validation and Refinement**

To validate and refine the OVS, it was first formally presented in the online WP6 meeting on June 24, 2021, to 13 members of WP6. Participants discussed questions, potentials, ideas, and improvements of the OVS. Promptly, four follow up conversations were scheduled to get informal feedback from smaller groups. The feedback

from those conversations brought further insights into the multiple uses and application possibilities of the OVS, which will be further discussed in Section 7.

Two exploratory workshops were held with ECSI from FRCs: One in Rotterdam, September 22, 2021 (Fig. 23), and one in Oslo on September 30, 2021 (Fig. 2). Whereas each city had their own tailor-made workshop design adapted to the respective local needs and requirements of participating ECSI (designed by the BCT), the common element was the use of the OVS to analyse stakeholder perspectives on values and the involvement mechanisms per stakeholder value. Strategies for continuity and growth were also discussed individually.



Figure 2. Workshop with ECSI in Oslo on September 30, 2021.

The feedback and experience from the workshops led to the following improvements:

- Understanding the OVS as a map of the organisation
- Clearly distinguishing stakeholder channels, stakeholder resources, and stakeholder values
- Fine-tuning the three-step analytical model presented in this Deliverable



**Application**

The subsequent final version of the OVS was applied to analyse the business models of seven ECSI from FRC in 1:1 sessions in October 2021. Results will be presented anonymised in the Sections 5 and 6 as illustrative case examples.

Table 1. Comparison of the Triple Bottom Line Business Model Canvas (Joyce & Paquin, 2016) and the Organisational Value System (Author, 2021).

Theme	Triple Layered Business Model Canvas (TLBMC)	Organisational Value System (OVS)
Value Creation	<p>Inside-out perspective on values created: Business’s perspective on value creation</p> <p style="text-align: center;">↓</p> <p>Shows the values created as intended by the business and ‘matching’ target groups as stakeholders; leaves interpretive flexibility when it comes to choosing the value(s) that pre-defined human stakeholder groups (employees, end-users, communities) see in the business</p>	<p>Outside-in perspective on values created: Stakeholder perspective on value creation</p> <p style="text-align: center;">↓</p> <p>Shows the complex of values created by ECSI from the stakeholders’ perspectives; identifies key stakeholders through the (positive and negative) resources they provide to the organisation</p>
Concept of Value	(Commercial) business perspective on value	Stakeholder perspective on value
Value Capture	Rooted in the logic of commercialisation: value capture through financial resources	Distinguishes a diversity of value capture mechanisms: through <b>Direct Resources</b> (social, physical), <b>Indirect Resources</b> (financial) and <b>Subsidiary Resources</b> (strategic alignment, formal representation, informal representation)
Stakeholder Concept	Stakeholders include humans; non-humans’ and physical entities’ inclusion into the analysis is arbitrary	Stakeholders include humans, non-humans, and physical entities – relevant from a sustainability standpoint; clearly identifies key stakeholders through the (positive and negative) resources they provide to the organisation
Coherence between the economic, the social, and the physical/environmental layer	<p>Economic layer at the same analytical level as the social and the environmental layer, disregarding the fact that it is a question of a stakeholder’s power position to make their perspective on value ‘count’</p> <p>Horizontal and vertical coherence of the three layers leaves room for interpretive flexibility when it comes to what this coherence looks like (no comprehensive or systematic operationalisation available)</p>	<p>Stakeholder resources are in the focus instead of an abstract economic layer that is considered the ‘how’ of value capture; analyses the social and the physical components of an organisation and looks at various ways of capturing value: One of those ways <i>can</i> be capturing financial resources from stakeholders.</p> <p>Systems perspective on value creation and capture of the organisation (business model) on one layer of value loops; systematic inquiry into the value loops with a predefined set of questions</p>
Data Requirements	Requires quantification of social, economic, and environmental data	ECSI often have no data on resources used or wrong data or flaws in measuring etc.; thus, the OVS offers the possibility of circumventing quantification by simply checking whether value loops are closed, by asking: Is the ECSI able to sustain/grow its socio-physical set-up through the resources it gets from its stakeholders?

## 4. The Organisational Value System

### 4.1 Introducing the OVS

The OVS is a map of an organisation’s value creation and value capture mechanism, taking a stakeholder perspective on the organisation. The ultimate objective of the OVS analysis is to check whether an organisation is currently able to capture value from its stakeholders in such a manner that the organisation’s continuity is stabilised. The OVS analysis further provides insights into the specific barriers that could prevent an organisation from continuing.<sup>6</sup> The OVS analysis builds the base for devising strategies that help ECSI continue and grow.

The OVS analysis is based on the idea that an organisation can only capture value from a stakeholder when the following premises are fulfilled:

- **Stakeholder Value Recognition:** The value created by an organisation needs to be recognised by a stakeholder. If a value is not recognised, this value practically does not exist – value lies in the eye of the

stakeholder, so to speak!

- **Stakeholder Resource Capture:** A stakeholder needs to provide a resource to the organisation that the organisation can capture. It does not matter whether that resource is provided in direct exchange for the value recognised. The resource provided does not *need* to relate in quantity or quality to the value recognised.
- **Stakeholder Resource Translation:** The resource provided by the stakeholder needs to be possible to be translated into the socio-physical set-up of the organisation in order for the organisation to continue (rebuild itself), or even grow (scaling up).

These three items may seem abstract for now, but they will be explained at an exemplary analysis with the ECSI *Flower* (Box 2).

---

<sup>6</sup> Thus far, the term “organisational/organizational value system” has been used to describe the organisational culture at HR level/to look at microfoundations of organisations. It was not deployed to understand the value creation and capture processes in the sense of describing business models. The values discussed were constricted to the ethical-psycholog-

ical realm of employees’ and managers’ value alignment which would have implications for organisations’ overall productivity, but those values were not the values directly created and captured (e.g., Burges & Martin-Jones, 2019; Kondalkar, 2020; Stokmans et al., 2018).

### Box 2. Illustrative Case: Flower ECSI

'Flower ECSI' will be our illustrative case example. Flower ECSI grows and sells organic cut flowers. Its legal form is a sole proprietorship. It was established in 2020 and is run by a single person, the founder/manager. The ECSI currently offers wedding flower decoration, bouquets (dried and fresh flowers), a flower bouquet subscription, and some stationery with plant ornaments. Furthermore, people are invited to come to the garden and pick flowers themselves. Bouquets are also offered at farmers markets in the city. The ECSI aims at making consumers more aware about the environmental impacts of flower growing and shipping practices that can be polluting and damaging to the environment. This is why the ECSI offers flowers grown locally, and without pesticides. The land the ECSI grows flowers on pertains to a big community garden on a hill overlooking the city.

## 4.2 Metaphorical Language of the OVS

The OVS can be visualised on one page so that at one glance, the whole organisation can be depicted.

The OVS looks like a diamond (Fig. 3): The head of the diamond has the shape of an 'O', it stands for

Organisation. The sides of the diamond have the shape of a 'V', they stand for Values.

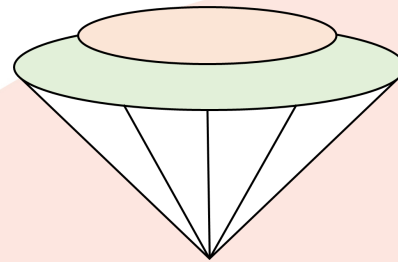
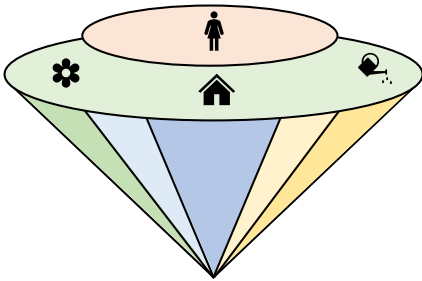
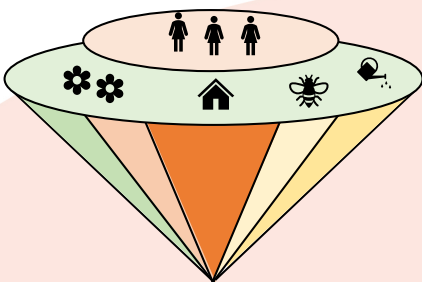
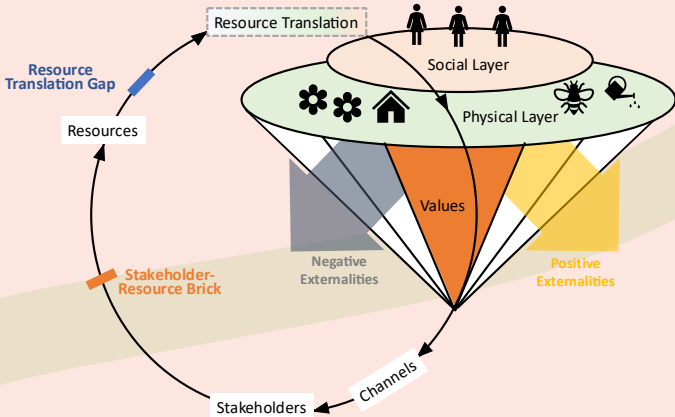
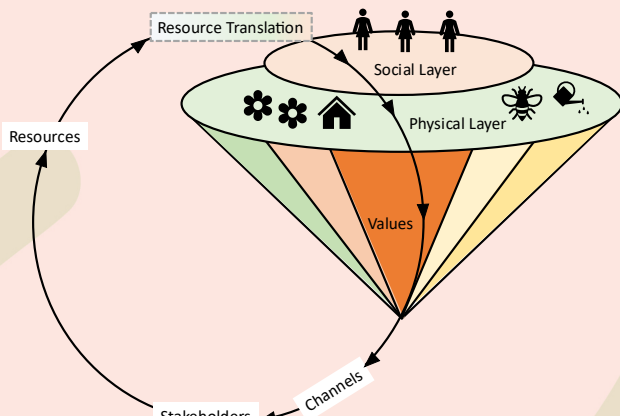


Figure 3. The metaphorical language of the Organisational Value System. Source: Author.

## 4.3 Conducting an OVS Analysis

In the following, we explain how to analyse the OVS of an ECSI. We do so by going through the different analytical steps detailed at the example of the ECSI *Flower* (Box 2), explaining the elements and the logic behind the OVS. The analysis contains the typology and strategies for continuity and growth. Table 2 gives an overview of the process.

Table 2. The four steps of conducting an OVS analysis including strategies. Source: Author.

Analysis	<p><b>Step I</b>      <b>Current State – A Snapshot of the ECSI</b></p>	
	<p><b>Step II</b>      <b>Where to “grow”? Envisioning the ECSI’s Future</b></p>	
Strategies	<p><b>Step III</b>      <b>Value Loop Analysis</b></p>	
	<p><b>Step IV</b>      <b>Internalising Externalities, Removing Bricks, Closing Gaps</b></p>	

## Step I: Current State – A Snapshot of the ECSI

To begin with, the current state of the ECSI is mapped. We take a ‘snapshot’ of the ECSI, asking: What does the OVS look like at the moment? This is done by answering five questions. These questions are summarised in a table in the annex (Annex I).

### 1. What are the key social and physical resources?

First, we look at the organisation as socio-physical set-up. This is the head of the diamond (Fig 4).

**Key social resources:** Key social resources are the people who run the ECSI, the ‘backbone’. They typically include employees and volunteers. It is sufficient to simply state the number of employees and volunteers that are currently running the ECSI, but you can also specify the present roles/job titles.

**Key physical resources:** Key physical resources typically include the space(s) where the ECSI is located or functioning, the building(s), water, vehicles, electricity, tools, and material (seeds, seedlings, soil, sand, wood, ...). Physical resources can be specified in quantity and quality, but if you want to take just a very quick snapshot, you can also just indicate which of those resources are currently being used.

**ECSI Flower.** *The founder is currently also the only person who works for the organisation. Thus, the ‘key social resource’ is the founder. Key physical resources include the garden space – a flower field located on a hill overlooking the city. Other key physical resources include seeds, gardening tools, and a place where bouquets are put together.*

**Why is this question important?** We need to know what the organisation currently consists of. Asking

for the social and physical set-up does exactly this. The items named above are at the same time the organisation’s key resources: Without those social and physical components, the organisation would not exist and would thus not be able to create the values it creates at the moment.

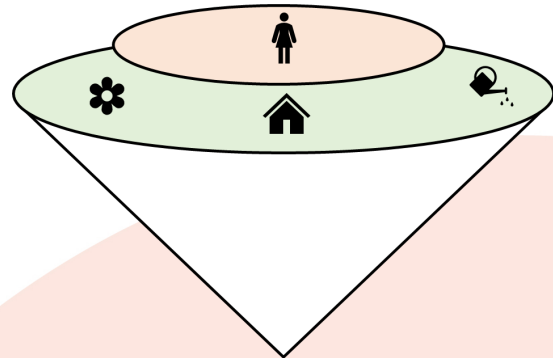


Figure 4. Step I (1): Key social and physical resources. Source: Author.

### 2. Who are the ECSI’s key stakeholders?

Stakeholders are defined as any human or non-human actor or entity that is actively or passively involved in the ECSI (cf. Box 1 in Section 2.1). When we think of stakeholders, we usually associate human beings. However, stakeholders can also be non-human: They can be plants, soil organisms, bird species, or earth worms, to name a few examples. Non-human stakeholders are particularly important to consider when the ECSI has an environmental focus. In that case, even inanimate entities can be included in the analysis, for example, a groundwater reservoir can be considered a stakeholder, or a patch of peat soil. Key stakeholders are those stakeholders without whom the ECSI would not exist or would not have reason to exist. Key stakeholders are those stakeholders that give crucial resources to the ECSI so it can sustain itself.

**Key stakeholders:** How do you decide which stakeholders to include and which stakeholders to exclude? Deciding who (or what) the ECSI’s key

stakeholders are is not always easy. We suggest limiting the snapshot (arbitrarily) to six key stakeholders and to try to cover all stakeholder types with your selection. Don't worry if this selection is not exhaustive. You can still add and delete stakeholders during the analysis if you feel like your first prioritisation was not helpful. If you have more time available, you can also go more in depth and use the stakeholder power-interest map as a "plug-in" for this part of the OVS (more information on the stakeholder power-interest map can be found in D6.2).

Stakeholders are distinguished by whether they chose to be part of the ECSI, whether they are regular or irregular stakeholders, and by type (Fig. 5).

**By-choice and no-choice stakeholders:** Active stakeholders usually intentionally chose to be involved in the ECSI. Hence, we call them "by choice" stakeholders. Passive stakeholders usually do not intentionally choose to be involved in the ECSI. Therefore, we call them "no choice" stakeholders. Typically, non-human stakeholders are no-choice stakeholders. In case *human* no-choice stakeholders find themselves in an involvement with the organisation, they can still actively choose to *remain* involved. We see this often in the case of city administrations who witness ECSI grassroots initiatives growing: First, they are passive stakeholders, then, they often chose to become an active stakeholder to support the ECSI.

**Regular and irregular stakeholders:** Stakeholders who are regularly involved in the ECSI are called regular stakeholders. If they are involved only irregularly, they are called irregular stakeholders. This distinction is important when it comes to stakeholder resources, as it can inform us about the (ir-)regularity of stakeholder resources offered. No-choice and by-choice stakeholders can be both regular and irregular stakeholders.

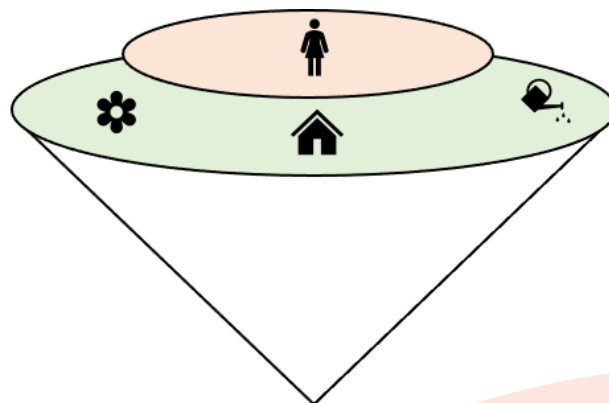
**The types of stakeholders** are selected from this

list:

- public institution
- private individual
- commercial organisation
- manager
- employee
- non-commercial organisation
- non-human
- other

**ECSI Flower.** *The key stakeholders of ECSI Flower are the founder, the community garden, and three types of customers: Wedding clients who commission ECSI Flower with the wedding decoration concept and implementation; occasional flower pickers who come on site to the community garden and enjoy picking flowers for themselves from the flower field; and people who buy flower bouquets at open air markets where ECSI Flower regularly has a stand. Non-human key stakeholders are bees who come to the ECSI on a regular base.*

**Why is this question important?** Key stakeholders are powerful actors that can make or break an ECSI's continuity and growth. They are the ones who assign value to the ECSI, they are the ones who give resources to the ECSI, and they are the ones the ECSI seeks to reach via various channels. In fact, ECSI would not exist if it were not to satisfy the needs and desires of *by choice* key stakeholders. If stakeholders chose to be involved in the ECSI, it is very likely that they also assign positive value to it. However, not all key stakeholders chose to be involved in the ECSI – and it is their impact on the ECSI that can play a role in the continuity of the ECSI. Those stakeholders need to be considered, too!



Stakeholder	Founder	Community Garden	Wedding Clients	Bouquet Buyers	Flower Pickers	Bees
Type	Manager	Non-commercial org.	Private individual	Private individual	Private individual	Non-human
By choice/no choice	By choice	By choice	By choice	By choice	By choice	No choice
Regular/irregular	regular	Regular	Irregular	Irregular	Irregular	regular

Figure 5. Step I (2): Key stakeholders. Source: Author.

### 3. Which values do the stakeholders see in the ECSI?

Next, we indicate the values that the stakeholders see in the ECSI (Fig. 6). Again, for practical reasons, we suggest limiting it to two values per stakeholder. Of course, you can also indicate more if this is helpful or useful. Different stakeholders can see the same value(s) in the ECSI or only one or more than two. Values are subjective. There is no right or wrong here. Ideally, you even sit with your key stakeholders at one table, so they can directly say which values they see in the ECSI. If you do the analysis alone or with your internal ECSI team, try to step into your stakeholders’ shoes. Conversations with stakeholders, reports written by stakeholders, feedback from stakeholders etc. – any stakeholder voice you have heard commenting about your ECSI – can be helpful here.

A useful question to ask to find the values they see is: “Why do you like (dislike) the ECSI?” (It is important to note that stakeholder values can also be negative!). The answer is the value. This question operationalises the definition of value (2.4).

**ECSI Flower.** *The founder sees ‘sustainability’ and ‘creativity’ in ECSI Flower. Through a conversation with the Flower Pickers, the founder learned that they value the ‘flower picking experience’ in ECSI Flower. The Wedding Clients appreciate the ‘special beauty’ of wildflowers. The Bouquet Buyers appreciate the ‘special beauty’, too, and this is also the case for the community garden. Although we could not ask them directly, we assume that the bees value ECSI Flower for ‘food provision’.*

**Why is this question important?** We ask for the key stakeholders and the values they see in the ECSI because it is them who currently determine what the organisation ‘looks like’. Contrary to other business model canvasses, the OVS starts by asking how stakeholders perceive of an organisation and the values it creates. Other business model canvasses usually ask what values are that the organisation seeks to create, and then asks who the (hypothetical) stakeholders would be that appreciate those values. That approach is a theoretical one.

The OVS seeks to depict the values the stakeholders actually see in the ECSI at the moment. In Step II, we will also ask about an ideal (hypothetical) state. But asking for the current stakeholders *first*

serves as a reality check. Furthermore, it helps organisations to recognise the different perspectives on what they do. That may help them to find strategies to better align those perspectives with their own vision or identity.

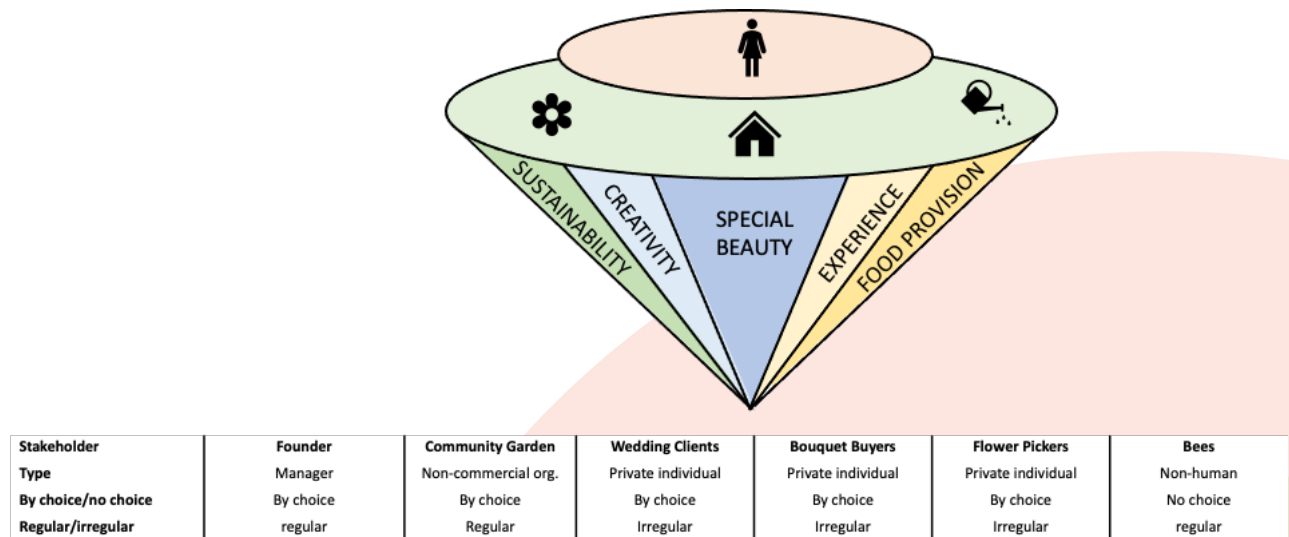


Figure 6. Step I (3): Stakeholder values. Source: Author.

**4. Through which channels do the stakeholders experience those values?**

Stakeholders experience the values they assign to the ECSI through six specific channels (Fig. 7). The channels are defined as follows:

- a) **Working within the ECSI:** Stakeholders see specific values by working within the ECSI as employees, freelancers, consultants, managers, founders, volunteers, pro bono workers, or in other positions.
- b) **On-site visit of the ECSI:** Stakeholders see specific values by going to events held by the ECSI, participating in ECSI workshops, passing by the ECSI, buying products on-site at the ECSI (on-site purchases), or

other ways of visiting the ECSI location.

- c) **Off-site exhibition of an ECSI product/service:** Stakeholders experience the values they see in the ECSI by seeing ECSI products or services off-site, e.g., at trade fair stands, markets, street sales, in retail stores, or other channels highlighting the ECSI outside the ECSI’s location. Note that only because they see a product or service, this does not automatically mean they also buy it!
- d) **Contact to a third party that is related to the ECSI:** Stakeholders experience the values they see in the ECSI through a third party that is related to the ECSI. This includes collaborations, networks, working groups, affiliates, or other formalised contacts.



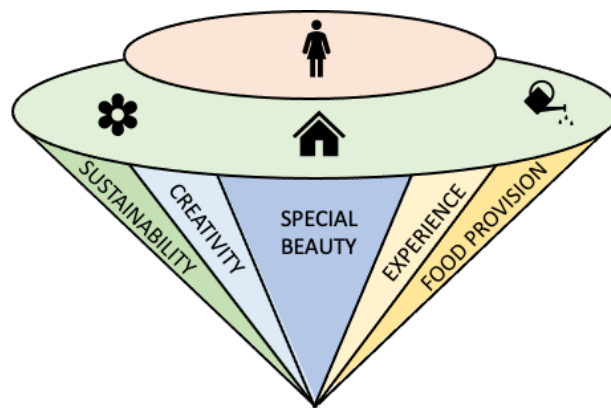
- e) **Formal representation:** Stakeholders get an idea of the values created by the ECSI through media, social media, research reports, websites, conference presentations, and other formalised representations.
- f) **Informal representation of that value:** Stakeholders get an idea of the values created by the ECSI through word-of-mouth, reviews (e.g., TripAdvisor, Google Reviews), social media likes, stories, private pictures, and other informal representations of the ECSI's products, services, or activities.

From a) to f), each channel is a further abstraction from the ECSI's actual socio-physical set-up.

**ECSI Flower.** *The founder experiences the values through direct involvement in the ECSI working within the ECSI. Flower Pickers experience the value they assign to ECSI Flower through on-site visits at the ECSI. Wedding Clients first experience the value they desire through the formal representation of ECSI Flower's website; later, they experience it in the form of an off-site exhibition at their own wedding. Bouquet Buyers experience that value through the same two channels, only that some of them do not first see the website but only*

*directly the off-site exhibition of the bouquets at an open-air market stand. The community garden experiences that special beauty also in its work context. Bees experience the value of food provision through on-site visits.*

**Why is this question important?** We defined stakeholders as any human or non-human actor, or even physical entities, that are actively or passively involved in an organisation's activities (Box 1, Section 2.1). It is this involvement where the channels come into play. No channel, no involvement! In order to be involved, a stakeholder needs to be reached, or be 'in touch' with the ECSI. The channels connect stakeholders with the ECSI. Some channels are arbitrary whereas others are purposefully designed. For example, a passerby arbitrarily sees the garden pertaining to ECSI Flower. But Wedding Clients are purposefully addressed via ECSI Flower's website. Different channels have different efficacies in reaching specific stakeholder groups. Which channel to choose to reach which stakeholder will be covered in Step III, the strategizing part of the OVS.



Stakeholder Type	Founder Manager	Community Garden Non-commercial org.	Wedding Clients Private individual	Bouquet Buyers Private individual	Flower Pickers Private individual	Bees Non-human
By choice/no choice	By choice	By choice	By choice	By choice	By choice	No choice
Regular/irregular	regular	Regular	Irregular	Irregular	Irregular	regular
Work	SUSTAIN. CREATIVITY	SPECIAL BEAUTY				
On-site visit					EXPERIENCE	FOOD PROVISION
Off-site exhibition			SPECIAL BEAUTY	SPECIAL BEAUTY		
Third parties						
Formal representation			SPECIAL BEAUTY			
Informal representation						

Figure 7. Step 1 (4): Value channels. Source: Author.

### 5. Which (positive and negative) resources do the stakeholders give to the ECSI – regularly and irregularly?

Lastly, we want to know what the ECSI gets from those key stakeholders (Fig. 8 and 9). This step of the analysis is targeted at understanding the value captured by the ECSI from the stakeholders. Stakeholders can give different resources to the ECSI – and sometimes, they don't give anything to the ECSI, or they give back something negative, produce obstacles, or give back things that are not useful to the ECSI. In the following, positive resources are described and some of their negative counterparts. We distinguish three resource types: Direct Resources which can be directly used to sustain the socio-physical set-up of the ECSI; Indirect Resources that can help acquire Direct Resources; and Subsidiary Resources, which support the acquisition of both Indirect and Direct Resources (cf. Box 3, Section 6).

#### Direct Resources

**Social resources:** Stakeholders can give different social resources to the ECSI. They can share their knowledge with the ECSI, formally or informally, e.g., gardening knowledge in an informal gardening session, or offer special trainings and courses. Further, stakeholders can contribute in person as a social resource through participation in activities of the ECSI, volunteering, being part of the workforce, or visiting the ECSI. Negative social resources would be, for instance, causing fights, gossiping so trust relationships are destroyed, 'brain-drain' of skilled employees or volunteers, or ruining the ECSI's reputation.

**Physical resources:** Stakeholders can give physical resources to the ECSI (material, space, electricity, water, computers, seeds, plants, soil, tools, ...) in the form of donations or non-monetary use contracts. Negative physical resources are, for example, stealing material, polluting the location with

rubbish or chemicals, noise pollution, or destroying vegetable beds.

### Indirect Resources

**Financial resources:** Of course, stakeholders can also give money to the ECSI – in all different shapes and types, e.g., as (earmarked) funds, shares, rents, donations, or as a payment for a product, service, or activity offered by the ECSI. Negative financial resources are costs caused by the stakeholder, including paying a rent to that stakeholder, or paying bills issued by the stakeholder.

### Subsidiary Resources

**Strategic alignment as a resource:** Another type of resource that stakeholders can give to the ECSI is strategic alignment. This includes common goals, being part of the same network, collaborations, partnerships, legitimacy, certifications, etc. The reason why strategic alignment is considered a resource is that it can offer potential ‘joint power’ to work on the same issues; it can bring legitimacy to the ECSI to be part of a network or get a certification. Those things, in turn, can contribute to getting access to all other resource types. Strategic alignment as a negative resource would be, e.g., differing goals, undermining the legitimacy of the ECSI, or working against it.

**Formal representation as a resource:** Formal representations of the ECSI, its activities, products or services are considered a resource because they, too, can help access all other resource types. Stakeholders can give to the ECSI representations in the media, in research reports (including this present report!), internet/website content, conference presentations, etc. Formal representation as a negative resource is when the contents shed a negative light on the ECSI or are wrong.

**Informal representation:** Similar to formal representations, word-of-mouth, internet reviews, likes, stories, private pictures, and other forms of informal representation can help the ECSI access other resource types. The negative counterpart of this resource would be to give informal representation of the ECSI that sheds negative light on it.

**ECSI Flower.** *The founder provides workforce, knowledge, and management skills – primary social resources. The community garden provides primary physical resources: a space for the flower field, water, electricity, and a house. The Wedding Clients give a range of resources: They inspire the founder (give inspiration as a social resource) and align their decoration needs with the founder’s ideas (strategic alignment), pay for the products and services, and produce professional wedding pictures (formal representation). Guests will recommend ECSI Flower as a wedding decoration expert (informal representation). The Bouquet Buyers pay for bouquets (financial resources), and they often post pictures of the bouquets on social media (informal representation). Flower Pickers recommend the experience to friends, and they, too, pay a small amount to come and pick. The Bees provide pollen and make honey, and they indicate the location of the flowers to other bees.*

**Why is this question important?** The resources the ECSI gets from stakeholders are the ‘raw versions’ of the value the ECSI captures from the stakeholders. There is no other source of value capture than stakeholders! So, it is really important to have a close look at what the ECSI gets from its stakeholders. Are those things useful, i.e., can the resources be translated into the social and physical set-up of the ECSI or even make it grow? In other business model canvasses, value captured is usually thought of as financial revenue. But there are many other resources that stakeholders can give to an ECSI, and money is only one of them. It is relatively easy to translate money into physical

and social resources – this is why money is often emphasised. The OVS seeks to widen the perspective on potential sources of value capture. This

can also support ECSI in staying close to their vision and mission when they grow (cf. Section 7).

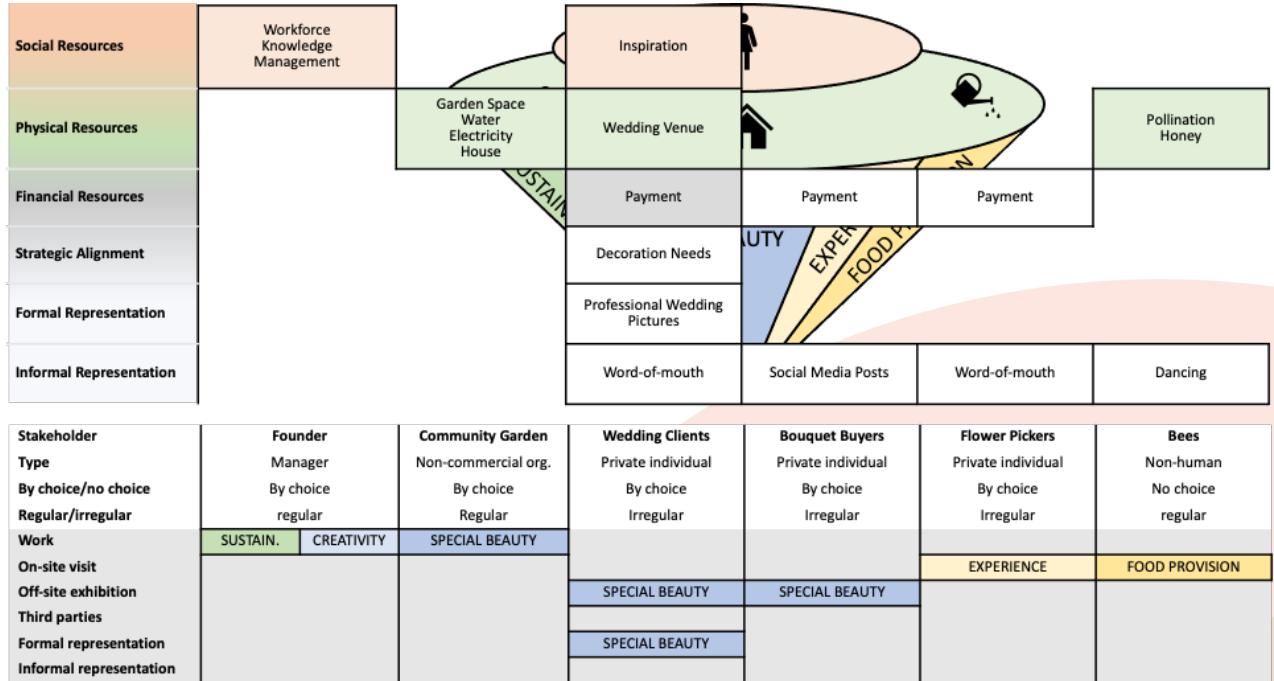


Figure 8. Stakeholder resources. Source: Author.

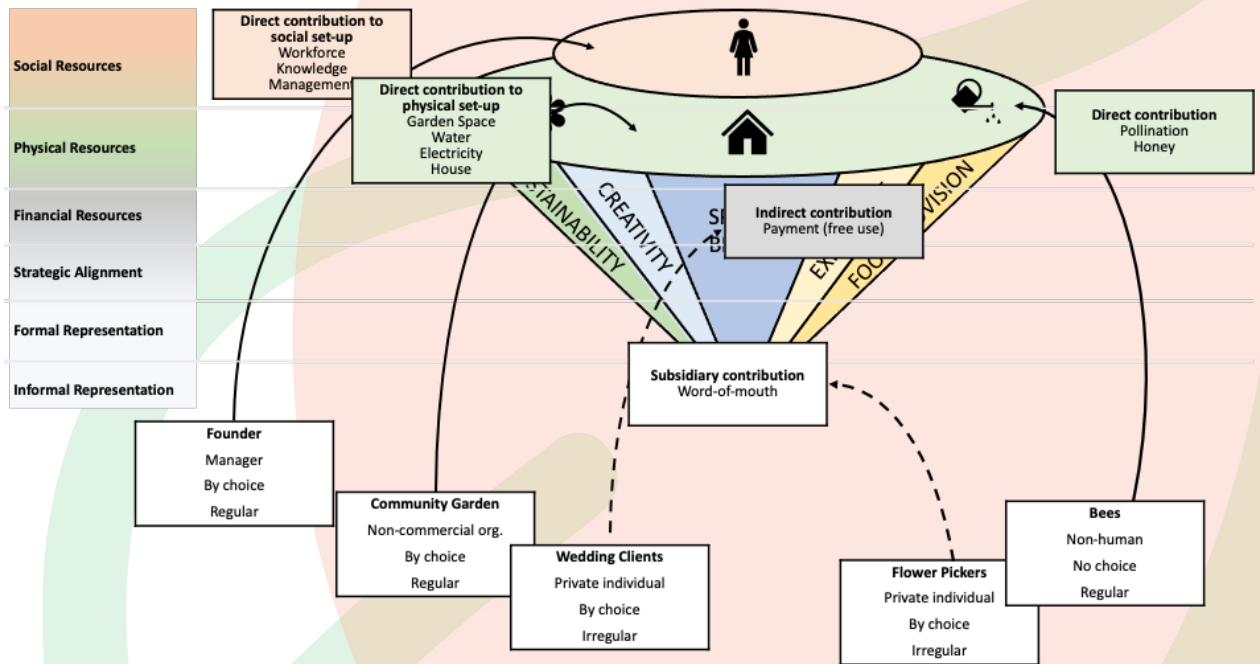


Figure 9. Stakeholder resources: Selection. Source: Author.

## 5. Typology of Organisational Value Systems

This section presents a typology of ECSI’s OVS. While every ECSI is individual, there are some main characteristics of the main way of value creation and capture that allow for categorising seven different types: three archetypes, and four mixed types (Table 3).

Table 3. Typology of ECSI Organisational Value Systems. Source: Author.

Type	
Archetypes	Type I: Commercial Value Loop
	Type II: Social Value Loop
	Type III: Nature-based Value Loop
Mixed Types	Type IV: Commercial-Social Value Loop
	Type V: Social-Nature-based Value Loop
	Type VI: Nature-based-Commercial Value Loop
	Type VII: Social-Commercial-Nature-based Value Loop

This typology functions as a reference system to understand how value creation and capture work in a specific ECSI and will be the base for strategies for continuity and growth per type (Section 7).

The typology builds on the Value Triangle (Fig. 1): For each type, there are specific contents of the What, Who, and How of value combined in a type-specific value loop (Fig. 10). In reality, though, most ECSI cannot be *reduced* to just one specific type of value loop but have *tendencies* towards a specific type.

So, what are value loops? Value loops describe the process of value creation and capture. A value loop connects the five main components of the organisation: the socio-physical set-up, the values, the channels, the stakeholders, and the resources.

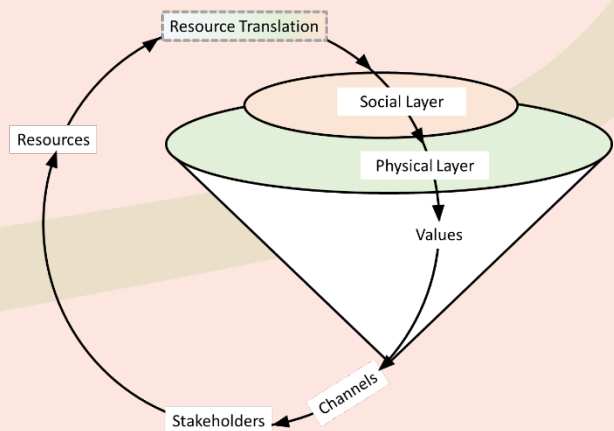


Figure 10. The OVS Value Loop. Source: Author.

We have already seen that ECSI create and capture value. In order to survive, an organisation needs to capture value from its stakeholders in such a manner that it can sustain its socio-physical set-up. To do that, value loops need to be closed, i.e., value from the stakeholders needs to flow back to the organisation’s socio-physical set-up. This is why it is so important translate stakeholder resources into the socio-physical set-up (cf. Box 3:

Resource Translation). In the previous two steps, we always looked at the five main components of the OVS: the socio-physical set-up, stakeholders, values, resources, and channels. Now we look at how they relate to one another in a value loop.

### Type I: Commercial Value Loop

The main value capture mechanism of this type is commercial value capture. Commercial value capture is characterised by offering a product, service, or activity on the market to customers or clients, and the value captured is money from those customers or clients for the product, service, or activity offered. This type emphasises the financial flows related to an ECSI (Fig. 11). This type thus relies on the resource translation from financial to social and physical resources to use the value captured from stakeholders for the continuity of the ECSI.

**Example: ECSI Flower.** *ECSI Flower is a typical example for this type. Flower products, flower picking activities, and flower-related services (wedding decoration) are offered to customers and clients, who pay a price to the ECSI (give financial resources).*

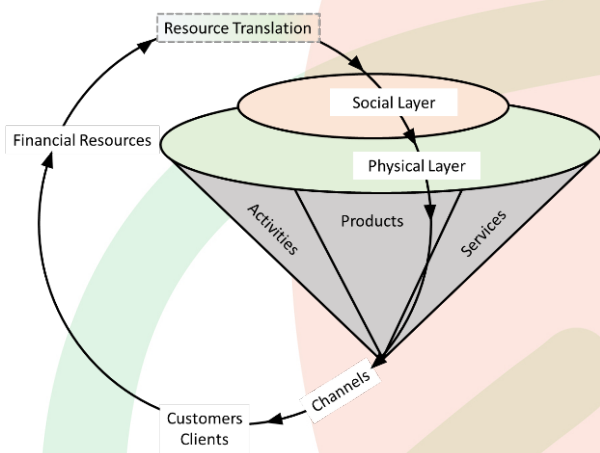


Figure 11. Type I: Commercial Value Loop.

### Type II: Social Value Loop

The main value capture mechanism of this type is social value capture. Social value capture is characterised by offering information, emotions, or social relations publicly or privately to volunteers, participants, or beneficiaries. The value captured are social resources those volunteers, participants, or beneficiaries bring to the ECSI (Fig. 12). In the social type, what is of value are emotions, information, and social relations (for example, what the organisation refers to as, e.g., “knowledge”, “fun”, and “community”). This is what key stakeholders consider to be the organisation’s value created. Giving social resources usually takes on the form of “giving themselves” to the organisation – as part of the community, as knowledgeable facilitator, or as social backbone/nodal point in the organisation: Key stakeholders give social resources and strategic alignment. Strategic alignment means that stakeholders align with the ECSI’ mission and vision; they are thus intrinsically motivated to be involved with it. This type emphasises the social flows related to an ECSI. This type thus focusses on sustaining the social component of the socio-physical set-up; social resources do not need to be translated any further.

**Example: ECSI Greenhouse.** *The ECSI transformed an old greenhouse into a meeting point for citizens, a space for socio-ecological experiments, and, of course, for plant breeding. Neighbours enjoy the social interactions going on here, come for a chat, to exchange knowledge about grey water recycling and renewable energies or for events. The ECSI is supported by volunteers.*

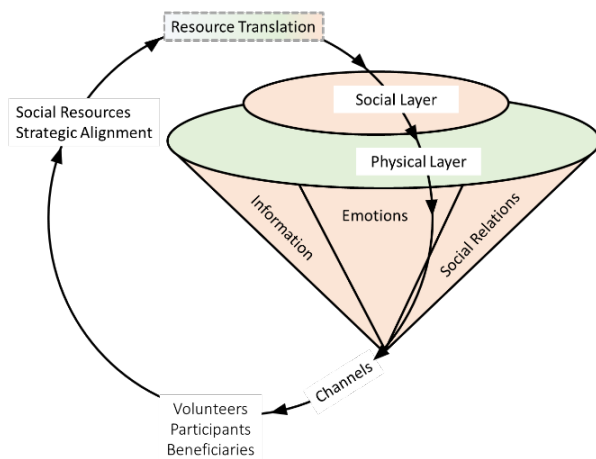


Figure 12. Type II: Social Value Loop.

### Type III: Nature-Based Value Loop

The main value capture mechanism of this type is nature-based value capture. Nature-based value capture is based on natural (material and energy) cycles and ecosystem services<sup>7</sup>. Humans and non-humans value those; and value is captured from stakeholders by the ECSI in the form of physical resources. This type emphasises the material flows related to an ECSI. It thus focusses on sus-

taining the physical component of the socio-physical set-up; physical resources do not need to be translated any further but can be worked with to sustain the ECSI (Fig. 13).

Examples of ecosystem services provided by the ECSI are improving the microclimate, beautifying the city, or enhancing biodiversity. This is what key stakeholders consider to be the organisation's value created. The key stakeholders in a nature-based ECSI emerge in the role of urban dwellers and non-humans situated in a specific (urban) geographic location, exposed to environmental influences, usually not by active choice. Non-human stakeholders provide the ECSI with physical resources (e.g., earth worms provide humic acid molecules, trees provide shade and humidity, flowers provide aesthetics for humans and food for bees); whereas human stakeholders provide the ECSI with formal representations of the values created such as research reports (e.g., on microclimate/biodiversity impacts), media coverage (e.g., on the importance of urban green), or social media posts (e.g., showcasing the aesthetics of an urban flower field). Human urban dwellers usually experience the ecosystem services offered by the ECSI through those formal representations and

<sup>7</sup> Ecosystem services are defined here as “the benefits human populations derive, directly or indirectly, from ecosystem functions” (Costanza et al., 1997:253). These functions concern “the habitat, biological or system properties or processes of ecosystems” (ibid.). In line with the distinction between ecosystem services as values derived from ecosystem functions, the Common International Classification of Ecosystem Services (CICES) defines ecosystem services as “the contributions that ecosystems

make to human well-being, and distinct from the goods and benefits that people subsequently derive from them” (Haines-Young & Potschin-Young, 2018: ii). Note that this definition is restricted to values assigned to ecosystem functions by human stakeholders and not by non-human stakeholders.

on-site visits. Non-humans have a stake through being part and parcel of the ECSI's ecosystem (and yes, let's call it an on-site visit if a bee comes by to suck some nectar, or an earthworm makes its way to the ECSI's vegetable beds).

**Example: ECSI Black Water Recycling.** *By law, allotment gardeners are required to dispose of wastewater in specific wastewater collection pits without outlets. Several times per year, certified water treatment companies come to pump out the wastewater and recycle it off-site. An ECSI wants to implement a novel water treatment system to close water cycles on-site so that the treated water can be used for irrigation directly. The system is mobile and runs on renewable energy. This ECSI uses the physical resource of wastewater to generate value from it – water for irrigation – for humans. It reduces negative externalities associated to wastewater recycling, such as resources needed for transporting wastewater to an off-site water treatment plant and running on renewable energy rather than fossil fuel.*

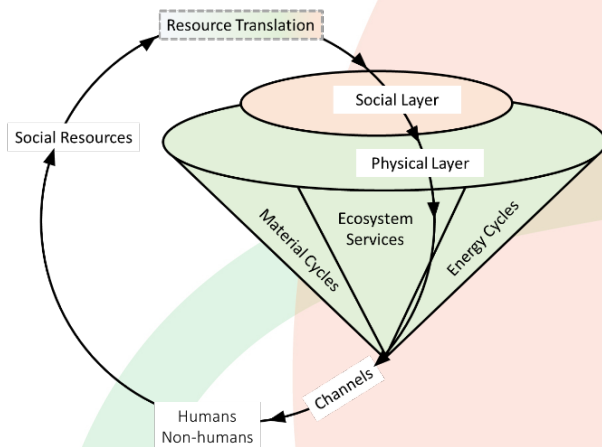


Figure 13. Type III: Nature-based Value Loop.

### Type IV: Commercial-Social Value Loop

This type is a combination of commercial and social value capture. Both social resources and financial resources from the market sustain this type. Often, ECSI of this type identify as social enterprises. Financial resources are captured from stakeholders in the role of clients and customers (Fig. 14).

**Example: ECSI Green Jobs.** *This ECSI is a social enterprise. They offer job opportunities for people with a distance to the labour market in a garden space with café within the city. The ECSI also rents out offices, workshops, and plots of arable land on location to other small organisations aligned with their social impact mission. Clients come to the café, buy produce, book workshops, or use the location as a space for events.*

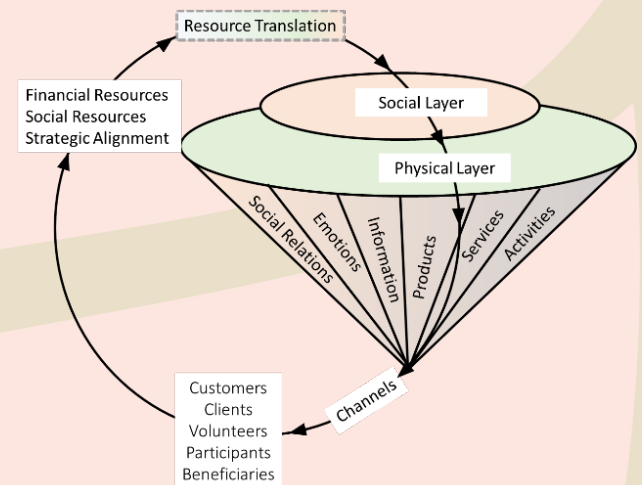


Figure 14. Type IV: Commercial-Social Value Loop.



### Type V: Social-Nature-based Value Capture

This type is a combination of social and nature-based value capture. Both social and physical resources sustain this type. ECSI of this type tend to be grassroots initiatives, neighbourhood organisations; any ECSI that depends primarily on social and physical resources in order to exist. Money plays a minor role and is instrumental and useful to sustaining the ECSI (Fig. 15).

**Example: ECSI Fruit Trees.** *The ECSI runs an open-source platform that maps public fruit trees. It engages citizens in harvesting those trees and provides knowledge about arboriculture.*

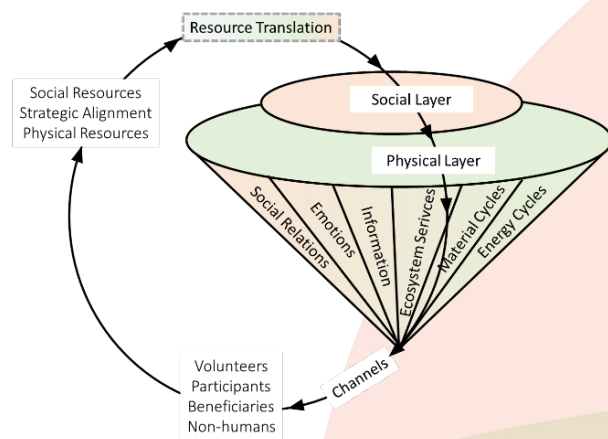


Figure 15. Type V: Social-Nature-based Value Loop.

### Type VI: Nature-based-Commercial Value Loop

This type is a combination of nature-based and commercial value capture. Both physical and financial resources are necessary to sustain this type. ECSI that fall into this category tend to be engaged in the ‘circular economy’, recycling activities, and market products and services obtained through a circular approach (Fig. 16).

**Example: ECSI Coffee Mushrooms.** *This ECSI uses coffee grounds from around the city as substrate to grow mushrooms on. Multiple coffee shops are partnering with the ECSI to close the loop of the coffee beans used for brewing coffee. In return, many of those coffee shops also offer ECSI mushroom products, helping the ECSI to reach a broader customer base.*

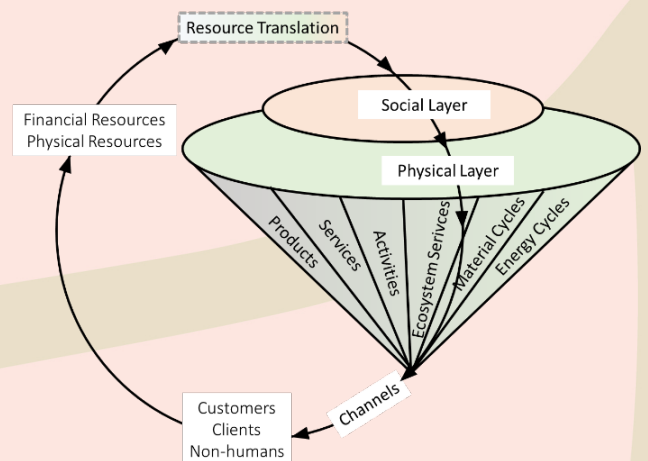


Figure 16. Type VI: Nature-based-Commercial Value Loop.

### Type VII: Social-Commercial-Nature-based Value Loop

This type, finally, is indeed a combination of all three basic value capture mechanisms. Social, physical, and financial resources are equally important to keep this type running. If one of them gets missing, the ECSI will face problems to continuously create the set of values they aim at (Fig. 17).

**Example: ECSI City Green.** *This ECSI “does it all”: They provide jobs for people with a distance to the labour market, rely heavily on volunteers in their overall operations, take care of public green spaces and make them edible through planting produce. The city is their main client for this service. They also run a permaculture garden and a farm shop where they sell produce directly from the garden.*

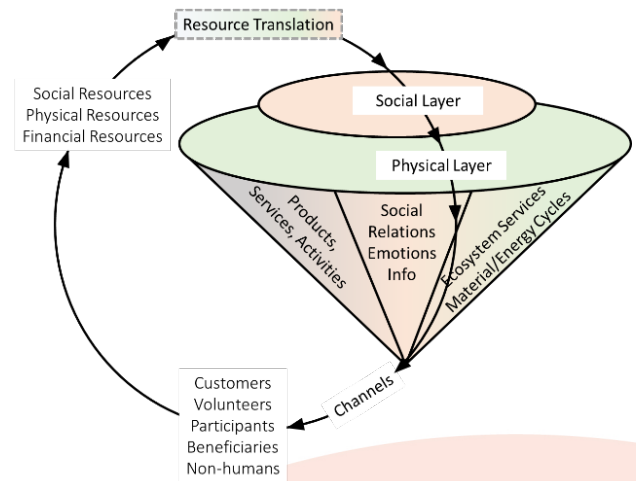


Figure 17. Type VII: Social-Commercial-Nature-based Value Loop.

## 6. Strategies for Continuity and Growth

This section presents strategies for ECSI continuity and growth. While there was only one step (Step I) to capture a snapshot of the ECSI in Section 5, now, there are three consecutive steps: Step II (Annex II) is to envision a future for the ECSI, Step III (Annex III) is to analyse the respective value loops, and Step IV is to identify strategies that close those value loops (Annex IV).

We will first present a theoretical description of Step II, III, and IV, drawing on ECSI Flower to illustrate the steps. Thereafter, we will go into more detail with case examples of all seven ECSI types.

### Step II: Where to “grow”? Envisioning the ECSI’s Future

In this step, we map the ideal future state of the ECSI. Do you want it to grow? Do you simply want to maintain it the way it is and stabilise your value loops? Or do you want to introduce new values that you offer to stakeholders, or involve a different type of stakeholder? Maybe you also want to spread the idea of your ECSI, to influence the political framework you are operating in, or to expand your network. These questions all concern different ways of scaling (Annex II; D3.3, forthcoming):

- **Scaling Deep** means an improvement of the existing ECSI.
- **Scaling Up** means involving larger or other stakeholder groups in the ECSI.
- **Scaling Wide** means to replicate an ECSI to a new geographic area.
- **Scaling Across** means to start a completely new ECSI with a new OVS.

- **Scaling Soft** means to spread the ECSI idea in the widest sense, including specific knowledge and lobby work.

#### 1. Scaling Deep

Do you plan to improve your ECS (e.g., technical, marketing wise)? What do you want to change?

What is your timeframe?

This question concerns all five components of the OVS (socio-physical set-up, stakeholders, values, channels, resources). It is helpful to think about the impact the ECSI is trying to achieve. To reach that impact, does the ECSI need to grow in size? Does it need to reach more or different people (stakeholders)? Therefore, does it need to be replicated elsewhere or move to a different location? Which resources are needed to achieve that?

**ECSI Flower.** *The founder has three wishes when it comes to what ECSI Flower should look like in the future. One, youth should be involved as employees or trainees. Two, production should be expanded to offer something year-round – currently, the business is mostly a seasonal one with the summer months offering the most opportunities for flower products and services. Three, a new type of stakeholder should be found who also sees the value of organic and sustainable flower production in the ECSI. Although many stakeholders acknowledge the sustainability aspect of ECSI Flower, there is no stakeholder thus far that values this aspect so highly that it becomes the number one reason for getting involved with ECSI Flower.*

#### 2. Scaling Up

Do you plan to involve larger/other groups in your ECSI? Which stakeholders?

What is your timeframe?

This question concerns the stakeholder component of the OVS.

**ECSI Flower.** *For ECSI Flower, the answer to this question is to involve youth, and to involve a client group that values the sustainability aspect of the flowers.*

### 3. Scaling Wide

Do you plan to replicate your ECS to a new geographic area (somewhere else)? Where?

What is your timeframe?

This question concerns the OVS component 'physical set-up'.

**ECSI Flower.** *For now, ECSI Flower does not plan to replicate itself anywhere else.*

### 4. Scaling Across

Do you plan to start a completely new ECS? What should it look like?

What is your timeframe?

This question concerns all five components of the OVS.

**ECSI Flower.** *For now, ECSI Flower does not plan to start a completely new ECS.*

### 5. Scaling Soft

Do you plan to spread the ECS idea or to provide ECS knowledge? This question concerns values created by the ECSI.

Do you plan to grow the network, to build alliances, lobbying? What exactly do you want to do? This question concerns stakeholder resources, specifically, strategic alignment.

What is your timeframe?

**ECSI Flower.** *For now, ECSI Flower does not plan to access specific networks or alliances. The idea is spread in the context of accessing new stakeholder groups.*

The answers to these five scaling questions can be summarised in the same way as Step I with a visualisation and a table (Annex I). Step I was a snapshot of the current state of the ECSI, Step II is the future vision of the ECSI.

### Step III: Value Loop Analysis

Next, we look at how well the desired or current ECSI captures value and how well it can reproduce its socio-physical set-up with the resources captured. The value loop analysis can start at any given point within the value loop. The following questions are asked for each component if this component is the starting point:

**Resources:** Does this resource contribute to the socio-physical set-up of the ECSI? If so, how (cf. Box 3)?

**Socio-physical set-up:** Can the socio-physical set-up be sustained through the present value loop?

**Values:** Is this the value we want our organisation to create? If so, does the present value loop sustain the creation of this value? If not, which value would we prefer?

**Channels:** Does this channel effectively transport the value to the stakeholder?

**Stakeholders:** Is this a stakeholder we want to involve in our organisation? If so, does the stakeholder contribute to sustaining the value loop? If not, which other stakeholder(s) would we like to involve in our organisation?

During the value loop analysis, you are likely to find two phenomena: One, positive and negative externalities; two, ‘bricks’ and ‘gaps’ in the value loop.

### Positive and Negative Externalities

A positive externality is a desirable (positive) value that an ECSI creates without getting resources in return for it (Fig. 18).

**ECSI Flower.** The value loop starting with the value ‘food for bees as stakeholders shows a positive externality: The bees give as a resource honey to ECSI Flower. The honey, however, does not pertain to the values ECSI Flower offers to any stakeholders, and ECSI Flower also does not get resources for honey.

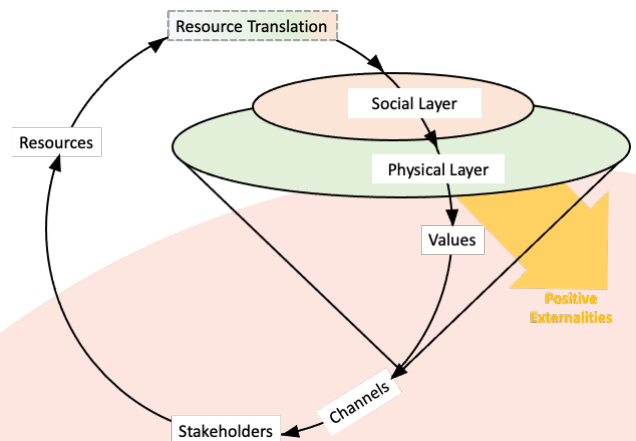


Figure 18. Positive externalities in the OVS.

A negative externality is an undesired (negative) value that an ECSI creates, threatening the continuity and stability of its socio-material set-up and continuous value capture from stakeholders (Fig. 19).

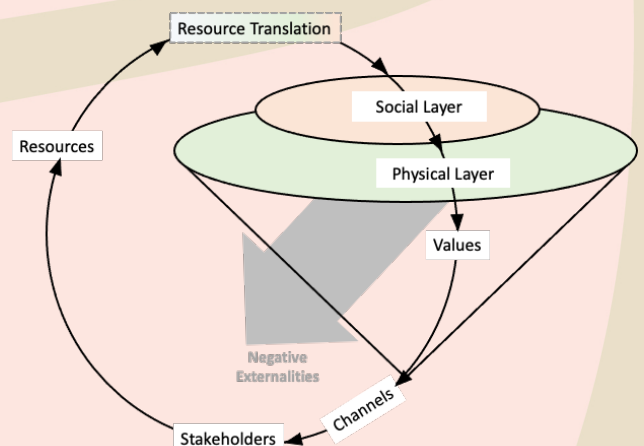


Figure 19. Negative externalities in the OVS.

**ECSI Flower.** The value loop analyses did not show any negative externalities that would threaten the existence of ECSI Flower.

We thus offer another example to illustrate the negative externality: A Type II: Social Value Loop ECSI is located in a calm neighbourhood with an elderly population. Every Sunday afternoon, the ECSI hosts a gardening session with children. The children make a lot of noise, which is perceived as a negative externality by the neighbours. This is a potential threat to the ECSI because the ECSI pertains to Type II: Social Value Loop.

### Bricks and Gaps

Bricks are obstacles that prevent the value loop from flowing (Fig. 20). Gaps are missing links between the main components of the OVS that interrupt the value loop (Fig. 21). If you find a brick

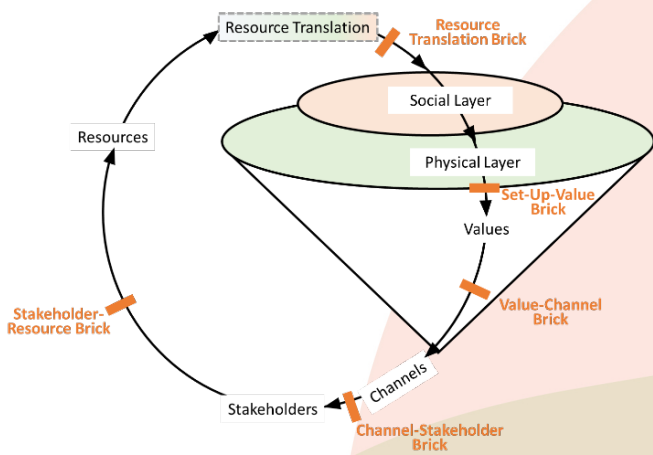


Figure 20. Bricks in the value loop. Source: Author.

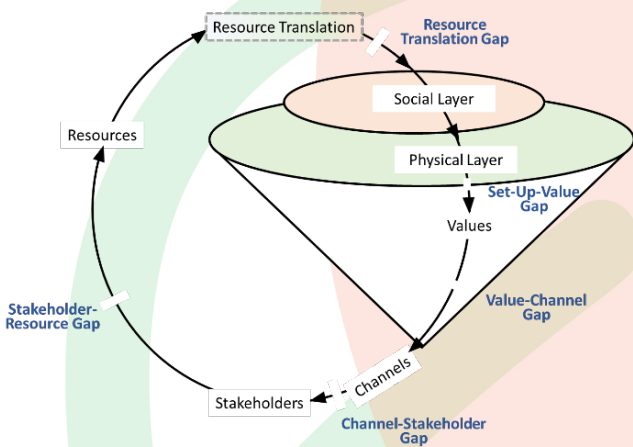


Figure 21. Gaps in the value loop. Source: Author.

or a gap, note it for now, and move on in the analysis. Bricks and gaps will be removed in Step IV. There are five different types of bricks and gaps in every type of ECSI value loop:

#### 1. Resource Translation Brick or Gap

Resource Translation Bricks or Gaps prevent the translation of a stakeholder resource into the socio-physical set-up of the ECSI.

For example, a municipality provides 50,000 EUR to an ECSI earmarked for the construction of a barbecue station. The ECSI had applied for the funding a year ago. Now, however, the ECSI's stakeholders' needs have changed; instead of building a barbecue station, they want to build a garden shack. But the funds are earmarked – this is a brick in the translation of financial resources into physical components of the ECSI.

An example for a gap would be this case of an ECSI that is located near a tourist attraction point in a big city: A lot of tourists pass by, take pictures, and tell their friends about how beautiful this place is (informal representation). However, this subsidiary resource is not leveraged by the ECSI to attract social or physical resources. This is a gap in the value loop.

#### 2. Set-Up-Value Brick or Gap

Set-Up-Value Bricks or Gaps indicate a difficulty of the ECSI to create the value(s) it seeks to create with its current socio-physical set-up.

For example, an ECSI has the vision of creating a beautiful and socially inclusive space for everybody – all age groups, all socioeconomic backgrounds – in the neighbourhood. However, the design language of the ECSI attracts a particular target group only: an educated university student population with a liberal mindset who all talk English on site. Elderly and people who did not go to

university refrain from entering the space, although it is free of charge and physically open. The socio-physical set-up thus does not create the value of social inclusion it seeks to create – there is a gap between the socio-physical set-up and the actual value created.

### 3. Value-Channel Brick or Gap

A Value-Channel Brick or Gap means that although a certain value is created, the channel is not effectively transporting the value to the targeted stakeholder. As a result, the stakeholder does not perceive that value.

For example, an ECSI cools down the microclimate effectively. In summer, a lot of people hang out under the trees and at the pond on site. The ECSI wants to get funding from the municipality to support the climate-mitigating value it creates. However, the ECSI cannot put numbers on the effect it creates and thus lacks legitimacy towards potential funding providers. The ECSI cannot produce a convincing application through the formal representation channel.

Another example could be an ECSI that creates organic, hand-picked berries under fair working conditions. This is their unique selling point in comparison to most berries available in supermarkets and street stands. People interested in sustainable berries get frustrated when they fail to find them in supermarket shelves and street stands. This is the channel that those people use to access berries. The ECSI, however, sells the berries on-site and posts pictures of the harvest on Instagram. Although lauded by followers and visitors for their aesthetics and fair working conditions, the 'ideal customer' actively looking for sustainable berries is not reached through those channels but would need to be met through a supermarket.

### 4. Channel-Stakeholder Brick or Gap

Channel-Stakeholder Bricks or Gaps quite literally clog or interrupt a channel that is supposed to reach a certain stakeholder.

For example, an ECSI is located in a very hidden spot. They are also not marked in Google Maps, and they do not have any web presence. Only insiders know where it is, but the ECSI's specialty is wild herb honey that they sell at a premium price to customers who come on-site. The channel to attracting more customers at scale is blocked.

Another ECSI seeks to attract dedicated volunteers via a post on social media. However, the post does not effectuate any volunteers showing up. The ECSI asks a marketing specialist for potential reasons, and the specialist suggests that dedicated volunteers with enough time to engage in gardening activities might not be present among the age group accessing the ECSI's social media presence. The channel thus misses the mark.

**ECSI Flower.** *ECSI Flower faces a gap in addressing those stakeholders who value the sustainability of the flowers. The current channels used do not seem to reach those potential stakeholders.*

### 5. Stakeholder-Resource Brick or Gap

Stakeholder-Resource Bricks block certain useful resources to be given from stakeholders.

For example, an ECSI accepts only cash money. Most people passing by, though, are young people used to using electronic payment wherever they go. They are also the ones who see value in the hand-made organic herb cosmetics this ECSI offers and are ready to pay a premium price. The ECSI, however, cannot capture value from this stakeholder group because they do not have an electronic check-out device.

Another example would be a peri-urban farm that

has horse dung to spare, and an inner-city ECSI can need this to improve the soil quality of the poor urban sand soil it is built on. The ECSI is invited to come to the farm and pick up the dung, but the ECSI does not have neither the financial means nor the physical access to an appropriate means of transportation. Thus, there is a gap preventing the resource (dung) reaching the ECSI.

**Resource translation as ECSI Flower.** *ECSI Flower gets financial resources from the Bouquet Buyers, from the Flower Pickers, and from the Wedding Clients: All of them pay a price for the products and services they obtain from ECSI Flower. This money is translated into the founder's income, which helps her maintaining the ECSI as the founder can make a living. Part of the financial income is translated into physical assets, such as gardening tools or seeds. The Wedding Clients, however, also give a range of other resources to ECSI Flower: Formal representations in the form of wedding photoshoots showing the beautiful decoration ECSI Flower provided, word-of-mouth from wedding guests enchanted by the aesthetics of the wedding party and loads of informal representations in the form of social media posts and private pictures from wedding guests. Importantly, Wedding Clients also give strategic alignment to the founder: By offering the wedding as an occasion and the wedding venue as a space to her, the founder can align an intrinsic motivation of creating beautiful flower arrangements with the clients' need of that special beauty that wildflowers bring. Flower Pickers recommend the experience to friends (word-of-mouth). Bouquet Buyers will take pictures of bouquets and post them on Instagram. Bees give direct physical resources to ECSI Flower: They pollinate flowers. The community garden offers the physical space for growing flowers.*

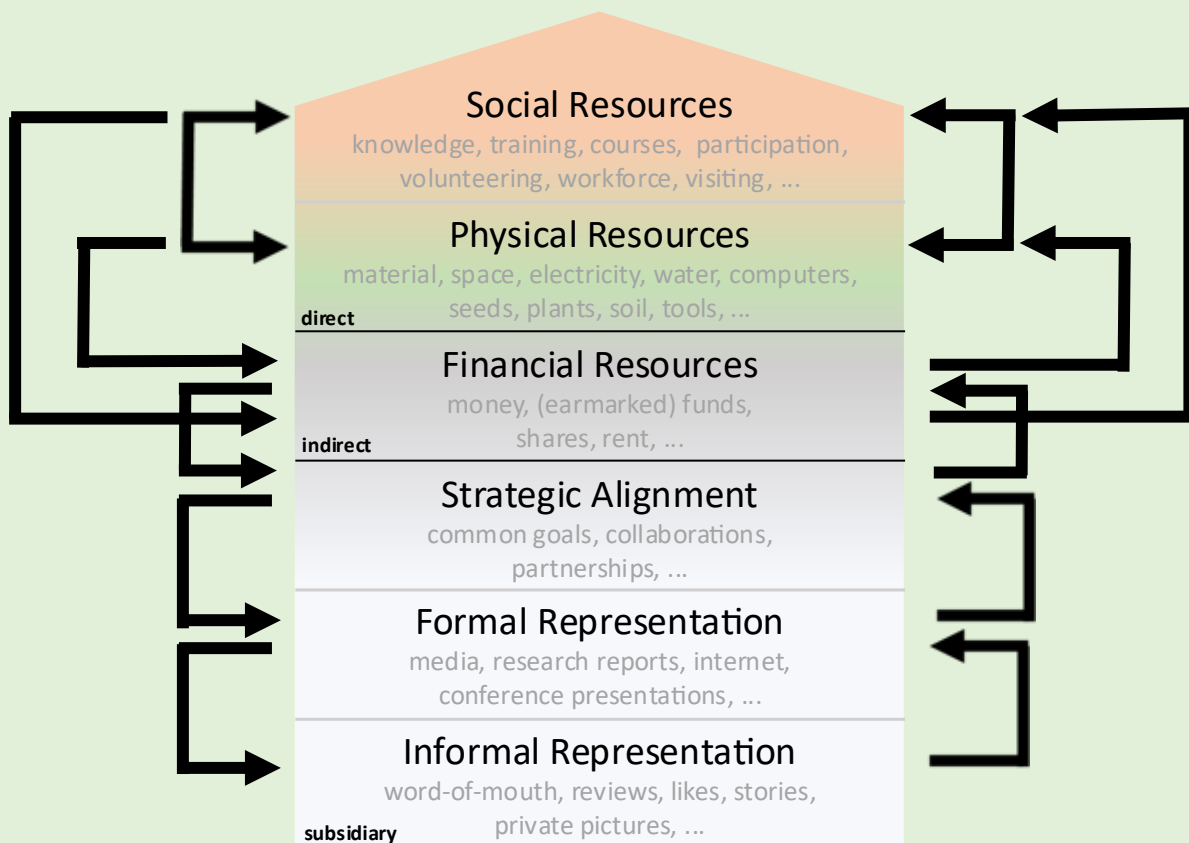


**Box 3. Resource Translation.** The above description of the different resource types has already alluded to the fact that one resource type can help access another resource type – in other words, resources can be translated into other resources. Ultimately, any resource the ECSI acquires needs to be translated back into social and physical resources because this is what the ECSI consists of. There are many ways to translate one resource into the other, and entrepreneurial spirit and creativity are certainly helpful in exploring those translation pathways. In the following, we show the basic resource translation mechanisms. There are more!

Social and physical resources cannot be translated in one another. Rather, they are mutually dependent. Social and physical resources are thus referred to as **Direct Resources**.

Financial resources can be translated into social and physical resources. For example, an earmarked fund for a new mowing machine is translated into that mowing machine. The revenue from selling urban bee honey is translated into the income of the urban beekeeper. Financial resources are thus referred to as **Indirect Resources**.

Strategic alignment, formal and informal representations all widen the visibility of the ECSI and can thus attract stakeholders, who, in turn, might contribute financial, social, or physical resources. It is specifically the translation of strategic alignment, formal and informal representations that requires more thinking and creativity as their translation is not as straight-forward as the translation of financial resources into social and physical resources. A useful question to ask when tracing potential translation is: “How can [strategic alignment / formal representation / informal representation] help access [social / physical / financial] resources?”. Strategic alignment, formal representation and informal representation are thus referred to as **Subsidiary Resources**.



## Step IV: Internalising externalities, removing bricks and closing gaps

In the fourth and last step, strategies are identified that help the ECSI move from its current state to the state envisioned in Step III. Strategies for continuity and growth are related: Continuity is the prerequisite for growth, and a growing ECSI is one that continues! Continuity means that the ECSI can continue its current activities over time (scaling deep). It does not grow but reaches a healthy state that allows it to sustain itself. To do so, bricks in the value loop need to be removed, and gaps need to be closed. Growth means that the ECSI scales up, wide, across, or soft. It grows in size (socio-physical set-up) and/or in impact (involving more/other stakeholders, spreading the idea). We distinguish two main strategies: internalising externalities and removing bricks/closing gaps.

### 1. Internalising Externalities

The first strategy to ensure continuity and enable growth is to internalise externalities.

#### Negative Externalities

Negative externalities are internalised by preventing them; by stopping to create those 'anti-values'. Sometimes, however, this is easier said than done. In this case, the ECSI can try and mitigate negative externalities.

Going back to the example of the ECSI located in a calm neighbourhood with an elderly population: Since the ECSI's core activity is the work with children, they cannot just stop this activity. However, they could shift it to a Saturday where noise is more acceptable, or they could go and talk with the neighbours to establish a personal relationship and gain sympathy for their activities to reduce the negative impression.

Another example for a negative externality is the over-application of nitrogen fertilizer leaking into the groundwater. This negative externality could be prevented by applying organic compost fertilizer and mulching instead.

#### Positive Externalities

Positive externalities are internalised by channeling them to a specific stakeholder group who then perceives those positive values and gives an appropriate resource to the ECSI.

**ECSI Flower.** *The bees that visit ECSI Flower's flowers produce honey. This honey is of value to human stakeholders as well, and human stakeholders are potentially willing to give financial resources to ECSI Flower in exchange for organic flower honey. ECSI Flower could internalise this positive externality by installing beehives and commercialising organic flower honey. This could be even aligned with the desire to include youth: The additional business branch of honey production could serve as an opportunity to include young people in the work.*

### 2. Removing Bricks and Closing Gaps

The second strategy to ensure continuity and enable growth is to remove bricks.

The **Resource Translation Brick** deserves special attention here. A general strategy for ECSI of all types is to turn subsidiary resources into secondary or primary resources. For example, stakeholders who pass by and talk positively about the ECSI could be asked to contribute a financial donation or volunteer for the ECSI. Here, the right channels need to be chosen. A specific stakeholder group might be reached well on-site through direct contact, others might be drawn to the ECSI via a poster in a supermarket, and others will be accessed through social media.

A common, and easily overlooked, resource translation gap is a lack of common objectives between key stakeholders: Stakeholders can give the ‘anti-value’ of lacking strategic alignment to the ECSI. Here, it makes sense to create a meta-objective to close this gap and work together on a goal that all stakeholders can identify with. For example, the ECSI could partner up with the city administration to become an “Edible City”.

**ECSI Flower.** *The value stream analysis showed that the channels currently used to reach stakeholders do not reach the stakeholder group who values sustainability. Two practical actions are*

*suggested: Using sustainability-related hashtags on Instagram to access another algorithmic ‘bubble’, and to put postcards in organic supermarkets titled ‘Local, Beautiful, Hand-Picked Organic Flowers’. Organic supermarkets are supposed to reach a stakeholder group who values sustainability and is affluent enough to purchase the ECSI’s flowers.*

## 7. Discussion

This section will discuss the typology of ECSI OVS, the strategies, and ways of applying the OVS.

### 7.1 Typology

The ECSI OVS typology distinguishes three archetypes and four mixed types of ECSI OVS: Commercial, social, and nature-based; plus, commercial-social, social-nature-based, nature-based-commercial, and social-commercial-nature-based type. This typology is an attempt at structuring the different types of value loops prevalent in the ECSI it distinguishes.

Against the backdrop of urban agriculture and business model literature, one could question whether ‘another’ typology is really needed. It is, because extant literature did not offer business model concepts that would capture the variety of ECSI value creation and capture mechanisms. Existing typologies do not distinguish and operationalise different value logics (cf. Laasch, 2018). The OVS is the first ‘business model’ (or rather, as defined, organisational value system) concept that operationalises different ways of creating and capturing value beyond the commercial logic. By placing values centre-stage, it helps understand how the range of organisational types and forms represented by ECSI create and capture value.

One qualification regarding the typology presented must be emphasised: The typology distinguishes types of value loops prevalent in ECSI. In most ECSI, different types of value loops together enable the organisation to continue. The typology and the case examples presented highlight certain value streams that are key to the existence of specific ECSI. For example, a Type II: Social Value Loop ECSI needs to maintain its physical base, too. It would not be sufficient to focus only on closing the prevailing social value loop.

### 7.2 Strategies

The strategies for continuity and growth are all based on the value loop analysis. Each type of value loop brings its own challenges and there is no ‘one size fits all’ strategic approach to be suggested. We thus offer meta-level strategies – strategies that each ECSI can follow, and a methodology that clearly shows which parts of the ECSI need to change in order to close value loops.

The ECSI envisions its future state (different types of scaling). Creating a clear vision that is shared among the ECSI stakeholders or at least the core team is key to achieving this future state (Freeman et al., 2020; Velter et al., 2020). By depicting the values the ECSI seeks to create, scaling-related potential mission drifts can be brought into consciousness, such as sacrificing social value creation over financial value creation. The OVS offers various ways of thinking about stakeholder resources beyond financial resources. The ECSI systematically checks the value loops that this future state should contain.

The advantage of the OVS for strategizing lies in the fact that it puts all types of value loops at the same analytical level and does not discriminate a priori between ‘soft’ and ‘hard’ factors affecting the ECSI’s continuity. Soft factors like social dynamics, personal sympathies and agendas do and will play just as an important role in an organisation’s continuity as the financial balance sheet or the health of the soil the ECSI grows produce in. The OVS thus depicts the complex reality of ECSI and offers systematic strategies to deal with this reality.

### 7.3 Applications of the OVS

There are different ways the OVS can be applied. In the present document, we explained the OVS analysis process in depth. Such analysis can fulfil four different purposes:

1. It can help in innovation, analysis and strategizing processes led by the ECSI;
2. It can support communicating the values ECSI create to ECSI stakeholders;
3. It can support multi-stakeholder dialogues,
4. It can be used as a tool for monitoring and impact reporting.

#### 1. Analysis, Strategizing & Innovation

The OVS is a map of the whole organisation. It shows all different aspects of an organisation,

ranging from stakeholders to marketing mechanisms and even governance (in the social layer, the diamond's head). In the business model world, there are many resources on how to build an organisation, what to consider, etc. This can be an overwhelming flood of information. With the OVS as a map of the organisations, all those aspects get a structure. Users of the OVS can then "zoom in" to specific aspects of the model and use the tools out there as "plug-ins" for the model, going into more detail where they find the need to. One example is the combination of the Value Proposition Canvas and the OVS (Fig. 22).

The OVS is a tool developed for ECSI practitioners, ECSI stakeholders, and ECSI business model analysts (both consultants and researchers). Researchers and consultants are likely to be interested in a comprehensive analysis of ECSI business models including the perspective of both ECSI practitioners and ECSI stakeholders.

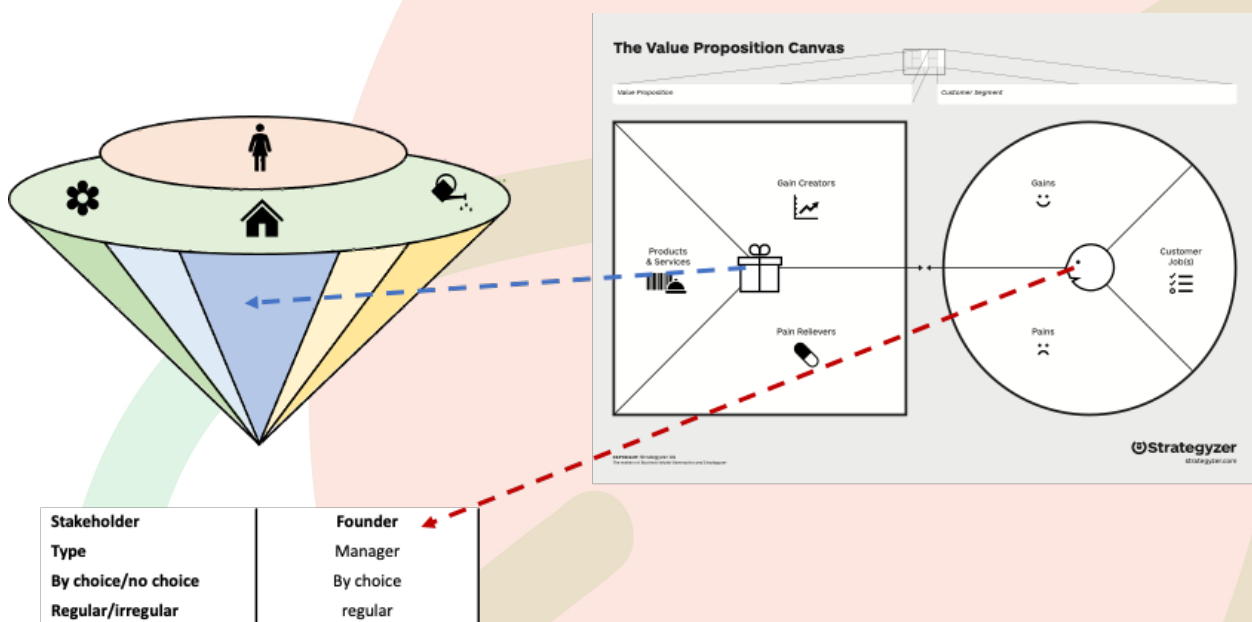


Figure 22. The Value Proposition Canvas (Strategyzer, 2021 available at <https://www.strategyzer.com>) as a "plug-in" for the OVS.

For ECSI practitioners specifically, the OVS can be used to analyse, innovate and enhance ECSI business models and to develop strategies that allow for closing value loops. During the workshops held to refine and apply the OVS, ECSI practitioners found the OVS valuable to use within their initiatives.

## 2. Value Communication

For ECSI, it facilitates the communication about which values ECSI create, which is relevant for example at the level of the city administration when it comes to the collaboration of different ministries and the distribution of funds (cf. Multi-Stakeholder Dialogues). The OVS as a visual can be used for impact reporting and showing the particular set of value an ECSI creates. The following colouring scheme can be used (Bouwhuis, 2021):

- Cool colours: environmental values created
- Warm colours: social values created
- Neon versions of those colours: values created by the ECSI that the ECSI deems to be unique to them

## 3. Multi-Stakeholder Dialogues

The OVS puts stakeholder perspectives on the ECSI centre-stage. Rather than assuming a conflict between different values created or shying away from the complexity of values created, the OVS visualises all values created and perceived by stakeholders in the shape of a diamond. Each side of the diamond is valuable, each side of the diamond makes the diamond what it is and shapes it. The OVS thus lends itself as a tool for multi-stakeholder dialogues to facilitate the creation of a common perspective and to understand what the ECSI can do. This can be relevant, for example, for city administrations with different resorts for public green and social inclusion when they are in

doubt about the responsibilities and funding options to support ECSI.

## 4. Monitoring and Impact Reporting

Step I of the OVS analysis can be conducted yearly, half-yearly, or quarterly for monitoring ECSI. Through the systematic approach to data gathering and the visualisation on one page, the OVS lends itself for low-threshold monitoring and can convincingly show how an ECSI evolves over time when assorting the monitoring OVS in a timeline: It shows changes in the values created, the stakeholders reached, the socio-physical set-up, the channels used for value communication, and the resources acquired from stakeholders. That way, the OVS itself becomes a tool of formal representation for ECSI and can be used to reach specific stakeholder groups.



Figure 23. Building a 3D OVS model of the values of an ECSI in Rotterdam. Workshop on September 22, 2021.

## 8. Ten Key Learnings

Being completely novel, there are many learnings both for the developers and the appliers of the OVS. Ultimately, the development of the OVS was an iterative co-creation of research and practice, integrating learnings along the way to bring the OVS in the present shape. Here, we present the top ten key learnings perceived by those who worked with the OVS.

### 1. The OVS provides a new perspective on stakeholder resources.

Stakeholder resources are not restricted to, and do not equal, financial revenue. The OVS makes two distinctions that differentiate it from conventional business model concepts. First, stakeholders can give many different things to the organisation: social and physical (direct) resources, financial (indirect) resources, and subsidiary resources. Second, and related to the first distinction, these stakeholder resources do not equal financial revenue. The stakeholder resources are measured against their capacity to be translated into the socio-physical set-up of the organisation.

*“My most important learning was that the ‘yield’ you can receive from stakeholders can be defined in three different ways: 1. People/materials; 2. Money; 3. [They can be] ambassadors for your organization.” – ECSI manager*

### 2. Value creation and value capture are not necessarily linked.

The OVS does not assume that stakeholders give resources *in exchange* for value created by the ECSI. This is closer to the reality of many ECSIs who receive resources from stakeholders based on stakeholders’ valuations and capacities of providing resources.

### 3. The OVS emphasises the subjective and dynamic nature of value created.

What is of value to whom and how is not defined a priori. The value really lies in the eye of the stakeholder and can change over time. Stakeholders express the valuation of a certain value perceived towards the organisation through giving resources (stakeholder resources). Those resources can also take different forms (primary, secondary, and subsidiary resources).

### 4. The OVS makes the multitude of values created by ECSI visible.

Both ECSI practitioners and scholars researching urban agriculture organisations know that ECSI create a complex of values. Exploring this complex of values and communicating it, though, has been difficult. Practitioners would strategically show only one side of their diamond to particular stakeholders. The diamond allows both practitioners and researchers to depict the complex of values created without prioritising or discriminating certain values. In fact, the diamond emphasises the importance of all value created because without the different values created, the diamond would not exist.

### 5. The OVS is a map adopting a systems perspective on organisations.

The OVS is not a linear organisational model but understands the organisation as a system of value loops connecting stakeholder values through channels with the socio-physical set-up of the organisation. Stakeholder resources allow the socio-physical set-up to continue. This systems perspective helps understand that value loops need to be closed for the organisation to continue. It shows how the perception of value created through stakeholders with useful resources is crucial to the organisation’s continuity.

## 6. No triple bottom line, no paradoxes.

The OVS distinguishes physical and social components of an organisation, stakeholder resources and their translation into those components instead of the triple bottom line. This helps dissolve apparent paradoxes or contradictions between financial, environmental and social value creation because the OVS abandons this way of thinking and suggests a new approach.

## 7. The OVS shows how systems transition works.

This is relevant in the context of sustainability transformations. A well-embedded diamond means that a value-creating socio-physical entity aka organisation connects through supporting stakeholders through the wider system within which it is located. This is the prerequisite for continuity and upscaling. The OVS visualises an organisation as the smallest entity of a system. The system will either support or disconnect from the organisation. By involving stakeholders, the organisation can widen its influence. A systems transformation is an effect that can be observed over time by marking two points in time as “before” and “after”.

## 8. The OVS is applicable to any type and form of organisation.

In principle, the OVS is applicable to any type of organisation (even non ECSI organisations). It can be a commercial business, it can be a political organisation, a neighbourhood initiative, a school garden, a temporary pop-up initiative or a social enterprise: All organisations follow a basic mechanism of value creation and capture, which can be analysed with the OVS.

## 9. Stakeholders are human and non-human.

Stakeholders are any human or non-human entity that are involved in the ECSI’s activities. This concept of the stakeholder includes physical entities like groundwater bodies or soil into the analysis – which is logical, since those entities offer physical resources enabling the ECSI to continue. In the context of cities’ sustainability challenges, widening the concept of the stakeholder to non-humans is a crucial step to consider their contributions and keep an eye on externalities.

## 10. The diamond as a metaphor supports creative thinking.

The diamond shape serves as an insightful metaphor spurring systematic and creative inquiry into the organisation and its stakeholders. Presented with the diamond-shaped model, appliers of the OVS used the metaphor of the diamond to talk about the value of different perspectives, invented colour codes for different types of values, talked about different shapes and uniqueness of ECSI, pondered upon visibility and invisibility/blur-ness of values, and more.

*“The organisation is shaped through the different perspectives on it. Perspectives and organisation are mutually dependent, just like the diamond formation process relates to the external forces of pressure and heat in the earth.” – OVS developer*

---

*We hope that the present report contributes to an understanding of the complex value creation and capture mechanisms of ECSIs. We would like to express our gratitude to all contributors of this report and especially to all ECSI that have informed the OVS to depict their challenges and ways of working.*



## References

Amit, R., Zott, C. (2015). Crafting Business Architecture: The Antecedents of Business Model Design. *Strategic Entrepreneurship Journal* 9, 331–350.

Arend, R. J. (2013). The business model: Present and future—beyond a skeumorph. *Strategic Organization*, 11(4), 390-402.

Bouwhuis, N. (2021). Personal communication, 21.09.2021.

Burgess, S. W., & Martin-Jones, K. (2019). Spirituality as a reflection of value-centeredness. In *The Routledge Companion to Management and Workplace Spirituality* (pp. 293-303). Routledge.

Casadesus-Masanell, R., & Ricart, J. E. (2010). From strategy to business models and onto tactics. *Long range planning*, 43(2-3), 195-215.

Costanza, R., d'Arge, R., De Groot, R., Farber, S., Grasso, M., Hannon, B., ... & Van Den Belt, M. (1997). The value of the world's ecosystem services and natural capital. *nature*, 387(6630), 253-260.

D3.3 – *forthcoming*. Comprehensive Guidelines for Up-Scaling (Deliverable D3.3). Zenodo.

D6.2 – Hagelaar, G., Wubben, E.F.M., Martinez, L., Gallis, H., Säumel, I., Reddy, S., & Wachtel, T. (2020). Stakeholder power-interest maps (Deliverable D6.2). Zenodo. <https://doi.org/10.5281/zenodo.3676670>

D6.3 – Reddy, Suhana, Wachtel, Thomas, Säumel, Ina, & Martinez, Laura. (2020). EdiCitNet online Marketplace (Deliverable D6.3). Zenodo. <https://doi.org/10.5281/zenodo.5710287>

D.6.4 – Reddy, Suhana, & Wachtel, Thomas. (2020). Action Plan of EdiCitNet ECS Business Consulting Team (Deliverable D6.4). Zenodo. <https://doi.org/10.5281/zenodo.5710323>

D6.5 – Bischof, A.C., Wubben, E.F.M., Hagelaar, G., Reddy, S., Säumel, I., Martinez, L. (2020). Report on Triple Bottom Line Business Models (D.6.5). Zenodo. <https://doi.org/10.5281/zenodo.3678364>

Davies, I. A., & Chambers, L. (2018). Integrating hybridity and business model theory in sustainable entrepreneurship. *Journal of Cleaner Production*, 177, 378-386.

Dewey, J. (1939). Theory of valuation. *International encyclopedia of unified science*.

EdiCitNet (2021a). Learn more about the value chain of Edible City Solutions. [Online]. Available at: <https://www.edicitnet.com/biz/>.

EdiCitNet (2021b). EdiCitNet Glossary. [Online]. Available at: <https://www.edicitnet.com/wp-content/uploads/EdiCitNet-Glossary.pdf>.

Freeman, R. E., Phillips, R., & Sisodia, R. (2020). Tensions in stakeholder theory. *Business & Society*, 59(2), 213-231.

Galvão, G. D. A., Homrich, A. S., Geissdoerfer, M., Evans, S., Scoleze Ferrer, P. S., & Carvalho, M. M. (2020). Towards a value stream perspective of circular business models. *Resources, Conservation and Recycling*, 162, 105060.

Gamble, E. N., Parker, S. C., & Moroz, P. W. (2020). Measuring the integration of social and environmental missions in hybrid organizations. *Journal of Business Ethics*.

Gehman, J., Treviño, L.K., Garud, R. (2013). Values Work: A Process Study of the Emergence and Performance of Organizational Values Practices. *Academy of Management Journal* 56, 84–112.

Haines-Young, R., & Potschin-Young, M. (2018). Revision of the common international classification for ecosystem services (CICES V5. 1): a policy brief. *One Ecosystem*, 3, e27108.

Joyce, A., & Paquin, R. L. (2016). The triple layered business model canvas: A tool to design more sustainable business models. *Journal of cleaner production*, 135, 1474-1486.

Kondalkar, V. G. (2020). *Organizational behaviour*. New Age.

Krikser, T., Piorr, A., Berges, R., & Opitz, I. (2016). Urban agriculture oriented towards self-supply, social and commercial purpose: a typology. *Land*, 5(3), 28.

Kuen, Y. (2020). The inclusion of ecosystem service values in business models of urban agriculture organizations in The Netherlands [Master's Thesis, Wageningen University]

Laasch, O. (2018). Beyond the purely commercial business model: Organizational value logics and the heterogeneity of sustainability business models. *Long Range Planning*, 51(1), 158-183.

Laasch, O. (2019). An actor-network perspective on business models: How 'Being Responsible' led to incremental but pervasive change. *Long Range Planning* 52, 406–426.

Lohrberg, F.L., Licka, L., Scazzosi, L., Timpe, A. (2015). *Urban Agriculture Europe*. Berlin, Jovis.

Massa, L., Tucci, C. L., & Afuah, A. (2017). A critical assessment of business model research. *Academy of Management Annals*, 11(1), 73-104.

Morales, A. (2020). Exploring Paradoxical Tensions in Circular Business Models—Cases from North Europe. *Sustainability*, 12(18), 7577.

Osterwalder, A., Pigneur, Y. (2011). *Business Model Generation*. Campus Verlag.

Ozanne, L. K., Phipps, M., Weaver, T., Carrington, M., Luchs, M., Catlin, J., ... & Williams, J. (2016). Managing the tensions at the intersection of the triple bottom line: A paradox theory approach to sustainability management. *Journal of Public Policy & Marketing*, 35(2), 249-261.

Pölling, B., Mergenthaler, M., & Lorleberg, W. (2016). Professional urban agriculture and its characteristic business models in Metropolis Ruhr, Germany. *Land use policy*, 58, 366-379.

Pölling, B., Prados, M. J., Torquati, B. M., Giacchè, G., Recasens, X., Paffarini, C., ... & Lorleberg, W. (2017). Business models in urban farming: A comparative analysis of case studies from Spain, Italy and Germany. *Moravian Geographical Reports*, 25(3), 166-180.

Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F.S.I., Lambin, E., Lenton, T.M., Scheffer, M., Folke, C., Schellnhuber, H.J., Nykvist, B., de Wit, C.A., Hughes, T., van der Leeuw, S., Rodhe, H., Sörlin, S., Snyder, P.K., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R.W., Fabry, V.J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P., Foley, J. (2009). Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecology and Society* 14.

Säumel, I., Reddy, S., Wachtel, T. (2019). Edible City Solutions—One Step Further to Foster Social Resilience through Enhanced Socio-Cultural Ecosystem Services in Cities. *Sustainability* 11, 972. doi:10.3390/su11040972

Schaltegger, S., Hörisch, J., & Loorbach, D. (2020). Corporate and entrepreneurial contributions to sustainability transitions. *Business Strategy and the Environment*, 29(3), 1617-1618.

Smith, W. K., & Lewis, M. W. (2011). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of management Review*, 36(2), 381-403.

Stokmans, M., Van Reisen, M., & Landa, R. (2018). Values and social entropy in organizational systems: Monitoring organizational change by values. Case study of a quantitative assessment of the effectiveness of a new approach to care for elderly patients with dementia.

Strategyzer, 2021. The Value Proposition Canvas. [Online]. Available at: <https://www.strategyzer.com>.

Swinburn, B.A., Sacks, G., Hall, K.D., McPherson, K., Finegood, D.T., Moodie, M.L., Gortmaker, S.L. (2011). The global obesity pandemic: shaped by global drivers and local environments. *The Lancet* 378, 804–814.

Täuscher, K., & Abdelkafi, N. (2018). Scalability and robustness of business models for sustainability: A simulation experiment. *Journal of Cleaner Production*, 170, 654-664.

Torquati, B., Venanzi, S., Branduini, P., Laviscio, R., & Giacché, G. (2020). Key elements and organisational models of urban agriculture: a literature review. In *Green metamorphoses: agriculture, food, ecology: Proceedings of the LV Conference of SIDEA Studies* (pp. 639-648). Wageningen Academic Publishers.

van Bommel, K. (2018). Managing tensions in sustainable business models: Exploring instrumental and integrative strategies. *Journal of Cleaner Production*, 196, 829-841.

van der Schans, J.W. (2015). *Business models urban agriculture*. Wageningen, Stichting Dienst

Velter, M. G. E., Bitzer, V., Bocken, N. M. P., & Kemp, R. (2020). Sustainable business model innovation: The

role of boundary work for multi-stakeholder alignment. *Journal of Cleaner Production*, 247, 119497.

Verboven, H., & Vanherck, L. (2016). The sustainability paradox of the sharing economy. *uwf Umwelt-WirtschaftsForum*, 24(4), 303-314.

Vermeulen, S.J., Campbell, B.M., Ingram, J.S.I. (2012). Climate Change and Food Systems. *Annual Review of Environment and Resources* 37, 195–222.

Wiskerke, J.S.C. (2009). On Places Lost and Places Regained: Reflections on the Alternative Food Geography and Sustainable Regional Development. *International Planning Studies* 14, 369–387. doi:10.1080/13563471003642803

Zurek, M., Hebinck, A., Leip, A., Vervoort, J., Kuiper, M., Garrone, M., Havlík, P., Heckelei, T., Hornborg, S., Ingram, J., Kuijsten, A., Shutes, L., Geleijnse, J., Terluin, I., van 't Veer, P., Wijnands, J., Zimmermann, A., Achterbosch, T. (2018). Assessing Sustainable Food and Nutrition Security of the EU Food System—An Integrated Approach. *Sustainability* 10, 4271.

# Annex

## Annex I: Step I Questions

The following table summarises the questions of Step I of the OVS analysis. These questions are usefully answered in a workshop setting or in preparation of a workshop (where Step II, III, and IV will be discussed).

<b>1</b>	Date of filling in this form: Organisation (Name): Legal Form: City: Country: Founded in (year):					
<b>2</b>	What are the key social resources the ECS uses right now?	Number	You can specify the resource here. Example: employees (4) is specified as one designer, one founder/manager, and two trained gardeners			
	Employees					
	Volunteers					
<b>3</b>	What are the key physical resources the ECS uses right now?	Check the box with an x. You can specify the resource here. Example: space (x) is specified as 400 square metre vegetable garden and 500 square metre wild grassland.				
	Space					
	Building					
	Water					
	Vehicles					
	Electricity					
	Tools					
	Material					
<b>4</b>	Who are the your initiative's (one to max. six) most important* stakeholders? Stakeholders are any human or non-human entity (people, animals, parts of nature such as a groundwater body or a forest) that are somehow involved in what your initiatives does. They can be actively or passively impacted by it. They can chose to be involved or be involved without choice. They can be stakeholders on a regular base, or only irregularly. *Most important stakeholders are those without who your initiative would not exist or have no reason to exist. In case an important stakeholder slips your mind, do not worry - any important stakeholder will be included at a later stage of analysis!					
	Name					
	Type					
	Choses to be a stakeholder					
	Don't actively chose to be a stakeholder					
	Regular					
	Irregular					
<b>5</b>	Which values do those stakeholders see in the ECS? (max. two values per stakeholder) Note that stakeholders can also perceive of the initiative in a negative way, seeing an 'anti-value' such as "smell" or "noise".					
	Value 1					
	Value 2					
<b>6a</b>	The stakeholders experiences the value 1 they see through... ("Channels")					
	work in the initiative as employees, freelancers, consultants, managers, founders, volunteers, pro bono workers, ...					
	on-site visit of the initiative events, workshops, passing by, on-site purchases, ...					
	off-site exhibition of our products/services purchases off-site, trade fair stands, markets, street sales, retail, ...					
	contact to a third party that is related to our initiative collaborations, networks, working groups, people, affiliates, ...					
	formal representation of that value (social) media, research reports, internet/websites, conference presentations, ...					
	informal representation of that value word-of-mouth, reviews, likes, stories, private pictures, ...					

6b The stakeholders experiences the value 2 they see through... ("Channels")						
6b	<b>work in the initiative</b> as employees, freelancers, consultants, managers, founders, volunteers, pro bono workers, ...					
	<b>on-site visit of the initiative</b> events, workshops, passing by, on-site purchases, ...					
	<b>off-site exhibition of our products/services</b> purchases off-site, trade fair stands, markets, street sales, retail, ...					
	<b>contact to a third party that is related to our initiative</b> collaborations, networks, working groups, people, affiliates, ...					
	<b>formal representation of that value</b> (social) media, research reports, internet/websites, conference presentations, ...					
	<b>informal representation of that value</b> word-of-mouth, reviews, likes, stories, private pictures, ...					
7 Which resources do the stakeholders give to your initiative - regularly or irregularly?						
7	<b>Social resources</b> knowledge, training, courses, participation, volunteering, workforce, visiting, ... <i>You can specify the resource here.</i>					
	<b>Physical resources</b> material, space, electricity, water, computers, seeds, plants, soil, tools, ... <i>You can specify the resource here.</i>					
	<b>Financial resources</b> money, (earmarked) funds, shares, rents, donations, ... <i>You can specify the resource here.</i>					
	<b>Strategic alignment as a resource</b> meaning they are on your side regarding vision and mission - common goals, being part of the same network, collaborations, partnerships, legitimacy, certifications, ... <i>You can specify the resource here.</i>					
	<b>Formal representation</b> media, research reports, internet, conference presentations, ... <i>You can specify the resource here.</i>					
	<b>Informal representation</b> word-of-mouth, internet reviews, likes, stories, private pictures, ... <i>You can specify the resource here.</i>					

## Annex II: Step II Questions

These questions cover Step II of the OVS analysis. The questions are in line with D3.3. Just like for Step I, these questions are usefully answered in a workshop setting or in preparation of a workshop (where Step III, and IV will be discussed).

*Note: The answers to these questions can also be given with the help of the table in Annex I with the vision of the future state of the ECSI in mind.*

### 1. Scaling Deep

Do you plan to improve your ECS (e.g., technical, marketing wise)? What do you want to change?

What is your timeframe?

### 2. Scaling Up

Do you plan to involve larger/other groups in your ECSI? Which stakeholders?

What is your timeframe?

### 3. Scaling Wide

Do you plan to replicate your ECS to a new geographic area (somewhere else)? Where?

What is your timeframe?

### 4. Scaling Across

Do you plan to start a completely new ECS? What should it look like?

What is your timeframe?

### 5. Scaling Soft

Do you plan to spread the ECS idea or to provide ECS knowledge? This question concerns values created by the ECSI.

Do you plan to grow the network, to build alliances, lobbying? What exactly do you want to do? This question concerns stakeholder resources, specifically, strategic alignment.

What is your timeframe?

### **Annex III: Step III Main Components**

- Conduct Value Loop Analyses of interest
- Identify positive and negative externalities in the Value Loop
- Identify Bricks and Gaps in the Value Loop

### **Annex IV: Step IV Main Components**

- Brainstorm ways to Internalise externalities
- Identify ways to remove Bricks and close Gaps



## Glossary

Abbreviation	Description
BCT	Business Consulting Team
ECS	Edible City Solution
ECSI	Edible City Solution Initiative
EdiCitNet	Edible City Network
EU	European Union
FC	Follower City
FRC	Front-Runner City
NGO	Non-governmental organization
OVS	Organisational Value System
TLBMC	Triple Layered Business Model Canvas

About the EdiCitNet Project: **EdiCitNet** is demonstrating innovative Nature-Based Solutions (NBS). **Edible City Solutions** are going one step further: We include the whole chain of urban food production, distribution and utilisation for **inclusive urban regeneration** and address societal challenges such as mass urbanisation, social inequality and climate change and resource protection in cities. The key components (1) **City Teams**, (2) **Living Labs**, (3) **Masterplans** and the (4) **Edible Cities Network** with *Toolbox* and *Marketplace* form the basic structure of EdiCitNet.



**Thank you!**  **www: edicitnet.com**



 **Twitter: @edicitnet**

 **Insta: edicitnet**

 **edicitnet-coordinator@eurtd.com**



**EdiCitNet has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 776665.**



**Reports in #openaccess #OA in Zenodo**  
**<https://zenodo.org/communities/edicitnet/>**