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AN ECOLOGICAL ECONOMICS INQUIRY INTO THE SOCIAL AND SOLIDARITY ECONOMY

Insights from an Action Research

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Ph.D. dissertation

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Content

Tables

Figures

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CHAPTER 1. INTRODUCTION

Scientists and researchers undoubtedly made a great effort to raise awareness about pressing ecological and social issues. The latest report of the Intergovernmental Panel on Climate Change (IPCC, 2021) draws attention to the irreversible degradation processes caused in the ecological system of the Earth and calls for immediate action to change destructive human activities to mitigate the catastrophic consequences of climate change. The economic production, devoted to unlimited growth which dominates the mainstream economic thoughts and practices, has been argued to be responsible for the unsustainable exploitation of natural resources, degrading ecosystems, and for contributing to socially unjust processes. Across the globe in recent decades, civic resistance movements have appeared as oppositional forces to formerly accepted definitions and the currently dominant institutionalisation of economy and society. At the same time, diverse research has attempted to elaborate alternative pathways for transformation towards ecological sustainability and social justice.

In spite of the diversity of attempts, including both civic resistance and academic research to point out new pathways, there is a tendency of accommodating 'alternative' ideas into the mainstream economic paradigm. The market economy, being the dominant economic paradigm, shapes the institutional and political context. The accommodation of alternatives lies in the process of adjusting the new ideas according to the market economy and appropriate them for the sake of economic growth (Spash, 2013). It implies that we intend to look at the problems through the lens of the market economy. The characteristics of complex problems – such as the negative impact of human activity on the Earth systems – is, however, that they cannot be solved within the system which causes them. What can protect alternative ideas being accommodated into the mainstream paradigm is one of the core questions of theories and movements proposing alternatives.

The social and solidarity economy (SSE) has emerged as a practice- and movement-based theory in Latin-American countries to resist and build alternatives to the growth-

oriented economy (Kawano, 2018). I became familiar with this concept and the movement during my studies in South America[1], which inspired my work and shaped my worldview. The SSE expresses a normative position against the market-based economy which is seen as problematic from both a social and an environmental perspective. From local, isolated, informal practices, the SSE has grown into global networks and, since the 2000s, it has gained international recognition which was formalized in international organizations such as RIPESS (Intercontinental Network for the Promotion of Social Solidarity Economy)[2] and it has been included in the field of the academia thanks to scientific networks such as the EMES (Emergence of Social Enterprises in Europe) International Research Network[3].

The notion of SSE promotes a systemic change, social transformation toward an environmentally and socially just future. The concept has an increasingly important role in solving pressing social issues worldwide, improving living conditions of communities in need, empowering vulnerable groups or giving voice to people experiencing oppression or difficulties in access to employment. It shifts the emphasis from profit generation to well-being and to creating social benefits for local communities. It promotes democratically managed organizations and groups, which enables members to follow common values instead of pure self-interest. The SSE extends economic activities beyond the realm of the market economy following a plural economy approach (Laville & Nyssens, 2001). The great potential of the SSE to shift toward environmental sustainability is articulated in many studies and policy documents (Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019; Penha-Lopes & Henfrey, 2019; Utting, 2018).

From a radical ecological perspective, however, social and solidarity economy practices have been poorly explored in the literature. Even though, theorists of the SSE

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[1] My studies in South America cover two exchange programs: between 09/2011 - 07/2012 at the Master program of the Universidade Federal de Santa Catarina, Florianópolis, Brazil; and between 09/2017 - 12/2017 at the Doctoral School of Social Sciences of the Universidad Nacional de Jujuy, Argentina within the Euroinkanet exchange program.

[2] http://www.ripess.org/

[3] https://emes.net/

put a strong emphasis on questioning the prevailing economic system and its status quo, the movement as well as the theory has focused rather on social, political, economic aspects much more than on the environmental dimension. Reflecting on this research gap, the aim of the present research is to link and integrate the notion (and practice) of the SSE with ecologically more critical discourses such as ecological economics. Ecological economics, following an interdisciplinary approach and linking social and natural sciences, offers a critical perspective on human-nature relations which can contribute to outline the environmental aspect of the SSE and strengthen its argument of radical change (Sahakian & Dunand, 2014).

The research design which allows to explore the topic is, in addition to the theoretical background is shaped by my research goals and the research methodology. The research goals are three-fold and defined by my personal commitments, practical and intellectual goals.

My *personal commitments* are interlinked with my different roles of being an activist and a researcher. As an activist, I am committed to carry out immediate actions which contribute to create environmentally sustainable and just societies. As a researcher, I am dedicated to understand the World in order to contribute to human flourishing. In designing the research, I aim to create synergies between my embeddedness in the civil area and my academic life and to directly support a collective which aims to experiment an ecologically and socially just economic model. I also acknowledge that being a civil actor entails a normative position on how I see the World, which motivates and encourages me to deepen the understanding about the targeted social phenomena and conceptualize the lived experience.

The *practical goal* of the research lies in the combination of academic knowledge and civil actions. The research aims to generate knowledge which is useful for the local community. The best way to ensure that the knowledge which is produced is useful and relevant is to allow and enable members of the community to participate in the knowledge creation process. Therefore, the practical goal of the research is co-constructed with the members of a civil organization which committed itself to improve its activities through a democratic and systemic knowledge creation process.

The *intellectual goal* of the research is twofold. On the one hand, the research aims to

provide valuable insights for the academia by broadening the concept of social and solidarity economy based on ecologically more critical and more developed discourses. On the other hand, the research aims to reveal the potential of academic knowledge creation to improve social and economic practices in an ecologically and socially just way.

The research desires of co-constructing knowledge with civil actors and of taking responsibility in shaping (in addition to observing and describing) the World which I am part of. Action research complies with my practical and intellectual goals. It is based on democratic knowledge creation, and it allows the researchers to become active participants of/in the world (Reason & Bradbury, 2001).

Action research is also referred to as a family of research methodologies and a worldview defined by the participatory paradigm. The participatory worldview strongly reflects on knowledge as power. Knowledge can reinforce power positions if it is controlled and held by a privileged group. Therefore, the participatory worldview questions the hegemony of a scientific elite in knowledge creation and their power in deciding what useful knowledge is (Fals-Boda – Rahman, 1991). Knowledge creation can be a democratic process in which people can equally participate (Reason & Bradbury, 2001). The involvement of broader groups in research, rather than only those who are originally trained for it can produce knowledge which is directly useful for local communities and for the wider society (Fals-Borda & Rahman, 1991).

The participatory worldview reflects also on the current social, political and economic settings. The prevailing institutional context influences the knowledge creation process; the bureaucratic or/and authoritarian relationship which characterizes the states, and the power games which drive the economic system (Stringer, 2007). The involvement of groups and communities in knowledge production, who are otherwise only subject of or excluded from research, enables them to obtain a more profound understanding of their situation and thus allow them to have a say in questions which concerns them (Fals-Borda & Rahman, 1991).

Action research involves deep emotional and personal involvement. It can be fuelled by individual interest to improve one's life conditions, or strong commitment to an issue, to change or improve wider social, ecological matters. It can target inner

changes of individuals, transform organizations, improve well-being of communities or it can pursuit even broader, systemic change. The participatory worldview refuses the ideal of value-free research, but the research has to be accompanied by reflective-analytical sense, including a reflection on the normative position chosen.

The action research which is presented in this dissertation and which explored the research topic was carried out among the members of a civil initiative in Budapest, Hungary. The initiative, called Cargonomia, founded by five citizens in 2015 including the author, aims to play a role in outlining alternatives to the current economic system. It provides sustainable solutions in the field of food production and sustainable transportation. In addition to complying with my own commitments as a doctoral student, the action research was an opportunity for the members to engage in discussions and reflections supported by a research framework while improving the organizational performance and deepening the understanding about the challenges the collective faces.

The dissertation continues as follows. Chapter 2 introduces the theoretical background and the conceptual framework of the research. It presents the brief history of the emergence of social and solidarity economy, and it outlines the main principles of the concept. The chapter also explores the environmental aspect of the social and solidarity economy and provides a critical overview of distinct sustainability approaches through the lenses of ecological economics. Finally, the chapter concludes with the conceptual framework of the research. Chapter 3 presents the research question and the applied methodology. It covers the research process, data analysis and the validity of the research. Chapter 4 includes the analysis and discussion of the empirical research. The main research findings and conclusions are presented in Chapter 5.

CHAPTER 2. THEORETICAL BACKGROUND

The chapter outlines the theoretical background of the dissertation through the historical development of the social and solidarity economy (Chapter 2.1) and its main components (Chapter 2.2). In order to construct a solid theoretical background, the second half of Chapter 2 explores the different sustainability definitions through the lenses of ecological economics (Chapter 2.3). Finally, the chapter concludes with the conceptual framework of the research (Chapter 2.4).

The social and solidarity economy (SSE) is a concept and a social movement envisaging an economic system which provides the material and immaterial conditions for "buen vivir" (good life) and for a just and fair society in harmony with nature (Coraggio, 2016, p. 25-26). The SSE moves away from the neoclassical definition of the economy, and considers the economy as a sphere embedded in the society and in the natural environment (Kawano, 2018). The role of the economy within the SSE is to assure access to a dignified life for each member of our societies, and what is dignified must be defined by autonomous, democratic society instead of private organization serving individual interests (Coraggio, 2016; 2013). Therefore, the SSE implies the democratization of the economy through the involvement of the civil society in the economic sphere to delineate what the legitimate needs of the society are and how those needs are met (Coraggio, 2016, p. 19.; Laville, 2018).

The concept is based on a social movement and concrete practices which emerged simultaneously in Latin America and in Europe during the 19th and the 20th century. The SSE as a movement refers to a collective and transformative action against the expanding market economy and raising capitalism and the values it represents (Laville, 2010; Coraggio, 2016).

Capitalism as an economic and political system is organized based on neoclassical economics which dominates the mainstream economic thinking and economic policies in most of the – so called – developed countries. Neoclassical economics understands

economic activity as an instrumental relation between ends and means, which relationship is to be optimised by fully rational economic actors seeking for their own individual welfare (searching for the optimal satisfaction of pregiven goals (ends) by pregiven means). According to this approach, the economy is designed based on further assumptions such as markets are self-regulated, supply and the demand are based on the aggregated individual interests and economic processes are marked by scarcity (Laville, 2014). The economy in this meaning – also referred as the formal view of the economy – is reductionist (Laville, 2014; Polanyi, 1976). The formal understanding of the economy is limited to commercial interactions, it disregards economic relations of different nature (beyond market exchange), it denies that any other institutionalized forms of the economy could function efficiently and any other means than price would effectively coordinate how goods are exchanged.

As a result of the development of the neoclassical economy based on the ideal of free competition, the economic sphere separated (disembedded) from the society, social processes and from its physical environment, i.e. nature (Laville, 2014). The relevance of social relations within the economy, such as care and solidarity, are denied, and deliberation, participatory decision-making, and consideration of social and environmental values in the field of economy are undesired or very limited (Rosanvallon, 1989 in Laville, 2014, p. 104). The economic arena is reserved for specialized organizations serving private interests, and economic interactions are understood as means to maximize profit and accumulate capital. Polanyi (1957) highlights that the neoclassical economic thought expanded to all aspects of human life, which implies the domination of the logic of market exchange in the satisfaction of all kinds of needs. It involves however, another process which is explained by Zsolnai (2018) as “market overreach”. Market overreach refers to the penetration of the market logic in more and more areas of social lives and its effect on changing the relationship between the society and its social, material and natural environment (Polanyi, 1957; Zsolnai, 2018). This argument has been followed by several scholars (e.g. De Angelis, 2003; Euler, 2018) highlighting the danger of commodification, or marketization. In this process, social relations which were previously defined by reciprocity, solidarity or trust are instrumentalized. Social relations are tend to be integrated in the market economy and serve as means of profit-creation and part of trade (e.g. in case of care work or sharing economy).

In contrast to the formal economy which exclusively acknowledges market relations and intends to describe everything in monetary terms, the SSE allows us to rediscover diverse forms of economic relations which are not all based on rational choices and individual interests, but can be based on trust, care, mutuality and help (Miller, 2010). The SSE allows to explore the World through "a diverse economy lens" (Miller, 2010, p. 4). SSE aims to create a shift from the market centred economy, focusing on monetized exchange activities to an economy which recognizes and is organized around non-monetized activities (Kawano, 2018)

Beyond a theoretical lens, the SSE movement is based on all the grassroots practices and wider strategies which aim to establish an alternative, ethically just economic system based on the plurality and diversity of the economy (Coraggio, 2016). The grassroots initiatives and networks following this or a similar goal converged under the name of the SSE which was conceptualized in 2001 in the World Social Forum (Laville, 2010; Miller, 2010). The term, thus, is not merely a theoretical attempt but it indents to connect and conceptualize those already existing practices which can be the seeds of a more just future economy and society.

The trajectory of the emergence of the SSE – including movements and initiatives related to these concept – is slightly different in the Latin American and in the European context because of the different interactions between the state, the economy and the civil society (Laville, 2018). The emergence of the movement and the concept is usually presented in the literature as an answer to and protection against the expansion of the market economy (Landriscini, 2013; Hillenkamp, 2016). It derives from movements to defend the right of workers, such as cooperativism and other grassroots practices which aim to improve the living conditions of the working people. In Europe and in the Anglo-American countries, these movements became associated with the social economy, while in Latin America the term of the solidarity economy spread around. In the following section, the origins of these terms are explored to present how grassroots examples converted into a concept which aims to challenge the market economy, and how the social economy and the solidarity economy converged into the concept and movement of the SSE.

2.1. Historical analysis of the Social and Solidarity Economy: theoretical-philosophical construction or grassroots movement?

2.1.1. Social economy

Solidarity within the SSE refers to an act to care for others beyond family members (Coraggio, 2016). As part of a broader movement in the European history, solidarity emerged in the 19th century as an answer to the expansion of capitalism during the industrial revolution. The mechanization of the production system allowed a more efficient production process but drove workers into vulnerable situations with low wages or, at the same time, excluding people from the labour market and thus access to livelihood (Singer, 2014; Gaiger, 2009). Market failures prove that self-regulating markets undermine their own operation, they are self-destructive (Laville, 2014). Acknowledging that self-regulating markets provide welfare for certain social groups, simultaneously they have increased inequalities between the global South and the North (Rodrıguez-Garavito, 2006).

The expansion of the market economy in the 19th (and later in the 20th) century was accompanied by a protection mechanism of the society. Polanyi (1957) refers to these two parallel processes – the expansion of the market and the protection mechanism of the society against it – as a double movement. During the 19th century cooperativism, workers' movement, mutualism arose to defend workers' right against the "wildness" of capitalism (Singer, 2014). As an answer to the exploitation of the workers and the lack of workers' rights, people joined in unions and, as an alternative to the capitalist companies, they created cooperatives which were owned by the workers themselves to recover their autonomy (Gaiger, 2009; Laville, 2018). Cooperatives refused the separation between capital and work – which are the basis of capitalism – and instead created organizations based on equal rights, mutual ownership and democratic decision making (Laville, 2018). These movements became associated to the social economy because in addition to protect the rights of those excluded from the labour market, these initiatives intended to establish alternative ways of working, experiencing autonomy, democratic management, just share of both work and income (Laville, 2018; Gaiger, 2009). In these initiatives, the economic goal was overruled by the social benefits; the economic activities were only means to provide social benefits to participants and were not the goal in itself (Gaiger, 2009). They attempted to

provide better work conditions, and reduce the risks of loss of jobs by re-appropriating working places, factories, manufactories.

Beyond practising autonomy and democratic management, their difference to capitalist companies lies in combining various forms of economic activities and resources. In addition to their conventional, market-based activities (exchange and selling of goods and services), they often relied on other types of resources, including non-monetary ones such as public benefits or mutual help (Gaiger, 2009). In these initiatives the economic activities are reduced to market exchange but they involved other types of economic interactions which resulted in plural economic activities.

This movement, however, lost its dynamics in the early 20th century for various reasons. According to Gaiger (2009), emigration to the Americas represented escape and new form of potential livelihoods for those who were excluded from labour market. At the same time, the states expanded their functions in response to the self-destructive processes of the market which resulted in laying down the framework of the welfare state (Gaiger, 2009; Laville, 2018). The European national economies in the early 20th century launched social protection instruments through the redistributive mechanism of the state (redistributing wealth from the rich to the poor), and by establishing limits to the market mechanism via laws and regulations (Laville, 2014). With the rise of the welfare states, social assistance services expanded to provide aid to unemployed population, and regulations required companies to offer social benefits for workers. On the one hand, state redistribution and market regulations were introduced as a result of democratic control in order to counteract the self-destructive mechanism of the market (Laville, 2018). On the other hand, however, it also meant that the activities previously carried out by cooperatives and associations of the civil society became part of the state through services of social security such as unemployment salaries, retirement, etc. The activities of the social economy went through a process of institutionalization by the formation of the welfare state (Laville, 2014). These tendencies led to the loss of the political and militant aspects of the movement, and the remaining cooperatives had to adapt to the market competition in order to secure their survival (Gaiger, 2009, p. 83). Thus the role of such initiatives in the public sphere to create a bridge between political, economic and social spheres decreased, and these types of activities merged into the state-market dimensions

(Coraggio, 2011).

The reduction of social benefits and of workers' rights driven by the economic recession in the 1970s led to the appearance of new forms of social economy in the second half of the 20th century (Laville, 2018). The role of the social economy shifted from democratic decision making, self-management, and workers' owned cooperatives to provide social assistance and reintegration of disadvantaged people into the labour market (Gaiger, 2009). According to Gaiger (2009), this new social economy was complementary to the market mechanism because the organizations belonging to this field supported the operation of the market. Social economy became a field which fulfilled tasks which neither the market nor the welfare state could handle, or only poorly manage, but it did not question the status quo any more (Laville, 2018). This new wave of social economy became institutionalized in form of organizations of social assistance, social care, fair trade, solidarity financing and job creation for disadvantaged people, etc. Organizations of the social economy converted into service providers, and raising questions about democracy, autonomy became secondary issues (Laville, 2018). They became reliant on state resources and philanthropic, private donations which created dependency on the existing power relations (Laville, 2010).

Due to the institutionalization of the concept, the notion of social economy became associated with the third sector (Laville, 2010; Gaiger, 2009). The third sector can be defined as a sector of organizations which do not belong to the private or to the public sector (Defourny, 2014). The problem with this trend is that the third sector in English-speaking countries is conceptualized as the non-profit sector (Defourny, 2014). Especially according to the North-American categorization, it refers to NGO-s and organizations working based on voluntary work and relying on state subsidies or private donations which usually deal with social assistance such as health care, care for elderly people, among other charity activities (Poirier, 2014). The European approach to the institutionalized form of the social economy, which is often also called as the third sector (Defourny & Nyssens, 2014), covers a broader set of organizations. It refers to organizations which are independent from the state, their primary focus is to create collective benefits instead of private profit, managed in a democratic way by the members who voluntarily joined and profit, if created, is not distributed among

private investors or owners (Laville, 2010; Defourney et al, 1999 in Laville, 2018). The sector covers cooperatives, mutual societies, associations and social enterprises (organizations of economic activities with a social goal). The European approach stresses the involvement of economic activities in the operation of the organizations belonging to the sector and it also emphasizes mutuality, participation of active citizens and collective act and ownership which is different from the North American approach (Laville, 2010). The social economy therefore is not disconnected from the private or from the public sector but rather appears as an intermediate sector (Defourny & Nyssens, 2014). It is underlined by the related policies of the European Union too, which emphasize the work integration role of the social economy (European Commission 2011).

The institutionalization of the social economy legitimated the sector but it tied it to legal forms (Poirier, 2014). Legal definitions, however, do not guarantee that the organizations operate based on the norms and values of the social economy. According to Gaiger (2009) and Laville (2010), as the role of the movement so as the meaning of concept of the social economy has shifted. Originally, the organizations belonging to the social economy pursue democratic and egalitarian forms of ownership, fair share of work and profit and they seek regulation and re-appropriation of the economy and of civil rights. They were parts of political debates and of a politicized movement which refused the status quo and took a critical stance looking for alternatives to the capitalist production system (Gaiger, 2009). The present definition of the social economy sets criteria for the internal operation of the initiatives but it does not include any measures about the sector's position toward the market or its role in the public sphere. Today, NGO-s of the sector whose main goal is social assistance often depending on private donations or state support, and social enterprises who pursuit social goals by earning profit in the market do not have any interests in changing the existing status quo. The main critique against the concept is that social economy tends to be a sector which complements the market economy without any political commitments and, therefore, contributes to recreate the problems it intends to solve (Laville, 2010; Coraggio, 2016). The shift in the meaning of the concept inspired seeking approaches which continue being critical toward the dominant system.

2.1.2. Solidarity economy

The concept of solidarity economy was first used by Felipe Alaiz, an anarchist journalist in 1937 during the Spanish Civil War (Miller, 2010) but it did not appear again until the 1980's when it emerged mainly in Latin America and in Francophone countries (Poirier, 2014). The notion of solidarity economy mainly derives from the Latin-American concept of popular economy which has some Pre-Colombian implications.

Post-colonial studies (e.g. Escobar, 2010) shed light on the diverse, culturally rich cultures which flourished in the Pre-Columbian era in the region. They also reveal that, even though cultures and regions were extremely diverse, they usually organized their livelihood based on self-sufficiency, reciprocity, solidarity, while market exchange or mercantile activities had a minor role. These communities lived in a way which did not untie the economic activities from social relations such as family and informal relations, thus social relations remained essential in satisfying basic needs (Gaiger, 2009). The way indigenous communities organized their livelihood (satisfied their material needs, their relations to each other) before the arrival of conquerors, however, slowly disappeared with the European penetration and occupation which introduced first mercantilist and later the capitalist social relations (Coraggio, 2011). Therefore, the critics of eurocentrism and of the European hegemony are often associated with questioning the centrality of commercial activities and of the market in societies (Harris, 1983 in Hillenkamp & Wanderley, 2015). The critics of eurocentrism – beside other cultural and political implications – entail the refusal and "the impossibility of living according to the norms of capitalist economy" (Gaiger, 2009, p. 87 own translation). Indigenous cultures form integral part of societies in many countries until today and some authors (e.g. Gaiger, 2009; Hillenkamp & Wanderley, 2015) see it as antecedents of the emergence of solidarity economy.

Even though the European conquest integrated the Latin-American countries and their population in the global market-economy, fragments of the Latin-American population continued practicing their non-market activities what became associated with the informal economy (Gaiger, et al., 2015). The informal economy entails satisfying needs via informal relations instead of earning a living via formal jobs. The informal ways of living only became ideologically well conceptualized resistance

against the capitalist norms in the 20th century. The alternative living was not an ideological choice for many people; obtaining income and satisfying basic needs through the informal economy and social ties (kinship) were the only ways to survive for a significant part of the society in this region (Landriscini, 2013; Rodriguez-Garavito, 2006).

In the first half of the 20th century, thanks to the development and the mechanization of the agriculture, a significant part of the agricultural population migrated into cities hoping for better life conditions (the urban population increased by 12% between 1925 and 1950) (Laville, 2010). However, urban areas could not absorb the immigrants what led to extreme level of unemployment. Some estimates that as much as half of the Brazilian population could not access the formal labour market (Laville, 2010). It led to large crowds in the peripheries of cities and favelas populated by inhabitants in poor conditions living in informality. Due to inequalities and the lack of capacity of participating in the market, or in the so-called formal economy, whole communities organized themselves based on mutual help and local, collective actions (Landriscini, 2013; Laville, 2010; Rodrıguez-Garavito, 2006). These community 'actions' involved local food groups, neighbourhood kitchens, collective childcare, manufacturing workshops, etc. which operated outside of the market realm via informal relations (Laville, 2010; Rodrıguez-Garavito, 2006).

The ways local populations intended to sustain themselves varied among the regions, all of them had different and particular characteristics according to their territory and local culture (Laville, 2010). Nevertheless, the search for alternative ways of living and providing livelihood informally was strongly linked to social inequalities and, thus, seeking social justice. Inequalities and exclusion of the formal economy hit certain social groups, e.g. black communities, indigenous groups or women (Rodrıguez-Garavito, 2006). Seeking alternative ways of living were linked to pursuit of rights for citizenship, and the economic issues (how to satisfy needs and provide a living) became associated with political questions (Laville, 2010).

Movements which emerged based on the phenomena of living informally became unified under the concept of the popular economy. The popular economy is defined as the economy of the people, or of the workers, including their families and communities whose aim is the reproduction of life in the best conditions possible (Coraggio, 2014).

According to the concept of the popular economy, one of the resources to provide the best conditions for life is paid work. However, work is instrumental and it is not the ultimate goal of life. In addition to paid work, the popular economy acknowledges that other, informal economic activities contribute to the reproduction of lives such as unpaid domestic work, self-provisioning or community work (Coraggio, 2016). The popular economy had a big impact in Latin America and assisted to the recognition that a wide part of society provides livelihoods outside of the market.

The role of popular economy within the SSE is twofold. On the one hand, the concept provides an analytical tool following the logic of reproduction of life. Popular economy recognizes those activities which purpose is to ensure a good life (or to reproduce life) in contrary to those which aim is to accumulate capital and create economic growth (since in the logic of popular economy capital does not satisfy needs) (Coraggio, 2013; 2016). The conceptualization of the popular economy is distinct from the market-centred economy which only recognizes monetized exchange activities based on a contractual relation. The popular economic activity is not associated with the monetized exchange activities of any kinds, but with the activities of people with the aim of providing livelihood. Therefore the unit of the economy is the family, the household and not the entrepreneur or any other market actors (Coraggio 2013, 2016).

On the other hand, the position of the popular economy toward the market is unclear according to Gaiger (2009) and Coraggio (2016). It is often presented as a parallel *sector* to the market which role is to sustain households – and indirectly maintain human labour (Coraggio, 2016). Rodriguez-Garavito (2006) even refers to the relation between the formal, market centred and the informal economy as exploitative. The emphasis on the household as the unit of analysis and social reproduction of the families as a goal ignores broader political and economic power relations, and embed the popular economy in the dominant system without seeking to change it (Gaiger, 2009). Therefore the popular economy, by the meaning of sustaining households, contributes to the maintenance of the market economy. In addition, popular economy can refer to illegal social interactions, such as to the mafia system since they can also contribute to sustaining households (Poirier, 2014). The popular economy also manifests in activities of the people living on the street trying to access to basic needs

through garbage recuperation, street vending and offering various kinds of street services, which presents the economy of the poor in rather uncertain circumstances (Rodrıguez-Garavito, 2006). In spite of these contradictions, the popular economy significantly contributed to the conceptualization of the solidarity economy in Latin America (Coraggio (2016). The concept of the popular economy is acknowledged as a practical tool to recognize social relations, domestic work, etc. in the Latin American social contexts.

During the early democratic attempts in some of the Latin American regions around the mid-twentieth century, popular movements emerged related to the popular economy such as workers movement, initiatives to improve living and housing conditions, rights for jobs. First collectives of workers appeared and the movements expanded to the rural areas as well (Svampa, 2017). Even though the capacity of these initiatives never reached the level of the European workers' movements, they showed capacity for self-organizing themselves (Svampa, 2017; Gaiger, 2009). These trends were impeded by the introduction of the neoliberal economic agenda first by the authoritarian regimes in the 70s'[4], and later during the reintroduction of democracy in the 80s' and 90s' systems which continued following the agenda of the free market (Svampa, 2017). The neoliberal economic discourse was reinforced by the fall of socialist regimes in Eastern Europe which demonized the state actions and strengthened the reduction of regulations over market (while social repression was ongoing) (Svampa, 2017).

The neoliberal economic policy in Latin America accompanied by global and regional economic crises (e.g. the fall in oil prices, the external debt crisis in the 1980s and the 1990s) did not improve the situation of the poor; increased social inequalities and levels of poverty, unemployment, etc. (Jiménez, 2016). The structural adjustments led to hyperinflation in the region and let thousands outside of the labour market (Coraggio, 2013; Hillenkamp, 2016; Jiménez, 2016). In this period (1980-1990s), informal groups, organizations operating based on voluntary solidarity and democratic decision making processes multiplied to face the difficulties (Hillenkamp, 2016).

[4] In contrast to Eastern Europe and to the soviet model, Latin American right-wing authoritarian regimes – often aggressively – introduced the model of free markets.

Informal work become a “phenomenon of great magnitude” which could not have been seen as a “marginal residue of capitalism” (Gaiger, 2009, p. 87). Communities relying on the informal economy became integral part of the Latin American societies which represented the failure of the anti-social and exclusive neoliberal economic policies (Gaiger, 2009, p. 87; Rodrıguez-Garavito, 2006). These initiatives were introduced as part of an economy of solidarity in 1984 by Luis Razeto in his book entitled the “Economía de solidaridad y mercado democrático” (Solidarity Economy and a Democratized Market) (Poirier, 2014) and later by Coraggio (1999) and Singer (2000). In the next decades, these often informal community projects, self-managed collectives joined in networks which explicitly questioned the hegemony of the market-centred economy (Gaiger, 2009).

Often mentioned examples are Brazilian Landless Workers’ Movement (MST) or the Via Campesina movement. The MST provides support for communities in need in organizing occupation of unproductive land. On the one hand, this is a political act against the concentration of land ownership. On the other, it aims to improve the situation of the rural, low-income population through empowerment, community building and through producing food outside of the market economy (Massicotte, 2014). The Via Campesina movement, also connected to agriculture aims to give voice and protect the interest of small-scale agricultural producers (Kawano, 2018; Barkin & Lemus, 2014). The relevance of these movements to the solidarity economy lies in their capacity to foster alternative imaginaries of providing livelihoods beyond market economy.

From around the 2000s, we can observe an increased interest in solidarity economy initiatives such as associations of residents, unions of family producers, microcredit associations, etc. which due to the unstable macro-economic situation of Latin American countries played a significant role in improving the living conditions of the poor (Gaiger, 2009). Due to the capacity in mobilizing social groups and citizens, solidarity economy became a social movement involving thousands of groups and initiatives (Gaiger, 2009). Solidarity economy as a movement and as sector in Latin America refers to initiatives and groups of voluntarily joined people pursuing economic activities to create collective benefits such as “quality of life, recognition and citizen participation” which are self-managed and democratically governed by the

members based on a diversity of resources including non-monetary and non-market resources (Gaiger, 2009, p. 85. own trans.). The solidarity economy rejects the economic system which is controlled by private for-profit companies and detached from social relations, and promotes an economy which is embedded in the society and serves the needs of the communities instead of private profit interest. It promotes democratic participation, therefore, introduces a political approach which is sensitive to social (and environmental) values in the economic sphere (Gaiger, 2009). As a convergence of the social movement and the governing left-wing political parties in the early 2000s, which tend to promote a post-neoliberal policy (Ellner, 2012 in Ruiz Riveira & Lemaitre, 2013; Svampa, 2017), the solidarity economy in some of the Latin American countries, such as Ecuador, Bolivia and Brazil, achieved a certain level of institutionalization. The solidarity economy is explicitly included in the national constitution of Ecuador and included in public policies of Brazil. Unfortunately, it is often the economic conjuncture which strengthens the importance of these initiatives and pushes the states to recognize the role of solidarity economy in fighting against poverty, social inequalities and for empowerment (Coraggio, 2013; Gaiger, 2009).

When the term solidarity economy emerged in Latin America (in the 1980s), it also appeared in France and later in other Francophone territories, such as in Quebec, related to movements and initiatives pursuing an alternative economy. It represented an answer to the lack of political dimension of the social economy (Poirier, 2014). The Latin American and the Francophone trends converged in the founding meeting of the Intercontinental Network for the Promotion of Social Solidarity Economy (known as RIPESS, Red Internacional de promoción de la Economía Social Solidaria) on 4th July in 1997 and of the World Social Forum in 2001 where the concept of social solidarity economy was created (Laville, 2014; Poirier, 2014).

2.1.3. The social and solidarity economy in Hungary

While in Latin America and in the Western European countries the terms of social economy and solidarity economy have been developing and is being contested for many years, the concepts emerged in Hungary only well after the 2000s'. There is no consent definition related to the concepts. Following the international analysis of the SSE presented in the previous chapters, the trajectory of the concept in Hungary can also be explored through the social economy and the solidarity economy. Building on

Mihály (2021) and Kiss & Mihály (2020), the development of the social economy is linked to the institutionalization of the SSE, while certain informal practices which have been identified in the region, show similarities with the solidarity economy.

The **institutionalized form of the SSE** is related to the appearance of the notion of social economy in European Union (EU) policies. The social economy on the EU level was recognized as an opportunity to address the problem of unemployment. Therefore, the development of the social economy is linked to job creation in form of supporting social enterprises and social entrepreneurship. As a consequence of benefitting from the support for the development of the social economy in Hungary, a number of local actors identify themselves as social entrepreneurs[5], and there is growing interest in the field both from practitioners and researchers (G. Fekete et al,. 2017a; G. Fekete et al., 2017b). The EU incentives however, pursuing job-generation usually in form of financial support does not reflect on the structural problems of unemployment (Kiss and Mihály, 2020). Both EU and national policies related to social economy, push the sector be accommodated in the mainstream system in line with the international tendencies which have been described in Chapter 2.1.1 (Kiss & Mihály, 2020).

Similarly to the international course of the solidarity economy, the development of the SSE in Hungary can also be linked to historic informal economic practices which have been identified in the region. Reciprocal relations and self-provisioning played an important role in providing livelihoods in Hungary until the post-socialist transformation in the 1990's (Hann, 2014). Informal economic activities embedded in social relations and rituals cover mutual assistance structures for example in housebuilding, such as the 'kaláka' or in meat-processing, such as the winter pigsticking (Hann, 2014). These economic activities are based on family relations, kinship and neighbourhood.

During state socialism a whole 'sector' of informal economic activities developed and was legalized by the state, called the 'second economy'. The second economy describes informal and alternative provisioning and income generating activities, such

[5] Social enterprises in Hungary cannot be identified statistically based on their legal form, because we can find social enterprises in all legal forms (G. Fekete et al., 2017b).

as backyard gardening. Gagyi (2020) highlights the similarity of the second economy with the popular economy in Latin America. Compared to the popular economy however, the second economy was not accompanied by raising political consciousness, as the whole society went through a certain depoliticization caused by the limited civil rights.

The reliance of households on informal activities after the post socialist transformation have decreased. The transition to the market economy have demolished the structures of the second economy (Gagyi, 2019). The marginalization of some geographical, usually rural areas entailed that most of the social relations on which reciprocal activities rely, such as trust, mutual help disappeared from these areas as consequence the unequal economic development (Mihály, 2021). In spite of the decrease, informal economic activities are still more significant in the Central European region including Hungary, than in Western Europe. Research related to informal food production in the region shows that one or two third of the population in Central and Eastern Europe produces significant amount of food for self-provisioning (Smith & Jechlička, 2013).

The perception about the informal economy though is controversial. The second economy during state socialism targeted the survival of households and to wave the incapacity of state socialism of providing stable economic production (Gagyi, 2019). Informality, such as growing food at home, repairing things is often linked to poverty, and thus their perception is negative. These perception are reinforced by the mainstream socio-economic thought: informal activities considered as backward of development because they are outside of the realm of the market economy (Jehlička et al. 2013).

Recently, informal economic practices related to cities have started to gain some positive connotation, such as urban gardening (Gagyi, 2019). Controversially, these informal food-producing practices are not politicized, they are rather motivated by individual recreational pursuits, access to healthy food and nostalgia toward rural lifestyle (Bársony, 2020). Taking into account the contradictions, informal economic activities which can be linked to the SSE – and especially to the solidarity economy – are not recent phenomena but existing social practices with long traditions (Gagyi, 2019). The potential of the SSE in Hungary lies in the fact that it can politicize these practices through providing a meaningful rationale and a positive connotation for

them.

The direct link of the above mentioned informal economy activities with the recent civil engagement in the SSE is unclear. Yet, G. Fekete et al. (2017b), in their country report for the International Comparative Social Enterprise Models (ICSEM) Project on the SSE, discovered local initiatives which identify themselves as solidarity economy initiatives. Their number is limited and they are localized mainly in cities, but they show similarities to those described within the international trajectory of the solidarity economy. Their main characteristics are the commitment to solidarity and to environmental sustainability, to democratic decision making, participation, reciprocity, and the pursuit of alternatives to the current socio-economic problems (G. Fekete et al., 2017b).

Further bottom-up civic activities suggest that, the notion of solidarity economy may gain more attention.[6] In 2019, the Solidarity Economy Centre was created in Hungary to support and create network of SSE initiatives (Szolidáris Gazdaság Központ, n.d.). The mission of the centre is marked by the pursuit for radical change for a just and ecologically just society. It aims to create synergic relations among local (and trans-local) SSE initiatives, to form a relatively autonomous networks of local actors (Szolidáris Gazdaság Központ, n.d.).The Solidarity Economy Centre may be able to bridge the Hungarian reality with the international approach of the SSE.

What can be observed, that both the Hungarian SSE movement represented by the Solidarity Economy Centre and the limited number of initiatives which identify themselves with the solidarity economy, are linked to the middle-class, urban cultural elite. If we consider that most of the western, 'transformationist' movements demanding radical change in the prevailing socio-economic system are driven by well-educated middle-class (Gagyi, 2020), it is not a surprise. There is an increasing part of the social elite who questions the legitimacy of the system which privileges them (Miller, 2021). A social transformation driven by the dominant social groups, however, carries the risk of reproducing existing power relations and overlooking the

[6] The increasing interest in the concept of solidarity economy is also demonstrated by the publication of a whole special issue targeting the SSE by a Hungarian journal of social theories (see Fordulat vol. 27).

‘shadow’ side of the reality.

While informal economic practices can be empowering if they provide autonomy, e.g. becoming independent from the market economy, they can also manifest in illegal activities such as black work, system of usury credits, black trade, sex work, and in exploitative relations, such as the mafia (Mihály, 2021; Smith & Stenning, 2006). Therefore, the unconditional romanticization of the informal and solidarity economy must be avoided.

Having that in mind and paying attention to the limitations, a movement led by the cultural elite can envisage alternatives and inspire new ways of the reproduction system. Middle-class led movements can give a positive connotation for informal economy as opposed to looking at them as coping strategies for the poor. It emphasizes the role of all social groups and the responsibility of the dominant ones to support/initiate a change.

To sum up, the trajectory of the SSE Hungary is shaped by the process of institutionalization defined by public policies, by contextual traditions of the informal economy and by bottom-up civic activities mainly focusing on the solidarity economy.

2.2. Main components of the social and solidarity economy

Following the historical overview of the SSE, the sub-chapter aims to explore the notion of the SSE through its main components which have been identified during the literature review. The sub-chapter, in addition to describe these components (social goal, plurality in economy, pluralism in democracy, political project, environmental aspect) aims to critically review and raise some dilemmas and contradictions related to them. The environmental aspect of the SSE is explored with particular depth regarding the focus of the dissertation.

The term SSE derives from both the tradition of the social and that of the solidarity economy. It covers the meaning of the social economy which lies down the criteria concerning the internal operation of organizations and complement it with a political approach to democratize the economy through the participation of citizens and to mobilize citizens for a systemic change (Laville, 2018; Gaiger, 2009).

The SSE can be best explained as a whole set of values. The SSE refers to activities which allow human communities to satisfy their needs and to provide livelihoods based on "solidarity, cooperation, equity, [environmental] sustainability, democracy and pluralism" (Miller, 2010, p. 4.). Initiatives belonging to the SSE pursue social goals, serve the common interest which are distinct from profit creation (Laville & Salmon, 2015). According to Mihály (2017), the SSE involves an economic, a social and a political dimension. Economic dimension refers to the acknowledgement of the diversity of economic activities beyond market exchange, to the pluralism in economy (Laville & Salmon, 2015). The social dimension describes the participatory and democratic feature of the SSE initiatives, what Laville and Salmons (2015) defines as pluralism in democracy. The political dimension involves the ability of economic organization such as SSE initiatives to take part in and change public policies, and to participate in shaping their political and economic context. The SSE considers economy not as a separated and independent sphere from the state and society which is reserved for specialized organization serving private economic interests without any democratic control (Coraggio, 2016). But, on the contrary, it considers the economy being interconnected or rather embedded in the society, and such, economic decisions are subjects of public debate (Penha-Lopes & Henfrey, 2019). Therefore, citizens and social organizations must be able to participate in economic decision making (Laville & Salmon, 2015; Laville, 2014). The SSE proposes that SSE initiatives can serve as spheres for public debate (Penha-Lopes & Henfrey, 2019); "interface[s] of deliberative and representative democracies" (Laville & Salmon, 2015, p. 8). Kawano (2018), Coraggio (2011), Lemaitre and Helming (2012) among others include the environmental aspect of the SSE. The environmental aspect of the SSE usually refers to maintaining a respectful relationship to nature (Miller, 2010), this aspect is, however, poorly explored in the literature except a few studies (e.g. Sahakian & Dunand, 2014; Loh & Agyeman, 2019).

In the following sections, the main components of the SSE defined by Laville and Salmon (2015), Mihály (2017) and Lemaitre and Helming (2015) are explored covering the social goal of the SSE, plurality in economy, pluralism in democracy, SSE as a political project, and the environmental aspect of the SSE.

2.2.1. Social goal

Laville (2010) articulates that economic initiatives should be recognized based on their contribution to social values rather than their financial achievements. Within the framework of neoclassical economics, private organizations pursuit income and profit generation motivated by individual interest. Financial achievements become primary compared to wider social and environmental benefits (Laville & Nyssens, 2001). In case of SSE initiatives, the objective shifts from pursuing individual, financial gains to serve the needs of the community in which they are embedded in. It means, that SSE initiatives pursue collective, social positive impact on the living conditions of others, on local development, on public health, etc. (Laville, 2010; Laville & Nyssens, 2001, p. 314). Profit creation can also serve the local community if it is distributed or invested in collective social and environmental needs (Barkin & Lemus, 2014). In case of SSE initiatives income is generated not as an end itself but as a mean to contribute to the common good and to generate positive impact in the local community (Penha-Lopes & Henfrey, 2019). Moreover, through the lenses of the SSE, benefits are not limited to financial means, but other advantages which serve the needs of the community (e.g. improvement of equity issues, empowerment of members) are also in focus or even prioritized. Local 'progress' what SSE initiatives ideally pursuit refer to meet the basic need of the local community, improve its infrastructures and "social capabilities" (Barkin & Lemus, 2014, p. 6438)

Lemaitre and Helmsing (2012) define economic, social, political and environmental benefits which SSE initiatives able to generate for the local communities. Economic benefits refer to produce private or collective goods and services which aim to improve well-being and living conditions. Social benefits include contribution to social cohesion (e.g. improvement of relations), generate employment and improvement in gender issues. Political benefits are described as participation in public actions (e.g. in policy making) and enabling access to citizenship. Environmental benefits are concerned with the conservation and preservation of the natural environment (Lemaitre & Helmsing, 2012, p. 748).

Laville & Nyssens (2001) emphasize that the ownership of the initiatives strongly affects the objectives of the SSE initiatives. In case of SSE initiatives, ideally there is no difference between owners and workers (or rather members), and they are often

members of the community which the initiative aims to serve. Therefore the members of the organization can focus on the substantial production of the initiative and on the finalities (or on the use-value rather than the exchange value) of the goods and services which is different than raising profit (Laville & Salmon, 2015). The SSE also implies that the objective of an SSE initiative should not take priority over how that objective is achieved. For instance, aspiring to provide food for a community should not involve environmentally harmful food production but, on the contrary, a regenerative, ideally organic practice should be followed which respects environmental issues (Laville & Salmon, 2015; Barkin & Lemus, 2014).

Thus the social values which are acknowledged by the SSE are broader and more diverse than the mainstream economic approach which is narrowed down to financial gains. Barkin and Lemus (2014) refer to rethink the dominant, entrepreneurial behaviour which focuses on productivism, and instead they suggest to consider the economic production as participation in social life. The above mentioned social objectives of the SSE initiatives can be similar to the ones of non-profit organizations (associations, NGO-s). Non-profit organizations usually target broader societal needs as well, however, normally they are not engaged in economic activities. The SSE initiatives have a strong social and an economic dimension, they pursue benefiting the community by carrying out economic activities. These activities however are very different from what is considered 'economic' by the mainstream approach. The plural approach of the economy is presented in the following section.

2.2.2. Plurality in economy

The notion of the plural economy was developed based on to the substantive understanding of the economy by Karl Polanyi (1976). The substantive economic approach is often explained and positioned against the formal approach to the economy. In Polanyi's (1976) understanding, the formal view of the economy is based on a set of mathematical models applied to the situation of relative scarcity and on assumptions (such as the self-centred utilitarian individuals who make rational choices by picking those opportunities that bring the highest welfare outcomes for themselves). In contrast, the substantive understanding of the economy explores the actual empirical reality of the economy as an institutionalized process of social and human-nature interactions aiming to meet people's needs and provide livelihoods

(Polanyi, 1976).

By his historical exploration, Polanyi (1976) identified various institutionalized economic principles or relations which can characterize the way communities satisfy their material needs, namely, reciprocity, redistribution, market exchange and householding. Reciprocity institutionalizes along symmetric groups who interact with each other based on social relations and mutuality; redistribution presupposes a central authority which collects and redistributes wealth and goods; market exchange refers to a contractual relation between buyer and seller where the exchange voluntarily occurs based on a price defined by demand and supply; and householding describes self-provisioning practices (e.g. caring, nurturing) (Polanyi, 1976). Any or even a combination of these relations can become dominant when they serve as integrating schemes for a society to provide livelihoods. We can observe that in addition to the dominant, institutionalized principle other relations can also be present in a society marginally within families or among friends or social groups complementing the dominant logic.

Polanyi (1976) only considered relevant these integrating schemes if they are institutionalized at the societal level. Beyond Polanyi's macro level analysis but being inspired by his approach, studies in the field of the SSE explored the different economic relations as guiding principles for different actors (Defourny, 2014; Laville & Nyssens, 2001). In the field of social enterprises, the tri-polar representation of the economy was developed (Defourny, 2014). According to the tri-polar approach redistribution characterizes state organizations through the collection of taxes and redistribution of those in form of social benefits and subsidies; market exchange belongs to private companies, and reciprocity is the main principle of non-governmental organizations, communities and families. Social enterprises or solidarity-based economic initiatives can be organized in the combination of these principles (Laville & Nyssens, 2001; Defourny & Nyssens, 2010).

The economic principles within SSE organizations describe the form of involvement of resources (Lemaitre & Helmsing, 2012; Laville & Nyssens, 2001). Market exchange is linked to commercial activities (monetary income from sales of goods and services). Redistribution describes non-commercial activities which can be source of monetary or in kind resources received through redistribution (previously collected

resources by a central authority and redistributed in form of social benefits or grants) (Laville & Nyssens, 2001). In kind resources via redistribution can be trainings, pro-bono consultations and services according to Lemaitre and Helmsing (2012). Reciprocity refers to resources received through non-monetary activities, usually through relations embedded in local, social context, characterized by trust and linked to social ties (Laville & Nyssens, 2001, p. 324). Reciprocity often involves voluntary work and gifts (Lemaitre & Helmsing, 2012), but it is important to add, that reciprocity is not equal with free a gift, it implies a counter-gift and mutuality based on symmetric relations which extended to a whole community bonds people together in solidarity based on voluntary interdependence (Polányi, 1976; Sahakian & Dunand, 2014). SSE initiatives use a combination of these principles to gain resources which composes the resource mix or a resource portfolio of the initiatives (Mihály, 2017). According to Laville and Nyssens (2000), the 'hybridization' of resources can guarantee a healthy balance between (in)dependence on market forces, public subsidies and volunteerism (Laville & Nyssens, 2000).

The economic principles not only describe how the resources are obtained but they also refer to external relations of an initiative with other actors (Gardin 2006 in Lemaitre & Helmsing, 2012): market exchange is based on contractual relations through the legal system, redistribution is linked to bureaucratic relation often with state institutions at multiple levels of government and reciprocity is linked to informal, personal relations.

The plurality in economy refers to the variety of resources and of the relations among actors. This approach allows a broader understanding of the SSE initiatives compared to the mainstream economy which would only consider resources exclusively based on monetary transactions. Research[7] revealed that solidarity-based economic initiatives often sustain themselves through non-monetary and non-market resources (Gardin, 2006 in Defourny & Nyssens, 2010; Loh & Agyeman, 2019). Access to social capital such as "social support network" or trust between actors, which are created through reciprocal relations can reduce transactional and production costs and allow

[7] Research project entitled PERSE, focusing the "Performance of Social Enterprises" in the field of work integration, funded by the 5th Framework Programme of the European Commission. The research was carried out in 11 EU countries between 2001 and 2004.

higher resilience in case of solidarity based initiatives compared to traditional economic organizations (Laville & Nyssens, 2001, p. 318). Furthermore, Lemaitre and Helmsing (2012) found that a significant part of market resources (sales of goods and services) can be embedded in social relations or motivated by environmental concerns. This means that SSE initiatives often establish market relations based on social and environmental considerations instead of purely based on price-quality ratio. Market relations of SSE initiatives are marked by certain social criteria (Lemaitre & Helmsing, 2012).

Nevertheless, regarding long-term sustainability of SSE initiatives, economic feasibility often raises as a stressing question among SSE theorists and practitioners. The plurality of the economy does not impede the need of monetary income for many initiatives to provide wages and to cover others costs (except a few examples which can operate merely based on social relations). SSE initiative continue face conflicts between economic feasibility and their social, political and environmental goals (Loh & Agyeman, 2019).

The plurality of the economy based on the substantive understanding of the economy can serve as theoretical lens to better understand economic initiatives, their resources and their relations between themselves and with the natural environment. The operationalization of the plural economy can push the focus from exclusively market income to a more diversified mix of resources, paying much more attention to resources gained through reciprocal, social relations.

2.2.3. Pluralism in democracy

The SSE holds democratic values, on the one hand, because collective social goals, needs of the community – which the SSE pursuit to meet – can only be defined through collective decision making (Barkin & Lemus, 2014). On the other hand, enabling people to participate in decisions about their own workplace, their communities, their lives and implement solutions is empowering (Kawano, 2018). Therefore, the SSE builds on self-managed groups which members equally take part in decision making through deliberative and participatory processes and become capable of shaping their on social, political and economic context (Lemaitre & Helmsing, 2012). The literature suggests that cooperatives, and other forms in which members hold ownership over

the organization play an important role within the field of the SSE (Kawano, 2018; Laville & Nyssens, 2001).

The legal status however is not a guarantee for democratic processes (Gutberlet, et al., 2020). Cooperatives can operate independently from SSE principles (e.g. not democratically, or disrespecting the rules established by the members) (Gutberlet, et al., 2020), and vice versa, organizations of other forms – including informal groups – can be aligned with the SSE (Kawano, 2018). Furthermore, research (Lemaitre & Helmsing, 2012; Mihály, 2017; Hasan, 2017) reveals that the degree of self-management and of democratic decision making varies within initiatives. Beside the strictly self-managed groups where members are equal to participate in the decision making processes and decision are result of a participatory, deliberative processes, many initiatives rely on a coordinator or a coordinating team (Lemaitre & Helmsing, 2012). In such cases, hierarchical relations might impede empowering the members and overcoming their lack of capacities to advocate their own interests (Mihály, 2019; Hasan, 2017). It can be reinforced if members lack of capabilities to participate in debates, express their opinions publicly. Some of the intentions to run cooperatives simple fail due to the lack of participation, or disrespected democratic processes by the leadership (Hasan, 2017; Gutberlet, et al., 2020). There is also need to pay attention who are in the leadership; Loh and Agyeman (2019) for instance observed racial and class differences between leadership positions and the rest of members of SSE initiatives in lower income communities. Furthermore, strong leaders might endanger the autonomy of such initiatives if decisions are concentrated in one hand and they are not results of deliberative processes (Mihály, 2019; Lemaitre & Helmsing, 2012). The lack of attention to these practices, inadequate democratic processes and differences can reproduce inequalities and hierarchical positions which these initiatives intend to solve. Kawano (2018) emphasizes therefore, the need for (democratic) control mechanisms to restrain dominant, self-interest behaviour. Nevertheless, taking into account the limits and challenges which has been described above, many initiatives achieved positive impact in empowering communities through collective action. SSE initiatives open the possibility to nurture care, solidarity, participation instead of individualism and self-interest (Kawano, 2018).

In addition to democratic decision making, the democratic aspect of the SSE refers to

the ability of SSE initiatives to mobilize citizenship "by strengthening the political subjectivity and agency of participants" (Henfrey, et al., 2019, p. 7). SSE initiatives are often forms of public spaces, sites for public debate, exchange of opinions and thoughts (Penha-Lopes & Henfrey, 2019). They are autonomous places of public dialogue which is not defined by commercial activities or bureaucratic rules. Participants are encouraged to act as autonomous agents who are not customers nor beneficiaries of a service but they are allowed to express their opinions ideally in non-hierarchical situations (Laville & Nyssens, 2001). These spaces are based on communication rather than hierarchy (Laville & Salmon, 2015).

These public spaces which allow public dialogue are essential for democratic solidarity which according to Laville and Nyssens (2001) characterizes the SSE. Laville (2014) differentiates between democratic and philanthropic solidarity to better explore the concept. Philanthropic solidarity which has been present in societies since the end of the 19th century refers to a hierarchical position between donor and beneficiary and it is associated with charity. According to Laville (2014), it leads to permanent dependency between the parties disempowering and placing the beneficiaries in a subordinate position (Laville, 2014). Even if it is an act motivated by the will to help others, the lack of mutuality can consolidate social inequalities. In contrast, democratic solidarity refers to a mutual, voluntary, egalitarian reciprocal relation between actors. Democratic solidarity allows participants to become capable to reflect, identify their problems and act collectively (Lemaitre & Helmsing, 2012).

Deliberative, free public sites are sensitive places in terms of hierarchy and domination and they can be distorted (Gutberlet, 2009). There is a risk of public spaces being characterized by informal hierarchies or even oppression. Nevertheless, many initiatives puts a strong emphasis on developing democratic skills through learning and participatory processes and being transparent (Lemaitre & Helmsing, 2012; Gutberlet, 2009).

According to Laville (2014), to practice democratic solidarity, the public sphere which is created by SSE initiatives is essential. These autonomous public spaces allow to share, discuss and understand certain social problems and common goods. Public or deliberative spaces can contribute to create ideas and improve decisions and to shape social imaginaries or critically reflect on the prevailing political and economic context

(Gutberlet, 2009; Parkins & Mitchell, 2005). Critical dialogues can shed light on previously unacknowledged and undiscussed problems and create a shift from conventional approaches, to develop social reflectivity. The goals of SSE initiatives, the social benefits which they intend to meet are legitimated through social dialogue (rather than legal frameworks and hierarchies) because "collective benefits are socially constructed" (Laville & Nyssens, 2001, pp. 322; Laville & Salmon, 2015).

Through their ability to mobilize citizenship, SSE initiatives extend democracy into the economic dimension. They serve as non-institutionalized forms of politics because they offer physical and social places to freely debate and argue about issues which otherwise would not be discussed, and they construct alternative forms of social organizations of economic activity (Laville, 2018). They introduce, from a market-economy-point of view, non-rational behaviour (such as act based on solidarity and care) and interaction with the communities in which they are embedded in, what makes these initiatives an important actors of the public space and the political arena (Gaiger, 2009).

2.2.4. Political project

The SSE implies that the political and economic context of the organizations is not predetermined. Even though the dominant economic system today is the market economy which is hardly questioned by economic experts or public policies, it is a social construction which can be shaped and transformed (Lemaitre & Helmsing, 2012; Kawano, 2018). The SSE acknowledges the role of economic initiatives in forming public policies and their influence to create a change in the institutional framework (Lemaitre & Helmsing, 2012). Miller (2004) and Coraggio (2016) emphasizes that the SSE is not a concrete plan or set of public policies. It is rather a process which allows the co-construction of the SSE in deliberative processes recognizing the diversity of knowledge, local contexts, needs and territorial characteristics (Coraggio, 2016). The economic and political context of the organizations are shaped by the interaction between (economic) initiatives and with their institutional environment (Lemaitre & Helmsing, 2012).

To what extent the economic and political context needs to be shaped/changed however, and thus the political aspect of the SSE is debated. A part of the literature

suggests that the SSE can be complementary to the mainstream economic system while improving the living conditions of communities in need. For others (e.g. Coraggio, 2016; Gaiger, 2009), the SSE represents a normative position against the market centred economy, and the SSE concerns creating a shift both in public policies and in the broader political and economic context to move away from the market centred economy toward a plural, socially and ecologically just one.

The influence of the SSE on public policies can be best explored in some of the Latin American countries where the related movement achieved a certain form of institutionalization and interfered with public policies. In Bolivia, as a result of the political action of mainly three umbrella organizations (RENACC: Red Nacional de Comercialización Comunitaria de Bolivia, the CIOEC: Coordinadora de Integración de Organizaciones Económicas de Bolivia, and the MESyCJB: Movimiento de Economía Solidaria y Comercio Justo), fragments of the components of the SSE are included in the constitution accepted in 2009. It envisages an alternative development model to neoliberalism which is based on indigenous values, such as promoting supporting community-focused economic activities, recognizing economic principles such as reciprocity and redistribution, and it also emphasizes harmonic relationship with nature (Hillenkamp & Wanderley, 2015; Kumpuniemi, 2019). In Brazil, the emergence of territorial umbrella organizations which united the local initiatives within broader networks in the 2000s was followed by the foundation of the National Secretary of Solidarity Economy (Secretaria Nacional de Economia Solidária, SENAES) in 2002 in the frames of Ministry of Job and Work (Ministerio de Empleo y Trabajo) and later the establishment of the Brazilian Forum of Solidarity Economy (Foro Brasileiro de Economia Solidária) (Lemaitre & Helmsing, 2012). The Brazilian Forum of Solidarity Economy allows space for dialogue between representatives of initiatives, umbrella organizations and decision makers. According to Hillenkamp (2016), Brazilian public policies created a favourable environment for cooperatives and social organizations of the SSE which has contributed to a fruitful dialogue between social and political actors. Various types of public spaces has opened to debate about the SSE from local to federal level which led to the creation of various state agencies offering funding support for SSE initiatives and acknowledging their role in fighting against poverty and social inequalities (Hillenkamp, 2016; Gaiger, Ferrarini, & Veronese, 2015). In Ecuador, the SSE is explicitly included in the

constitution accepted in 2008 which refers to a post-neoliberal development model, prioritizing well-being over capital accumulation and economic growth, and it describes solidarity as a desired guiding logic in public action (Ruiz Riveira & Lemaitre, 2013). For the operationalization of the concept, the Law of Popular and Solidarity Economy (Ley Orgánica de Economía Popular y Solidaria, LOEPS) which was passed in 2011 lays down the guiding principles. It involves the inclusion of the SSE in regulatory frameworks, the legal recognition of SSE initiatives, the promotion and support of the sector by prioritizing of SSE initiatives in public procurement process and the provision of financial support (Ruiz Riveira & Lemaitre, 2013).

In spite of the attempts and achievements in public policies, the results of the institutionalization of the SSE raise many contradictions (Utting, 2013). Research on SSE initiatives in Brazil shows a great diversity in practices, economic and political engagements (Lemaitre & Helmsing, 2012). According to Lemaitre and Helmsing (2012) who explored different types of SSE initiatives in Brazil, being part of the SSE sector is rather a question of legal form rather than of the values held by the initiatives. There are initiatives which are genuinely engaged to the values represented by the SSE, but the practices represent a much wider and more divers picture than the theory or the political discourse. Some research also demonstrate that relational values (human work, solidarity and reciprocity activities) which should be the core interactions among members, can be undervalued within the SSE initiatives (Telles, Macedo, & Bittencourt, 2017):

"the results show a greater concern for criteria related to legal demands than for criteria related to the valuing of human work, as well as a greater interest in evaluating technical aspects rather than solidarity aspects" (pp. 945).

In Bolivia, regardless of the political rationale to promote a plural economy based on the SSE, the results are considered to be more "symbolic than effective" (Wanderley et al. 2013 in Hillenkamp & Wanderley, 2015, pp.10). The concrete implementations did not fulfil the expectations, and the main political agenda continues following a neoliberal discourse (Hillenkamp & Wanderley, 2015; Ranta, 2014 in Kumpuniemi, 2019). The institutionalization of the SSE in Ecuador is regarded as a positive example (Ruiz Riveira & Lemaitre, 2013) but it might shape the nature of the initiatives. For instance, prioritizing SSE initiatives in public procurement processes facilitated the

sales of goods and services for public institutions and to access the market. This process however, reduced the cooperation among local SSE initiatives and their community embeddedness, and it led to the abandonment of social, political and environmental concerns in the name of effectiveness (Ruiz Rivera, 2018). The support of the SSE by public policies can also embody in using the SSE for certain social problems as complementary to the public sector. The instrumentalization of the SSE can be seen in Brazil or Costa Rica where the implementation of SSE practices pursuit work integration and to provide a minimum income for impoverished citizens (Utting, 2013; Gutberlet, et al., 2020). In this framework – which is also stressed by the International Labour Organization (Borzaga et al., 2017) – job creation, alternative employment, income generation are welcomed achievements of the SSE.

Undoubtedly, SSE initiatives aiming to (re)integrate unemployed and vulnerable citizens into the labour market can have a significant role and be very effective to eliminate (income) poverty (Borzaga et al., 2017; Coraggio, 2016). Public policies supporting the SSE within the frames of market economy however, reinforce the focus on monetary resources rather than to celebrate the diversity and pluralism of the economy. The focus on job creation, furthermore, can shift the emphasis of the political aspect and empowering role/potential of SSE initiatives. Additionally, the excessive focus on the provision of monetary resources leads to dependency on state subsidies, public funds or on market exchange, which can negatively influence the autonomy of SSE initiatives (Lemaitre & Helmsing, 2012). Accepting public funds does not necessarily leads to reduced autonomy, but certain state regulations and the national political context can limit the independency of SSE initiatives from state agencies (Mihály, 2019). Moreover, dependency on state support implies that SSE initiatives are exposed to changes in the political arena. In Brazil for instance, nearly twenty years of achievements in institutionalizing the SSE sector are endangered by the systematic dismantle of the federal level SSE bodies by the governing parties since 2016, which entails the loss of benefits for SSE organizations relying on state support (Gutberlet, et al., 2020). In contrast, providing financial sustainability through the sales of goods and services likely leads to dominating market interactions. Market-oriented initiatives however, tend to have limited capacity and resources to address social and political purposes because these activities (empowerment, members' education, exercising advocacy) can be considered as costly compared to the market

oriented production processes (Lemaitre & Helmsing, 2012).

The institutionalizations of the SSE supported by the state, and excessive income generation through market relations, and thus the embeddedness of SSE initiatives in the market economy imply many contradictions. They carry the risk of commodification, co-optation, depoliticization of the movement and accommodating the SSE with the existing socio-economic context (Utting, 2013; Coraggio, 2016). Therefore, it is advised to turn to these questions critically taking into account that the SSE aims to contribute to build autonomous organizations which are independent from the market mechanism or state control. It is important to pay attention to the political, economic and cultural context in which the SSE is embedded in and which is often contradict and compete with the values and principles of the SSE (Utting, 2013).

2.2.5. Environmental aspect

"The SSE is most likely the economy of sustainability, an economy with a market, guided by social and ecological values, with activities that tend to blossom at the community level towards more 'sustainable' forms of development, but where environmental values could be further strengthened. The different social forums and SSE networks are paving the way for more collaboration across communities and regions, yet a link remains to be made between the solidarity economy and environmental forums." (Sahakian & Dunand, 2014, p. 13)

The chapter aims to explore the environmental aspect of the SSE to establish a theoretical framework about the relation between the SSE and nature. The different descriptions and definitions of the SSE all articulate a strong environmental aspect beside social, economic and political aims. The starting point is that the SSE is considered to be an alternative economic system which aims to fulfil livelihoods in a socially just and environmentally sustainable way. Many studies (Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019; Penha-Lopes & Henfrey, 2019) and policy documents (Utting, 2018) promote the great potential of the SSE to create a shift toward sustainability. In spite of that, the number of studies exploring in depth the environmental aspect of the SSE is very limited. The existing studies argue that by putting in focus solidarity and social goals, the SSE represents an alternative pathway toward sustainability compared to the mainstream economic logic which proved to fail in terms of environmental sustainability (Penha-Lopes & Henfrey, 2019). It is argued

that democratically managed and socially just organizations are more likely to implement sustainable practices than the ones driven merely by profit motives (Penha-Lopes & Henfrey, 2019; Quiroz-Niño & Murga-Menoyo, 2017). This argument however can be further elaborated to become more than an empty label.

Sustainability is referred as the environmental aspect of the SSE initiatives beside their social, economic and political goals (Lemaitre & Helmsing, 2012). I first explore in the literature how sustainability manifests in the operation of the SSE initiatives. Based on the existing studies, I identify the different approaches toward sustainability used by SSE theorists and through the environmentally critical lens of ecological economics I construct a potential sustainability framework for the SSE.

2.2.5.1. Sustainability in the operation of social and solidarity economy initiatives

Lemaitre and Helmsing (2012) define environmental aspect of the SSE initiatives as environmental protection via production of environmental goods and benefits, or via ecologically sound production processes. Most of the studies emphasizing the environmental aspect of SSE organization, relate sustainability to the fields of operation of the initiatives. Table 1 gives a brief overview about the fields in which SSE initiatives were identified and how they (potentially) contribute to sustainability.

Example	**Environmental aspect**	**Source**
Permaculture farms, organic farming	Food production, adequate waste disposal	Penha-Lopes & Henfrey, 2019; Henfrey, et al., 2019; Telles, et al., 2017
Ecovillages	Food production, energy consumption, mobility	Penha-Lopes & Henfrey, 2019; Henfrey, et al., 2019
Community supported agriculture	Food production and consumption	Wallimann, 2016; Sahakian & Dunand, 2014
Urban gardens	Food production and consumption, reduced air pollution related to transportation	Lee, 2020; Loh & Agyeman, 2019

Producers' markets	Food production, prioritizing organic producers, consumption	Kumpuniemi, 2019; Henfrey, et al., 2019
Recycling, reusing and upcycling	Reducing waste generation, reduce natural resource extraction, raising awareness about sustainable consumption and selective waste collection	Lee, 2020; Marconatto, et al., 2019; Rodrıguez-Garavito, 2006; Gutberlet, et al., 2020
Fair trade	Prioritizing organic production, caring for natural resources	Sahakian & Dunand, 2014; Bellucci, et al., 2012
Housing cooperatives	Reduced and renewable energy use, inclusion of green areas	Sahakian & Dunand, 2014
Community currencies	Encouraging local consumption, prioritizing local and ecologically sustainable production, awareness raising about sustainable consumption	Penha-Lopes & Henfrey, 2019; Wallimann, 2016; Wallimann, 2014; Sahakian, 2014; Michel & Hudon, 2015; Seyfang & Longhurst, 2013
Education, trainings, knowledge-sharing	Environmental awareness, connecting production, consumption and their environmental impacts, systems thinking, behavioural change in consumption, lifestyle, learning about environmentally friendly and agro-ecological production practices, mapping and sharing local natural resources	Quiroz-Niño & Murga-Menoyo, 2017; Lee, 2020; Penha-Lopes & Henfrey, 2019; Kumbamu, 2018
SSE networks, value chains	Localizing consumption, creating synergies, enabling holistic understanding of sustainability	Loh & Agyeman, 2019; Sahakian & Dunand, 2014

Table 1. Overview of the fields of SSE initiatives related to environmental sustainability

Many examples can be observed in the field of food production covering organic food production, agroecology, permaculture, community gardening, producers' market, etc. Small-scale **organic farming** and other environmentally friendly food production practices which pay attention to social issues are rising all over the World. They range of being involved in permaculture, agro-ecology, operating as small producers or within the framework of community supported agriculture (Penha-Lopes & Henfrey, 2019). Given the significant contribution of conventional, large-scale agro-industrial food production to environmental degradation, organic farming is an important sustainable alternative (Henfrey, et al., 2019). Organic farming includes non-usage of pesticides, ideally paying attention to agro-biodiversity, cultivation of local varieties, adequate water and soil management (Telles, et al., 2017). Permaculture and agro-ecology represent even higher concerns for the environment and for the natural beings based on the ethics of caring. Growing food based on these approaches is not only sustainable, but regenerative (Penha-Lopes & Henfrey, 2019). Through restoring and revitalizing ecologically degraded lands, increasing bio-diversity and improving human-nature relations they have a positive impact on the natural environment (Penha-Lopes & Henfrey, 2019). Farmers involved in the SSE are often paying attention to share their knowledge with each other and participate in the education on environmentally friendly farming practices (Telles, et al., 2017) (Kumbamu, 2018).

Ecovillages cover whole communities organized to live in an environmentally friendly and relatively autonomous way in food production, energy consumption and water management (Henfrey, et al., 2019; Esteves, 2017). They are considered as sustainable, self-sufficient human settlements, which seek integrity between human activities and the natural environment (Esteves, 2017). Ecovillage experiments exist all over the world, and they cover all activities needed for human life from food and energy production, waste management to housing. Ecovillages pursue to minimize their impact on the natural environment, therefore, every aspect of life is organized within natural limits including organic farming, use of renewable energies, low carbon architecture, etc. (Esteves, 2017). The communal life often involves spirituality, and the everyday life and activities in the ecovillages are defined by respectful relation to nature. Gift economy, sharing and common ownership are often involved organizational principles to satisfy the needs of the residents (Esteves, 2017).

Community supported agriculture is a particular form of food communities by connecting consumers to producers. In CSA schemes consumers are committed to support one or a group of local farmers who in return shares the produce of his land (Vadovics & Hayes, 2007). Consumer members of CSAs thus share the risks of the farmer and beyond their own interest (to access locally produced, healthy food) they undertake solidarity with the producer (Balázs, et al., 2016). Consumer members usually play an active role in organizing the partnership developing reciprocal relations beyond market exchange (Hinrichs, 2000). CSAs are emerging all over the world, and in general they are committed to grow food organically, respecting agro-biodiversity and reduced usage of energy. In being locally embedded, CSAs develop the responsibility of consumer members toward the environment. Via their membership, consumers deepen understanding of the impact of agriculture on the natural environment and the importance of the diverse, local, seasonal food (Neulinger, et al., 2020).

Others (Loh & Agyeman, 2019; Lee, 2020) present **urban agriculture, e.g. community gardens** as SSE initiatives which enable self-provisioning in an otherwise commodified urban area. They serve the need of the local community without the commodification of the place and activities carried out in the gardens (Eizenberg, 2012). Community gardens in addition to gardening often involve opportunities to create social bonds in form of events, workshops, formal and informal interaction between gardeners (Bársony, 2020). In urban gardens the food is usually produced in an organic way. In addition to environmental advantages directly related to food production, urban agriculture contributes to climate change mitigation by reducing air pollution related to (food) transportation, and by improving microclimate of the neighbourhood (e.g. decreasing temperature). According to Lee (2020), green islands, roofs and other green areas significantly can reduce urban heat thanks to their shading capacity and thermal isolation. Commonly managed areas like community gardens also have an educating role; urban gardeners learn by doing, learn from each other while sharing practices via events and interaction with each other (Bársony, 2020). Urban agricultural projects especially within vulnerable and low income communities contribute to food security by providing fresh and local food for local people in addition to job generation, providing positive impact on mental health and improving human-nature relations (Lee, 2020; Penha-Lopes & Henfrey, 2019). The food

produced in urban gardens can be consumed, distributed or processed which can contribute to further job creation.

Often mentioned examples of the SSE are **producers' markets.** Producers' markets directly connect farmers to consumers. The producers' markets presented within the framework of the SSE, offer stands for a fair price or for free for small producers to sell their goods. They usually prioritize organic, ecologically friendly, agrochemical-free and GMO-free products (Kumpuniemi, 2019; Henfrey, et al., 2019). Some of them, e.g. Ecoferia in Bolivia described by Kumpuniemi (2019) supports recycling, pays attention for water management, and contributes to biodiversity by promoting diversity of local crops. They are often places for awareness raising activities. Producers' markets thus support organic, and agro-ecological food production and the preservation of the local environment (Kumpuniemi, 2019)

According to Loh and Agyeman (2019) there is a rising number of food movements challenging the mainstream system which explains the large number of SSE examples in the field of agriculture. Food movements are particularly advanced in introducing a solidarity approach between producers and consumers (e.g. community supported agriculture) and also to implement sustainable practices. The strong sustainability aspect of food producing initiatives can be related to their relative proximity to the natural environment. Food-related SSE initiatives often obtain a **holistic view toward food** (Penha-Lopes & Henfrey, 2019). Food production in these initiatives are often linked with food sovereignty (basic right for access for food), and food is not treated as a product but as a part of a social, economic and natural process. They go beyond being sustainable, they can regenerate waste lands and other degraded environments into thriving ecosystems providing habitat for many species (Penha-Lopes & Henfrey, 2019). Thanks to their educational pillar which characterizes many of the initiatives in this field, they are important actors of raising attention and promoting sustainable aspects of food production and consumption.

In the SSE literature, we can find examples of initiatives dealing with **recycling and upcycling of waste**. SSE organizations in South Korea, observed by Lee (2020) collect a wide range of damaged goods through donations. The damaged goods after being repaired, upcycled or used for something new are sold in shops of SSE organizations. Upcycling and reusing goods requires certain skills, creativity, and

often partnership with local actors, often in declining sectors, such as sewing. Repairing goods contributes to local employment, and to the well-being of the local community through meaningful jobs (and as well as useful products) (Lee, 2020). An often mentioned example of recycling within the frames of the SSE in Latin America and Africa is garbage recuperation. Recyclable materials (paper, plastic, glass, bottles, metal in form of cans and other valuable materials) are collected directly from the garbage in higher-middle class neighbourhoods or from city dumps usually by unemployed, often impoverished and undereducated citizens (Rodrıguez-Garavito, 2006; Gutberlet, 2009; Gutberlet, et al., 2020). The collected material is sold to intermediaries to get a minimum income. The recovered materials afterwards are processed by factories and sold as reusable raw materials. The collection of recyclable materials decreases the need for extracting raw materials or cutting trees. This activity which contributes to urban sustainability is carried out through informal employment due to the incomplete infrastructure of public waste collection (Gutberlet, et al., 2020; Rodrıguez-Garavito, 2006). Moreover, the garbage pickers are usually exploited in this process, because they only receive a small share of the profit gained from the sales of the recycled material, they are harassed and stigmatized (Gutberlet, 2009; Rodrıguez-Garavito, 2006). The organization of garbage pickers into cooperatives seems to improve their situation (Gutberlet, et al., 2020; Rodrıguez-Garavito, 2006). Besides providing members long term, official employment and minimum wages, obtaining better position in negotiating contracts and lobbying, improving their working and living conditions (Gutberlet, 2009; Rodrıguez-Garavito, 2006; Gutberlet, et al., 2020), Gutberlet et al. (2020) suggests that waste pickers' cooperatives contribute to the recognition of their work in urban sustainability, to raise awareness about sustainable consumption and push for conscious waste management such as formalized selective waste collection. Nevertheless, not questioning the environmental advantages of recycling, informal recycling in Latin America remains a controversial activity marked by social inequalities.

Fair trade is considered as a well-known example of the SSE because of its pursuit of establishing solidarity toward producers (Bellucci, et al., 2012; Miller, 2010). Fair trade can be defined as an international trading system or a movement which aims to ensure fair working conditions of producers by connecting consumers and producers via fair pricing, awareness raising and international labelling system (Bellucci, et al.,

2012). Besides distributing the economic benefits more fairly, fair trade often involves paying attention to the natural environment, care for the natural resources and contributing to sustainable development (Bellucci, et al., 2012; RIPESS, 2021). Even though the international fair trade system is not absent of controversies and tensions due to the co-optation of the label by corporations, on the production side it supports producers and producer cooperatives who are locally embedded, relying on their own land which is in their own interest to protect and care for (RIPESS, 2021).

Collective housing within the frames of SSE is an answer for the housing crisis which hits millions of people worldwide. Skyrocketing prices in the real estate market – caused by the lack of democratic control and social housing programmes supported by the state – restrain increasing part of the society to afford to own or even to rent a home for living (Jelinek & Pósfai, 2020). The aim of collective or cooperative housing is to establish financially viable living solutions for its members based on collective ownership, democratic management, shared resources and spaces. As housing is responsible for a significant part of human environmental footprint, the implementation of ecological solutions are important steps to move toward sustainability. Collective housing can play an important role in minimizing energy consumption and creating ecologically friendly living conditions which can also contribute to long-term cost of living to pay utilities (Sahakian & Dunand, 2014).

Local or community currencies via the lens of the SSE aim to implement fairer distribution of wealth, restore trustful relation between producers and consumer and establish a proximity-based economy by encouraging to spend income locally (Sahakian, 2014; Michel & Hudon, 2015). They constitute of locally circulating alternative money which enables the exchange of goods and services within a geographical community (Sahakian, 2014; Michel & Hudon, 2015). Community currencies often refer to paper-based money usually backed by national currencies which is accepted by local entrepreneurs, shops and producers, but barter markets and time banks are also fall under this category (Seyfang & Longhurst, 2013). They contribute to the democratization of the economy because community currencies allow citizens to appropriate the redefinition of money, what money is used for and how it is created.

Community currencies, as they are not aiming wealth accumulation, they can push for

responsible consumption and keep economic production within biophysical limits of the Earth (Michel & Hudon, 2015; Seyfang & Longhurst, 2013). Some of the local currencies are implemented with explicit environmental goals, such as prioritizing environmentally friendly enterprises and producers, or rewarding environmentally friendly consumer behaviours (Seyfang & Longhurst, 2013). Local currencies can also push for responsible consumption through campaigning and awareness raising, and they help to keep resources locally by prioritizing local consumption (Penha-Lopes & Henfrey, 2019; Michel & Hudon, 2015). Even though, the direct environmental impact of local currencies is unclear (Seyfang & Longhurst, 2013; Michel & Hudon, 2015), according to community currency advocates a new monetary and exchange system is an fundamental criteria to move away from the actual economic system which is based on exponential growth and the overuse of natural resources (Michel & Hudon, 2015; Seyfang & Longhurst, 2013).

SSE initiatives are often active in **educational activities** which can be related to sustainability (Penha-Lopes & Henfrey, 2019). As mentioned above in case of agricultural SSE initiatives, educational activities are complementary and accompany the core activities of the organizations in form of trainings about organic farming, permaculture, etc. In some cases offering training, workshop and sharing knowledge represent the main activity of the initiative. According to Quiroz-Niño and Murga-Menoyo (2017), particular skills has to be acquired and learnt to be able to act in a sustainable way. Among others, systemic thinking is an important ability to understand and reflect on the embeddedness of particular economic and social spheres, their underlying ethical, political, spiritual standpoints, their norms and values. Individuals has to be able to understand and explain concepts, critically evaluate the prevailing economic and political systems, their impact on social and environmental justice, and their historical and ideological precedents (Quiroz-Niño and Murga-Menoyo, 2017, p. 2164). SSE initiatives can reflect on these aspects either directily or indirectly adressing them. Knowledge sharing can have an important role in safeguarding traditional – well-working – local practices and developing new ones based on local knowledge and resources. Locally developed technics can be cheaper, more efficient and more sustainable than international, market-driven technologies which tend to disregard local characteristics (Kumbamu, 2018). Furthermore, knowledge can be treated as a common good among SSE initiatives if they are

characterized by cooperation instead of competition (Kumbamu, 2018).

The most of the presented examples give a brief overview on how SSE initiatives can contribute to sustainability through their products or services. In addition to the products and services, the sustainability of SSE initiatives can also manifest in their **production processes** independently from their profile (Lemaitre & Helmsing, 2012; Loh & Agyeman, 2019). SSE initiatives can follow environmental principles in their procurement strategies, e.g. energy usage, paper and electricity consumption, selection of transportation mode, etc. (Sahakian & Dunand, 2014). Examples are given by the authors from Geneva, Switzerland where cooperatives which main profile is work integration of vulnerable groups, the waste is recycled and energy consumption is covered by 'green' electricity mix (Sahakian & Dunand, 2014).

The sustainability of SSE initiatives can be related to the **behaviour of the members and to their personal commitments** (Mihály, 2021; Johanisova & Franková, 2013)**.** SSE organizations can encourage their members to follow environmentally friendly lifestyles by for example, supporting the usage of bicycle and public transport system or offering locally produced food in their canteen (Sahakian & Dunand, 2014).

The cooperation among SSE initiatives especially in geographic proximity can create synergy and contribute to **localize value chains** covering food, energy, water and other resource management (Henfrey, et al., 2019). The Boston food solidarity network presented by Loh and Agyeman (2019) embraces a whole value chain of food production serving the need of an economically disadvantaged community. Starting with the land, the solidarity network involves a land trust to ensure common land ownership and thus the access for affordable agricultural land and for community gardens. Local producers and groups of urban gardeners are also involved in the network whose produce is either sold for consumption or transferred for other initiatives and social enterprises who process locally grown food. The food production is supported by educational and cultural activities. At the end of the value chain organic waste disposal is also organized for composting. The initiatives participating in the system are committed to social and ecological justice (Loh & Agyeman, 2019). Practitioners from the field of SSE interviewed by Sahakian and Dunand (2014) conceptualize the SSE as a responsible and sustainable supply chain where partners work together in being in solidarity with each other. Organizing whole supply chains

based on the principles of the SSE have a bigger potential to embrace a more holistic understanding of sustainability than in case of isolated initiatives (Sahakian & Dunand, 2014). Localization and local supply chains can strengthen local feedback loops: the environmental impact being positive or negative impacts the local community and thus they are motivated for the change if it is needed (Johanisova & Franková, 2013). Furthermore, compared to stand-alone organizations, SSE initiatives organized in either horizontal or vertical networks can have a much bigger impact regarding both their political and environmental aspect (Henfrey, et al., 2019; Loh & Agyeman, 2019; Penha-Lopes & Henfrey, 2019).

A marginal part of the existing literature on the SSE reflecting on environmental issues suggests that SSE initiatives can **minimize material consumption** – which is considered as a source of environmental degradation. According to Penha-Lopes and Henfrey (2019) SSE initiatives enable to decouple well-being from material consumption. The access to social ties and bonds which are fundamental in the operation of SSE initiatives, can replace the desire for material goods. For example in case of ecovillages, the social, spiritual, cultural and natural capital which is created within the community substitutes material capital and provides a better quality of life (Penha-Lopes & Henfrey, 2019).

Researches in related fields suggest, that that SSE initiatives can provide indirect environmental benefits through to their **organizational, financial and governance structure** (Barkin & Lemus, 2014; Johanisova & Franková, 2013). Johanisova and Franková (2013) refers to shared ownership, governance structure, and not-only-for profit character as important factors of organizations to reduce their negative environmental impact. The democratic governance structure combined with shared ownership – which often characterized the legally formalized SSE initiatives in form of cooperatives, described in Chapter 2.2.3 – allows SSE initiatives to follow commons interest as opposed to individual, financial interest. Their not-only-for profit character allows to share the surplus within the community in which they are embedded in, and shifts the focus from profit-generation to provide social benefits (which are not limited to financial means). The social goal of SSE initiatives of producing use-value rather than exchange value (detailed in Chapter 2.2.1) accompanied by non-market and non-monetized activities (referred as plurality in

economy in Chapter 2.2.2) allows them to step out from the realm of the market economy (Johanisova & Frankova, 2017). According to the argumentation of the authors, these characteristics can help SSE initiatives to move away from prioritizing profit-maximization and to take into account environmental principles. The limited number of empirical study however, suggests that to deeper understand the link between the organizational logic and the environmental performance of SSE initiatives requires further investigation.

Environmental aspect	**Source**
Product/Service	Lemaitre and Helmsing (2012), Loh and Agyeman (2019), Mihály (2021), Johanisova & Franková (2013)
Production process	Lemaitre and Helmsing (2012), Loh and Agyeman (2019), Mihály (2021), Sahakian & Dunand (2014), Johanisova & Franková (2013)
Daily operation, Behaviour of the members, personal commitment	Mihály (2021), Sahakian & Dunand (2014), Johanisova & Franková (2013)
Localizing supply chains	Johanisova & Franková (2013), Barkin & Lemus (2014), Henfrey, et al. (2019), Loh & Agyeman (2019), Penha-Lopes & Henfrey (2019)
Low level consumption	Johanisova & Franková (2013), Penha-Lopes & Henfrey (2019), Henfrey et al. (2019)
Organizational structure	Barkin & Lemus (2014), Johanisova & Franková (2013)

Table 2. The potential environmental aspect of SSE initiatives

The potential environmental aspects of the SSE initiatives are summarized in Table 2. What can be observed, however, is that environmental sustainability usually is emphasized in the final product or service of the SSE initiatives. Furthermore, most of the presented studies are limited to highlight the positive environmental impact of the

SSE initiatives and they lack of critical reflection. The production process, daily operation, their approach to the level of consumption is hardly explored in the existing literature. Sahakian and Dunand (2014) and Johanisova and Franková (2013) raise the need for SSE organizations to integrate sustainability in their internal operation independently from their profile and to assess these aspects carefully. The definition of sustainability – which would support such critical reflection however – is also varies among the studies. The distinct approaches of sustainability are explored in the following section.

2.2.5.2. Sustainability definitions in the social and solidarity economy

In spite of that sustainability is often emphasized related to the operation of SSE initiatives, there is no consensus on how sustainability is defined. In the studies which aim to explore the environmental aspect of the SSE three distinct approaches to sustainability can be identified (summarized in Table 3).

Definition of sustainability	**Components of sustainability approach**	**Source**
Policy-driven sustainable development approach	United Nations Sustainable Development Goals	Marconatto, et al. (2019), Quiroz-Niño & Murga-Menoyo (2017), Lee (2020), Gutberlet, et al. (2020), Utting (2018), Wallimann (2014), Ridley-Duff & Bull (2020)
	Balance among social, economic and environmental sustainability	Marconatto, et al. (2019), Hasan (2017), Telles, et al. (2017)
	Triple bottom line	Bellucci et al. (2012)
Alternative to the current development model	Economy as embedded in the natural world	Coraggio (2016), Kawano (2018), Miller (2010), Loh & Agyeman (2019), Kumpuniemi (2019)
	Finite natural resources	Kumpuniemi (2019), Loh & Agyeman (2019), Mihály (2021)
	Territorial context	Kumbamu (2018), Barkin & Lemus (2014), Henfrey, et al. (2019), Kawano (2018),

		Miller (2010), Mihály (2021)
Ecocentric approach	Buen vivir	Coraggio (2016), Kawano (2018)
	Solidarity towards non-human beings	Loh & Agyeman (2019), Miller (2010), Barkin & Lemus (2014)

Table 3. The distinct approaches of the SSE to sustainability

The first approach covers a policy-driven definition of sustainable development. It can be observed that studies linking the SSE and sustainable development defined by the United Nations Sustainable Development Goals (SDGs) are growing. SDGs are a set of goals developed by the United Nations and accepted by a number of countries in order to take action in moving forward a socially and environmentally just World (UN, 2021). The SSE, according to Henfrey et al. (2019), can drive local initiatives to explore alternative ways of creating livelihoods and implement SDGs without the frames imposed by the dominating market-centred economy and political arena (Henfrey, et al., 2019).

The identification of the SDGs within the SSE are indeed very attractive both within the academia (e.g. Marconatto, et al., 2019; Ridley-Duff & Bull, 2020; Quiroz-Niño & Murga-Menoyo, 2017; Lee, 2020; Gutberlet, et al., 2020) and in the international political arena (e.g. Utting, 2018). The UN Inter-Agency Task Force on Social and Solidarity Economy established in 2013, Geneva in line with scholars promotes the great potential of the SSE towards sustainable development (Utting, 2018). Studies suggest that initiatives driven by the principles of the SSE can contribute to each of the SDGs (see in Table 4).

Sustainable Development Goals	**SSE's contribution to SDGs**	**Source**
1. Eliminate Poverty	X	Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019
2. Erase Hunger	X	Lee, 2020; Utting, 2018; Henfrey, et al., 2019
3. Establish Good Health and Well-Being	X	Utting, 2018; Henfrey, et al., 2019

4. Provide Quality Education	X	Utting, 2018; Henfrey, et al., 2019
5. Enforce Gender Equality	X	Lee, 2020; Utting, 2018; Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019
6. Improve Clean Water and Sanitation	X	Henfrey, et al., 2019
7. Grow Affordable and Clean Energy	X	Henfrey, et al., 2019
8. Create Decent Work and Economic Growth	X	Lee, 2020; Utting, 2018; Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019
9. Increase Industry, Innovation, and Infrastructure	X	Henfrey, et al., 2019
10. Reduce Inequality	X	Lee, 2020; Henfrey, et al., 2019
11. Mobilize Sustainable Cities and Communities	X	Lee, 2020; Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019
12. Influence Responsible Consumption and Production	X	Lee, 2020; Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019; Gutberlet, et al., 2020
13. Organize Climate Action	X	Lee, 2020; Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019
14. Develop Life Below Water	X	Quiroz-Niño & Murga-Menoyo, 2017
15. Advance Life On Land	X	Quiroz-Niño & Murga-Menoyo, 2017; Henfrey, et al., 2019
16. Guarantee Peace, Justice, and Strong Institutions	X	Henfrey, et al., 2019
17. Build Partnerships for the Goals	X	Lee, 2020; Henfrey, et al., 2019

Table 4. Overview of the contribution of the SSE to the SDGs

The previous section underlines these findings as for example organic farming plays an important role to fight against hunger (SDG 1), or urban community gardens contribute to develop sustainable cities (SDG 11), etc. The SDGs are, however, usually

assessed separately within the operation of SSE initiatives and not holistically. It means that some of the SDGs can be identified in the operation of SSE initiatives disregarding others. Example given, SSE initiatives creating working opportunities for women can play an important role in eliminating poverty (SDG 1) and enforcing gender equality (SDG 5). Such an activity can drive researchers to the conclusion that SSE initiatives can be strong contributors to sustainable development. But the identification of SDG1 and 2 says nothing about the environmental performance of the initiatives, e.g. in Marconatto, et al. (2019); Wallimann (2014); Lee (2020).

The design of the SDGs allows to assess the goals individually while they are inherently interconnected. They also criticized of representing only incremental steps which shift the focus from the need of transformative change which is envisaged by the SSE (Utting, 2018). Moreover the goals suffer from severe contradictions especially between maintaining economic growth and environmental protection / achieve sustainability (Liverman, 2018).

Beside the weaknesses, Penha-Lopes and Henfrey (2019) highlight the practical advantages of the SDGs for SSE initiatives: SDGs encourage initiatives to kick off conversations, launch processes based on SDGs, and to adopt sustainable practices (Penha-Lopes & Henfrey, 2019). SDGs are also help local initiatives to place themselves in the global picture and sensitize initiatives to global issues (Penha-Lopes & Henfrey, 2019).

Beyond the SDGs, the environmental aspect of SSE initiatives is often linked to the concept of sustainable development defined by three pillars: social, economic and environmental sustainability. According to Marconatto et al. (2019), SSE organizations pursue having a positive impact on the local communities (social goal), being environmentally responsible and achieving financial independence. In the name of sustainable development, the aim of the SSE organizations is to find the right balance among these three pillars (Hasan, 2017; Quiroz-Niño & Murga-Menoyo, 2017; Telles, et al., 2017):

“That is, in the context of the SE [solidarity economy] sector sustainability means the protection and promotion of the social, environmental and financial performance of the SEOs [solidarity economy organizations] working towards the well-being of the

poor communities served by them. These organizations are expected to be financially self-sustainable at least, environmentally responsible and capable of producing positive social impacts for their local communities" (Marconatto, et al., 2019, p. 1123).

Bellucci et al. (2012) refers to the concept of triple bottom line which also emphasizes the simultaneous focus on social, economic and environmental goals: "it is necessary to add indicators that capture the social and environmental impact of these enterprises in a triple bottom-line orientation" (Bellucci, et al., 2012, p. 27).

The interpretation of balancing between three pillars does not prioritize among these dimensions. However, it can be observed that environmental objectives usually remain optional in the operation of SSE initiatives behind economic and social ones. Furthermore the economic pillar is often linked to financial sustainability (Quiroz-Niño & Murga-Menoyo, 2017; Marconatto, et al., 2019; Bellucci, et al., 2012), which is considered as an underlying criteria of their operation (e.g. in Marconatto, et al., 2019). It raises the confusion that in some cases the concept of *sustainability* per se refers to the long term operation of the initiative (e.g. in Ridley-Duff & Bull, 2020; Marconatto, et al., 2019) lacking of any environmental considerations.

In a market economy, financial sustainability is an underlying criteria of the operation of any economic organizations. Compared to the principles of the SSE, however, especially to the plurality of the economy this can be seen as a narrowed interpretation of economic dimension. Moreover, it can be argued that financial sustainability is not a guarantee for environmental sustainability, rather the contrary. Actually, the focus on profit boosted by money created in private banks is an important source of environmental degradation (Johanisova & Franková, 2013). It seems that economic (financial) interest is in contradiction with environmental goals even though this contradiction is not reflected upon (except by a few studies). The emphasis on financial sustainability can even lead to accommodate SSE within the growth-oriented market economy:

"Accordingly, the SE [solidarity economy] is characterized by its aiming to balance three factors – the economic, the social and the environmental – within a growth model" (Quiroz-Niño & Murga-Menoyo, 2017, p. 4)

Hasan (2017) argues that the SSE – in short term – should not limit economic growth.

His argument is based on that radical decrease in production and consumption is not viable on short term. Therefore, the SSE which is a pragmatic approach cannot limit economic growth. He differentiates the SSE from ecologically radical views or approaches which put the physical limits to growth in the core (e.g. ecological economics, degrowth) (Hasan, 2017).

In contrast, the second approach to sustainability which was observed in the related studies, remains critical toward the dominant economic system and aims to follow an alternative development model to reach sustainability. This approach links sustainability with the critics of the prevailing economic system and of unconstrained economic growth which are considered as source of environmental degradation (Kumbamu, 2018; Mihály, 2021):

"The ecological perspective sheds light on the controversial situation in which the capitalist economy is expected to grow infinitely even though the Earth's ecosystem is finite." (Kumpuniemi, 2019, p. 1)

Kumpuniemi (2019) draws on diverse community economies (Gibson-Graham et al., 2013), Loh and Agyeman (2019) on political ecology to explain human dependence on Earth and stress the **finite resources of the planet**. Studies falling under this category consider the economy as embedded in the natural ecosystem and not a natural phenomenon itself (Kawano, 2018; Loh & Agyeman, 2019; Kumpuniemi, 2019). Within this line of thought, downsizing consumption and decoupling material wealth from well-being are important components of moving toward sustainability. According to Henfrey et al. (2019), SSE initiatives can play a significant role in encouraging low-level consumption and shift the focus from material and commodified assets to non-material and relational goods.

The emphasis on the finite resources sheds light on the conflictual relation between environmental, social and economic dimensions. Loh and Agyeman (2019) refer to the conflicting interests between environmental sustainability and economic viability while exploring the Boston food solidarity economy. Among their examples they mention food processing initiatives which need to take a decision between exclusively using seasonal food (and respect their environmental commitments) or losing their consumers (and economically collapse). Mihály (2021) also raises conflictual interest

between economic interest and environmental protection in case of economically disadvantaged communities involved in the SSE. She identifies that short term economic and social interests can overrule environmental concerns. These conflicts range from very basic human needs such as heating to obtain status symbols through consumption (e.g. buying television or a car) (Mihály, 2021).

Downsizing consumption is challenging because individuals are locked in a social imaginary defined by the market economy (Mihály, 2021). Marked by these contradictions, yet, SSE initiatives can play an important role to shape ideologies, which is required to replace individualism, market efficiency, privatization, competition, the desire to consume more and the exploitation of nature (Loh & Agyeman, 2019):

"This proposal of a transformative politics also requires a worldview in which humans are only players in a team that consists also of the non-human nature and its different species." (Kumpuniemi, 2019, p. 3)

Barkin and Lemus (2014), Henfrey et al. (2019), Kawano (2018) and Miller (2010) emphasize the **local context** of the SSE. SSE initiatives are locally embedded through cooperating with other local actors, communities. Thus the SSE can support local production for local consumption which enables the integration of ecological principles into production (Kawano, 2018). Such principles accroding to Kawano (2018) can be e.g. "turning waste into inputs, restoring healthy ecosystems, reducing the carbon footprint, shared consumption (e.g., tool and toy libraries), mutual aid disaster relief, and community owned energy generation" (Kawano, 2018, p. 15). Local production and consumption creates feedback loops which contribute to the immediate recognition of both the positive and negative outcomes of a particular economic activity (Henfrey, et al., 2019). SSE initiatives embedded in the local culture accept and promote diversity which allows the adaptation to local cultures and to local environmental conditions. In the territorial context it means that SSE initiatives seek local knowledge and locally available inputs – which can be both more effective and cheaper – than adopting international practices and technologies (Miller, 2010, pp.86.; Henfrey, et al., 2019; Kumbamu, 2018). From an environmental point of view, the acknowledgement of distinct local characteristics can have an important role in enhancing biodiversity.

The third approach which was identified among SSE studies follows an ecocenctric view. It draws on the concept of *buen vivir* which is linked to the SSE by Coraggio (2016), Miller (2010) and Kawano (2018). Buen vivir refers to a specific way of living or rather a worldview of Andean indigenous societies (Kawano, 2018). Buen vivir is based on the rights of Mother Earth or, in other words, on the intrinsic value of the nature and natural beings. This is an ecocentric view (in contrast to anthropocentric) because it considers nature not as resources for human life but regards humans and non-humans interrelated, promotes the "equality of all beings" (Esteves, 2017, p. 359), and holds strong respect toward the natural world. The ecocentric view acknowledges the physical reality of the Earth as the sustaining source of every being. The usage of resources – or rather gifts – offered by the natural world have to be dealt with responsibility:

"Ecological creation involves earth processes ― birth, growth, photosynthesis, respiration, geological and chemical transformation, etc. ― that are the "original points of production" and sustain and generate all life and culture. The moral responsibility to honor and share these collective "gifts from the world" is a key starting point for a solidarity economy perspective." (Miller, 2010, p. 4)

The acknowledgment of the equality of all beings implies that solidarity – which in an ideal world characterizes the relations in the society according to the SSE – should be broadened toward the more-than-human-beings (Barkin & Lemus, 2014). Loh and Agyeman (2019) refers to 'broadening the sense of us' which, on one hand, calls for prioritizing collective interest over individual ones. On the other hand, it entails to feel and act in being in solidarity with non-human entities (Loh & Agyeman, 2019, p. 216). Solidarity toward nature refers to care for the natural World beyond humans, and to „[develop] respectful and sustainable relationships with our ecosystems and their other inhabitants" (Miller, 2010, p. 6). In the Ecuadorean constitution – which adopts to the principles of the SSE – it encompasses the recognition of the rights of the natural world (Ruiz Riveira & Lemaitre, 2013).

To sum up, this brief overview reveals the diversity of definitions of sustainability within the SSE literature. This diversity, however, reveals many contradictions between the different definitions and with the concept of the SSE itself which often relies on unacknowledged assumptions. Most of the studies following the concept of

sustainable development adopt a policy driven sustainability approach without any critical reflection. Defining sustainability based on the SDGs and on the concept of sustainable development – which entails financial sustainability and are linked to economic growth – constitute a market-based approach (Sahakian, 2014). Therefore, linking the SSE to market-based sustainability approaches is inconsequent and accommodates the SSE with the mainstream economic paradigm. The sustainability approaches based on finite resources and on the ecocentric view offer a more systemic understanding and more coherent with the principles of the SSE (Sahakian & Dunand, 2014). However, the empirical analysis of these approaches is very limited.

If we look at the scientific arena, it can be observed that other scholarly societies which hold similar values as the SSE concerning the critics of capitalism – e.g. ecological economics or degrowth – already raised many concerns against market-based approaches to sustainable development. It has been also argued that the environmental aspect of SSE could be strengthened by cross-fertilization of critical environmental studies (Sahakian & Dunand, 2014; Loh & Agyeman, 2019). Therefore, Chapter 2.3 turns to assess the different approaches of sustainability through the lenses of ecological economics.

2.2.6. Summary

The main components of the SSE and dilemmas which have been explored in the previous chapters are summarized in Table 5. Some of the dilemmas and contradictions are related to the fact that, the concept of the SSE integrates two, distinct approaches. Both are similar in pointing at the market economy as a source of social and environmental problems. However, one of the approaches seek radical change in the prevailing economic system, while the other one would 'only' reform the system with smaller adjustments (Kiss & Mihály, 2020).

Even though the empirical reality is probably more diverse than two contradictory approaches, taking a position between them can release some of the dilemmas. Taking into account the argument of the dissertation outlined by the Introduction, reforming and implementing changes *within* the system which causes the original problems would be a limited solution. Therefore, the research adopts the notion of the SSE which aims to resist and build alternatives against the market economy and promotes

a systemic change, social transformation toward an environmentally and socially just future.

Main components of the SSE	**Description**	**Dilemmas**
Social goal	Benefitting local communities, having a positive impact on the living conditions of others instead of prioritizing profit generation and individual financial interest	Difficulties of defining what social goal is
Plurality in economy	Economic interactions and activities, thus satisfying needs include non-monetary and non-market activities based on reciprocity or redistribution in addition to market exchange	The long-term sustainability of SSE initiatives is often assigned to monetary income and the plurality in economy is not emphasized
Pluralism in democracy	Extending democracy into the realm of the economy through workplace democracy, participation in decision-making, democratic ownership and fostering public debates	The empirical reality reveals challenges against democratic decision making due to lack of capacities to participate in decision making, to the negative impact of informal hierarchies
Political project	Create a change in the socio-economic system and in its institutional context	Contradictions about the position of the SSE to the market economy, contradictory results of the process of institutionalization of the SSE
Environmental aspect	Conservation and preservation of the natural environment	Unclear definition of sustainability

Table 5. The main components of the SSE. Source: Own collection

2.3. Sustainability in environmental studies

The sub-chapter explores the distinct definitions of sustainability based on weak and radical approach. In addition to describe the two distinct approaches, the aim of the chapter is to critically review them based on the analytical lenses of ecological economics.

Sustainable development, probably the most frequently used expression related to sustainability, was defined by the Brundtland Commission as an answer to the alarming environmental degradation. It has been recognized that some human activities and economic production for an ever-expanding market have negative impacts on the natural environment since the publication of "Limits of Growth" issued by the Club of Rome in 1972. The definition of sustainable development of the Brundtland Commission was broad enough to comfort all parties (economic lobbies, global south, environmentalists) because it can be interpreted to fit everybody's interest (Hopwood et al, 2005).

Development refers to qualitative (instead of quantitative) change in social, political, institutional and technological context (Munda, 1997). The definition itself does not refuse the idea of economic growth but it rather envisages the simultaneous achievement of economic, social and environmental interests (Munda, 1997). Moreover development usually is understood as Western modernization and progress (Liverman, 2018). The UN Millennium Development Goals and their continuity, the SDGs where developed in order to further detail and operationalize these goals.

Sustainable development, and the concept of sustainability itself has been widely contested and discussed since its appearance in public policies and in the academia. Numerous reviews have been produced to explore the distinct approaches, their implications in policy, academia or in the civil area (see for example Málovics & Bajmócy (2009) or Hopwood et al. (2005)). Taking into account the aim of the present work – of exploring the environmental aspect of the SSE through the critical environmental studies – two main approaches of sustainability are presented. One of the approaches follows the line of sustainable development which can be idenitfied as *weak sustainability*. Weak sustaiability – as it will be demonstrated – lies on many of the assumptions offered by neoclassical economics. The other approach presented as

radical sustainability[8] – drawing on the conceptual background of ecological economics – follows a systemic critics of the previling economic domain and promotes radical change in our social and political system and in our relation toward nature.

The two distinct approaches are presented through their stance on (1) the relation among the social, economic and natural domain, (2) the physical impact of economic production, (3) role of technologies, (4) valuation of nature and on (5) the role of work (Málovics & Bajmóczy, 2009; Røpke, 1999; Hopwood, 2005, Kocsis, 1999).

2.3.1. Weak sustainability

The interpretation of sustainable development as balancing between economic, social and environmental interests – as it is often defined in the field of SSE – corresponds to a weak sustainability approach. According to the concept of weak sustainability, nature is considered as a resource, an input for economic production (Cabeza Gutés, 1996). In spite of the balance between economic, social and environmental interests being a pleasant pursuit, Munda (1997) points out that such a definition is a multidimensional concept, and such: "as multi-criteria decision analysis teaches us it is impossible to maximise different objectives at the same time" (Munda, 1997, p. 215). Balance therefore, becomes quite impossible, and weak sustainability, considering nature and natural beings as resources for the economy, takes a dominant position toward nature. Weak sustainability is only capable of taking into account that part of the non-human world which directly contributes to economic production (Cabeza Gutés, 1996; Gowdy & O'Hara, 1997).

Weak sustainability is based on the assumption that human-made infrastructure can substitute natural resources (Cabeza Gutés, 1996; Martinez-Alier, 1995; Gowdy & O'Hara, 1997). Technological development can compensate for natural losses and can ease the problem of resource scarcity. For instance, polluted oceans can be cleaned

[8] Weak sustainability normally is confronted with strong sustainability. The main difference between strong and weak sustainability can be grasped through their stance on interchangeability of manufactured and natural capital. The debate between them is mainly driven by environmental issues (Hopwood, 2005). The dissertation aims to highlight a more robust difference between sustainability approaches, which reflects on socio-economic consequences in addition to strictly environmental ones.

with the right machinery, or the fertility of exploited agricultural land can be restored by artificial fertilizers.

Furthermore, technology allows for increased efficiency in the economy thus economic production can remain at the same level (or even grow) while using less resources (Cabeza Gutés, 1996). It entails that economic growth can be decoupled from its physical, environmental impact (Kocsis, 1999; Liverman, 2018). Technological development therefore, is considered as beneficial for everyone: it creates business opportunities while saving the environment (Hopwood et al., 2005). Weak sustainability relying on techno-optimism and on the possibility to further increase of economic production, allows to interpret sustainable development as sustainable growth.

Nonetheless, several constrains have emerged against the belief of decoupling and of technological development. It has been argued that, decoupling economic production from environmental pressures is unrealistic (Parrique, et al., 2019). The energy demand of resource extraction is exponential; as the resources are becoming scarce so as their extraction becomes more energy intensive which increases the environmental degradation. Furthermore, improvements in efficiency are often accompanied by the rebound effect (Málovics & Bajmócy, 2009): savings due to increased efficiency are compensated by other or even more consumption. The underestimated impact of services also undermines decoupling. Services, in contrast to the belief of dematerialization, rely on the material economy (Martinez-Alier, 1995). Services usually add to and not substitute the environmental impact of the economic production (Parrique, et al., 2019).

The myth of decoupling and the assumption of substitutability of human made capital and nature represented by the weak sustainability approach, ignores the uncertainty of technologies. Even if technologies seems feasible on short term, their long term environmental impacts often remain unknown (Gowdy & O'Hara, 1997; Málovics & Bajmócy, 2009). Technologies can also cause effects which cannot be detected by the technology which is available at the moment (Málovics & Bajmócy, 2009). The belief in technology disregards the energy throughput of economic production (Martinez-Alier, 1995; Kocsis, 1999). Weak sustainability dis-embeds the economy from its social and environmental context.

In spite of the contradiction between sustainability and economic production, there have been plenty efforts to save the economic growth paradigm based on the weak sustainability approach. Environmental economics played an important role in developing market-based solutions (Málovics & Bajmócy, 2009; Kocsis, 1999). Marked-based approaches aim to motivate economic actors to implement sustainable solutions. Such market-based incentives range from taxes and rules to the creation of new markets such as carbon credits market.

These solutions are underlined by the right valuation of externalities which is according to neoclassical economics occurs in monetary values ("setting the prices right"). Monetary valuation allows the comparison of economic benefits and environmental losses, and it enables the inclusion of environmental aspects in terms of *natural capital* in economic models and accounting practices (Pearce & Atkinson, 1993). Advocates of monetary valuation highlight the convincing power of such accountances on decision makers in pushing them to engage with environmental issues which have been overlooked so far.

Monetary valuation and the use of natural capital concept, however, is a highly debated approach. Monetary valuation assigns hypothetical values for a complex system dismissing many information which cannot be translated into market prices (Gowdy & O'Hara, 1997; Cabeza Gutés, 1996). It cannot capture the basic life sustaining character of nature and the unknown contribution of natural ecosystems to human flourishing. Prices cannot reflect that the natural ecosystems are not replaceable, and natural processes are irreversible (Munda, 1997; Gowdy & O'Hara, 1997).

Prices only express the utility of the goods, based on the effective demand, they are assigned for, thus monetary valuation of nature is fictitious (Gowdy & O'Hara, 1997). The market valuation based on utility is linked to individual preferences, it is incapable of reflecting on collective needs and interests (such as inter- and intra-generational environmental injustice caused by pesticide use, or PCB emissions). Monetary valuation is an attempt of neoclassical economics to apply its unidimensional and narrow worldview and translate everything into monetary terms. It homogenizes the world denying the complexity of natural ecosystem (Gowdy & O'Hara, 1997; Málovics & Bajmócy, 2009), and attempts to reduce all goods to commodities (Munda, 1997).

Among other fields where commodification plays an ambiguous role is the **labour market**. The question of work is not an often mentioned topic of the sustainability discourse in spite of that is sheds light on the social aspect of sustainability (for a detailed summary see Köves, 2015). Similarly to natural resources, according to the mainstream economic thought which defines the weak sustainability approach, human activities serve economic production. In exchange for 'selling' their time, energy and capacities on the labour market, people receive monetary income which they can use in the market to satisfy their needs through consumption.

Its relation to sustainability lies in the recognition of the link between work and the level of domestic consumption (Røpke, 1999; Schor, 2005). Our relation to work defines social imaginaries, consumption patterns and desires (Sanne, 2002). More work is attributed to more consumption (Røpke, 1999; Schor, 2005). Work linked to economic production locks individuals in the growth imperative and compels them to seek more and more income which can be spent on more and more goods in searching for happiness. It links well-being to material wealth and reinforces the material and consumption focused lifestyles (Gibson-Graham et al., 2013). From a sustainability point of view, the desire to work and earn more entails increasing environmental impact of consumption. The current mainstream debates about work are focused around the issue of unemployment and employment generation, they are not really touching the issue between job generation and increasing consumption.

2.3.2. Radical sustainability

Ecological economics follows a co-evolutionary paradigm referring to the continuous interactions between economy, society and environment. The development of the economy according to Munda (1997) is a results of an adaptation to the changing social and environmental context while it is a source of environmental and social change itself. The co-evolutionary paradigm is relational, it reflects on the complex link between the natural and the human world. It establishes a strong hierarchy (see Figure 1) that assumes that the existence of the human society and economy depends on the natural world (Gowdy & O'Hara, 1997).

Based on this hierarchy, the economy is a sub-set of the natural world (Kocsis, 1999). The economy relies on the sustaining functions of the biophysical environment, and

thus the economic production has a maximum level limited by the biophysical capacity of the Earth (Málovics & Bajmócy, 2009; Gowdy & O'Hara, 1997). The biophysical limits are defined by resources and the regenerative and absorptive capacity of the Earth (Munda, 1997, p. 225; Gowdy & McDaniel, 1999). Therefore the promotion economic growth (being green, inclusive or sustainable) cannot be compatible with environmental protection (Sahakian, 2014). No economic activity is sustainable which disrespect the biophysical limits (Sahakian, 2014). Economic activities are sustainable if they sustain rather than exploit the natural ecosystems on which they rely (Gowdy & O'Hara, 1997).

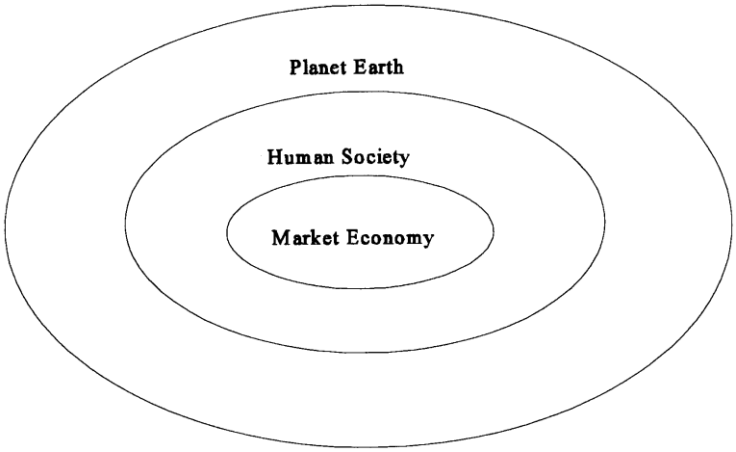

Figure 1. Hierarchies of sustainability. Source: Gowdy & O'Hara, 1997, p. 241

Ecological economics defines the physical impact of economic production by bridging disciplines. Multi- and interdisciplinary approaches allow us to take into account different perspectives produced by distinct and isolated scientific fields (Pataki & Takács-Sánta, 2004). Physics among other natural sciences, explains that every unit of economic production requires natural resources and produces emission which have to be absorbed by the natural environment (which explains the energy demand of the service sector as well). Ecological economists often draw on the law of thermodynamics developed by Georgescu-Roegen to highlight the energy throughput of the economy. The law of thermodynamics describes that the economic production irreversibly transforms the available energy in the World into unavailable one, or in other words entropy (Munda, 1997; Kocsis, 1999; Gowdy & O'Hara, 1997). Dematerialized economy therefore does not exist, green technologies, use of

renewable energies or recycling are also limited by physical reality.

Entropy thus, limits the use of technologies and the dematerialization of the economy. Taking into account the energy throughput of technologies and the uncertainty of their development, Gowdy and O'Hara (1997) argue for viable technologies:

"A technology (…) is viable if and only if it can maintain the corresponding material structure which supports its resource and sink functions, and consequently support human activity indefinitely under current environmental conditions. A technology that draws down irreplaceable stocks, or generates irreducible pollution, or violates the ability of funds to provide assimilative and restorative services, is not viable. (…)

The relevance of all this to the sustainability debate is that all production processes are characterized by supporting services which are ultimately limitational." (Gowdy & O'Hara, 1997, p. 242)

Concerning the value of nature, the view of radical sustainability draws on the complexity of natural systems. It has been argued that we cannot comprehend and evaluate the long term utility of natural ecosystems (Munda, 1997; Gowdy & O'Hara, 1997). It makes impossible to capture the complexity of the natural world in the single metrics of monetary values. As opposed to monetary valuation, non-monetary valuation is promoted to express the multi-dimensional relation between human well-being and natural ecosystems (Kelemen et al., 2014). Some of the sustainability approaches – usually referred as eco-centred ones – go even further, and take into account the intrinsic value of nature and natural beings (Hopwood, 2005; Esteves, 2017).

Such a holistic understanding characterizes the role of work too according to the approach of radical sustainability. Taking into account the role of work on domestic consumption patterns, to step out from the work-and-spend cycle is fundamental (Røpke, 2009). There are some attempts to redefine the meaning of work independently from the assumptions of neoclassical economics and to recognize the intrinsic value of unpaid work in satisfying human needs (Nierling, 2012; Weeks, 2011; Frayne, 2015). It has been argued that uncommodified activities and decisions which are not merely driven by financial gains but social relations, care and solidarity are more likely to follow strong sustainable principles (Hayden, 1999; Nierling 2012).

The approaches which attempt to think outside of the box, put emphasis on human flourishing, and promotes meaningful activities which contribute to satisfying human needs and well-being (Nierling, 2012; Gibson-Graham et al., 2013). The implication of the holistic understanding of work on sustainability is that, social relations, such as care can replace the desire for material consumption, and new values of basic human needs can rise which are not linked to economic growth (Kallis et al., 2012; Hayden, 1999; Nierling, 2012; Gibson-Graham et al., 2013).

2.3.3. Summary

Table 6 summarizes the main differences between the approaches which have been discussed in this chapter. According to the pre-analytical vision of ecological economics which is shaped by the co-evolutionary paradigm, only the radical sustainability approach is able to tackle the social and ecological problems which we are facing. It entails a shift in the current economic system to one which is able to comply with strict environmental principles of the radical approach. The premise of weak sustainability by staying within the system which causes the problems and by seeing the problems through the lenses of the current socio-economic thinking, is only offering temporary solutions.

Weak sustainability	**Radical sustainability**
Dominant position on nature, and substitutability of human-made infrastructure and natural resources	Hierarchical relation and strong interdependence between economy, society and the natural world
Decouple energy throughput of the economic production from economic welfare	Physical limits of economics production
Techno-optimism	Viable technologies
Monetary valuation of the natural world	Intrinsic value of nature and natural beings
Commodified work	Decommodification of work

Table 6. Weak and radical sustainability. Source: Own collection

Regarding the environmental aspect of the SSE, the literature review revealed that

among the sustainability definitions which co-exist within the SSE literature (in Chapter 2.2.5.2), only the 'alternative to the current development model' and the 'ecocentric approach' comply with critical environmental principles of the radical sustainability. The definitions under these categories, emphasizing localization, finite natural resources, economic embeddedness in the natural world and solidarity toward non-human beings, can be compatible with the critical environmental discourse. The policy-driven sustainability definitions (sustainable development, triple bottom line, balancing between economic, social and environmental sustainability) within the SSE literature can rather be identified with the weak sustainability approach. The application of policy-driven definitions however, carries the risk of accommodating the SSE with the growth oriented paradigm. Therefore, combine the radical sustainability approach with the SSE could strengthen its critical lens on sustainability.

The literature review suggest that the number of studies which would follow the radical sustainability approach is limited. It reveals a research gap which would link the critical, radical sustainability approach with the empirical reality of the SSE initiatives.

2.4. Conceptual framework

The conceptual framework of the dissertation can be outlined as the combination of the SSE and of the radical approach to sustainability framed by the pre-analytical vision of ecological economics. The pre-analytical vision of ecological economics emphasises strong hierarchy and interconnection between economy, society and the natural world (described in Chapter 2.3.2). This hierarchy also serves as a paradigm which guides the research and defines how one attempts to understand the world (Kuhn, 1962; Maxwell, 2009). Within this paradigm, the SSE represents a concept and a social practice which aim to resist and build alternatives to the market economy and promote a systemic change, i.e., social transformation toward an environmentally and socially just future, as it has been outlined in Chapter 2.2.6

Based on the critical literature review, the SSE can be described by its social goal (benefitting local communities), plurality in the economy (extending the meaning of the economy), pluralism in democracy (extending democracy into the realm of the economy), its political commitment (pursuit of radical change) and by its environmental aspects (conservation and preservation of the natural environment).

Most of these components are well elaborated by the existing literature and are compatible with the pre-analytical vision of ecological economics.

Regarding the environmental aspect of the SSE, however, the literature review revealed shortcomings in defining sustainability. The radical approach to sustainability outlined in Chapter 2.3.2 enables to fill this deficit. The components of radical sustainability – i.e., the hierarchy and strong interdependence between economy, society and the natural world, the physical limits to economic production, the techno-criticism, the intrinsic value of nature and natural beings, and the decommodification of work (summarized in Table 6) – provide an analytical framework to thoroughly and critically explore the environmental aspect of the SSE and SSE initiatives.

Reviewing the environmental performance of SSE initiatives based on the radical sustainability approach implies that we have to navigate through distinct, micro and macro levels of analysis. The empirical research is an attempt to reflect on how the radical sustainability (macro) approach put into practices, or actualises, at the organizational (micro) level of an SSE initiative. The components of the radical sustainability approach can guide us to critically review the SSE initiatives about how they aim to respect the hierarchy between the natural, social and economic domain; how they comply with the physical limits to economic production; how they relate to technologies; what is their stance on the value of nature and on the role of work.

The cross-fertilization of radical sustainability and SSE can be mutually fruitful in theory development. It can shed light on the potential contribution of the Polanyian substantive economy to sustainability, which combined with democratic decision making and with a strong political commitment toward radical social change might allow us to leave the realm of the market economy and to construct new ways of living that are more ecologically sustainable and socially just.

CHAPTER 3. METHODOLOGY

The chapter outlines the research design including the research questions, the research paradigm, the methodology, participants of the research, the research description and quality and validity of the research.

The research design of this paper can be best described by Maxwell's (2009) interactive model, also used and slightly modified by Csillag (2016) (see Figure 2). According to Maxwell (2009) the research design is an iterative process in which the components of the research mutually affect each other. Therefore, the methodology and the methods used for the research is shaped by the research goals, research questions, validity and by the theoretical framework as I experienced it throughout the research process.

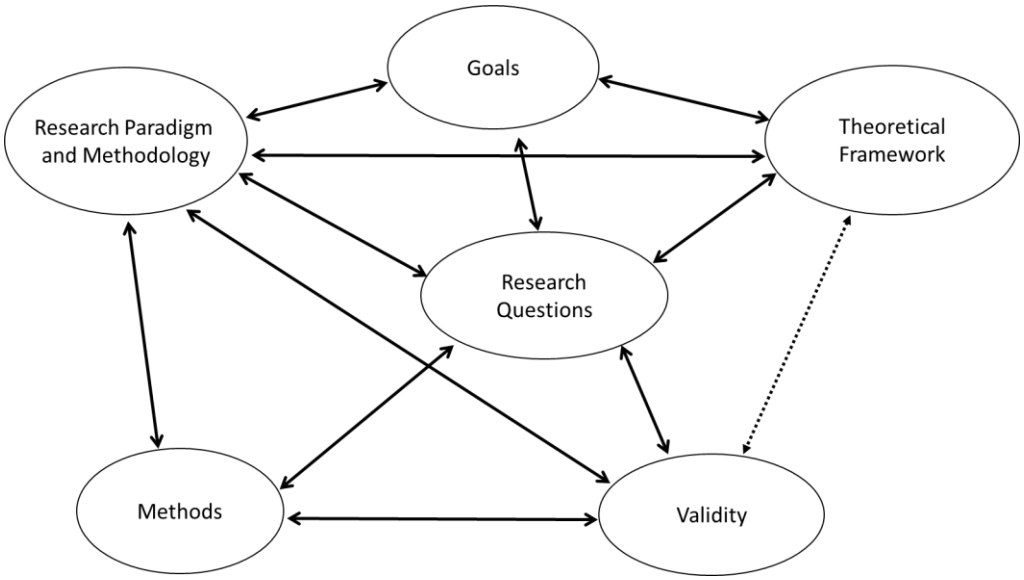

Figure 2. Research design based on Maxwell (2009) and Csillag (2016)

3.1. Research question

The research questions are shaped by my motivation to understand social phenomena both as a researcher and a practitioner. Building on my embeddedness in the civil area, on the research gap which was identified in the literature and following the conceptual framework which was outlined in Chapter 2.4, the research raises the following question:

How the ecological aspects can theoretically and practically be included in the social and solidarity economy?

Further sub-questions support to unfold to topic.

i. What kind of environmental principles an SSE initiative can follow? How? What are the limits and contradictions?
ii. What makes social and solidarity economic initiatives sustainable?
iii. What is the underlying logic of SSE initiatives which can support radical environmental sustainability?
iv. What the social and solidarity economy can offer for sustainability?
v. What are the limits of social and solidarity economy within the environmental discourse?

3.2. Research paradigm

According to Guba and Lincoln (1994) and Reason and Bradbury (2001) every research lies on a research paradigm even explicit or not, guiding the researchers, effecting their methodological choices and interpretations of results. The aim of defining the research paradigm is not to verify a universal truth, but to be transparent about how one sees the world, the nature knowledge creation, and how one thinks that the world can be understood (Guba & Lincoln, 1994).

The aim of this research (described by the research questions in Chapter 3.1) is to explore the environmental aspect of the SSE. Describing, exploring and conceptualizing social phenomena calls for qualitative research. Furthermore, given the research context (my embeddedness in a civil organization) and my research goals (e.g. co-construction of knowledge as described by the research goals in Chapter 1) require and explain my turn to the **participatory paradigm**. An ‘insider’ researcher,

who is part of the organization which she wants to understand, can have access to the 'full picture': how ideas emerge, conflicts, informal hierarchies, organizational culture and norms beyond the formally communicated messages (Coghlan, 2019). Heron (1996) and, later, Reason (Heron & Reason, 1997) introduce the participatory paradigm which lays down the ontological and epistemological assumption for the family of action research. They refer to an extended epistemology which "sees human beings as co-creating their reality through participation: through their experience, their imagination and intuition, their thinking and their action" (Reason, 1994:326). Action researchers aim to go beyond describing existing social phenomena and instead they propose to take responsibility in shaping the world of they are part of.

Heron and Reason (1997) reveal that the world 'out there' cannot be understood (only) through objective observations because it can only lead to a narrow understanding of what is there. The reality what we experience and what researchers aim to explore is a co-creation and it is relational involving human feelings, acting and interacting with each other within both human and non-human parts of the world (Reason & Bradbury, 2001). It entails that action researchers reject the value-free, objective role of a researcher and instead they take an objective-subjective standpoint. According to the participatory paradigm, reality neither absolutely objective nor absolutely subjective (Heron, 1996). Subjectivity is treated as a given instead of pursuing value-free inquiry. Therefore, action researchers accept their subjectivity in participating in the reality but they critically reflect on it.

The various methodological approaches within the participatory paradigm refer to researchers who work with rather than on people (Reason, 1999). Knowledge is created through a democratic process in which all participants are considered co-researchers and, at the same time, subjects of the research as well. Participants of an action research are usually a group of people who have similar interests, work together in order to explore their world, find new ways of looking at things and to improve or change their action in order to do the things better (Reason, 2006).

The purpose of action research is twofold. On the one hand, it aims to co-create knowledge which is grounded in experience. On the other hand, the co-creation of knowledge should support the participants in their everyday life, habits or practices in ways which are meaningful in their context (Reason, 1999). In my research, I aim to

create a bridge between the growing academic body and grassroots initiatives which seek to contribute to a socially and environmentally just future. Action research allows me to use my role as an activist to be a participant and a researcher at the same time.

3.3. Action research methodology

The family of action research even being marginalized in academia has expanded and different approaches have raised since the 1970's. The distinct methodologies within the participatory paradigm developed by Heron and Reason (1997) can be hardly described by exact definitions. One reason is that it is a still evolving field and the literature is somewhat confusing about the description of methodologies using synonyms and overlapping definitions. A broad definition of action research is a structured scientific inquiry aiming to transform social systems (Elden & Chisholm, 1993) based on democratic participation in knowledge creation grounded in experience (Reason & Bradbury, 2001).

Different methodological approaches emerged in different fields, e.g. co-operative inquiry based on psychology (e.g. Csillag, 2016; Heron, 1996; Reason, 1994), participatory action research concerned with human rights and activism (e.g. Fals-Borda & Rahman, 1991; Udvarhelyi & Dósa, 2019), action science in the field of management and organizational learning (e.g. Argyris & Schön, 1989; Gelei, 2005) among others in the field of education, community building, healthcare, social work, etc. All methodologies belonging to the participatory paradigm seek "what scientific inquiry looks like when those traditionally considered to be research 'subjects' take an active part as 'co-researchers' in creating knowledge which can be turned in to action" (Elden & Chisholm, 1993:123).

Based on the overview of the related literature (Elden & Chisholm, 1993; Fals-Borda & Rahman, 1991; Heron, 1996; Heron & Reason, 1997; Levin, 2012; Reason & Bradbury, 2001), all action research aims to create scientific knowledge but at the same time solve practical issues. Even if academic integrity is an important part of the process, Reason and Bradbury admit that "a primary purpose of action research is to produce practical knowledge that is useful to people on the everyday conduct of their lives" (Reason & Bradbury, 2001:2). They also add that "a wider purpose of action research is to contribute through this practical knowledge to the increased well-being

– economic, political, psychological, spiritual – of human persons and communities, and to a more equitable and sustainable relationship with the wider ecology of the planet of which we are an intrinsic part" (Reason & Bradbury, 2001:2). Action research can have many goals, but the democratic process ensures that the inquiry serves problems grounded in practice and lived experience and not only assists pure academic purpose/desire (Fals-Borda & Rahman, 1991; Heron & Reason, 1997).

The three most important characteristics of action research that it is participatory, it is a cyclical process and it is action oriented. **Participation** refers to that all participants who share the targeted problem take part in the research process and act as co-researchers. The boundary between trained researchers and problem-holders blurs. Action researchers reject the privileged position of a trained researcher who is responsible and thus controls the research process (including the overall aim, methods and the use of research results). Instead, action research approaches argue for an open and democratic way of knowledge creation where all participants – disregarding who is the theoretical expert or the local stakeholder – equally participate in the inquiry (Fals-Borda & Rahman, 1991). This means that identifying research goals and questions, the implementation and the achievements of the research will be a collaborative or co-creative process between the so-called experts and the local actors (Greenwood et al., 1993).

Action research can occur on different levels, Bradbury and Reason (2003) and Coghlan (2019) refer to first, second and third person inquiry. Namely, action research can range from personal inquiry to research within an informal group, in an organization or in communities always in collaboration with those experiencing the social problem (Elden & Chisholm, 1993).

What also common in action research that it is a **cyclical** process. A cycle includes steps of problem identification, planning, acting, reflecting and learning or re-valuating. This last step leads to the next cycle which builds upon the experiences of the previous cycle. The exact steps of the cycles, the content and time frame can vary among different action research methodologies. The iterative process of planning-acting-reflecting and learning characterizes the structure of this type of inquiry and guarantees that the knowledge is produced through a systematic inquiry (Elden & Chisholm, 1993; Reason, 1999).

Being a co-researcher and a co-subject at the same time entails emotional or even spiritual involvement in the research topic or rather in a case, in the in lives of groups, communities, in their goals, problems, and their expectations. It does not mean that co-researchers would not treat their subjectivity critically. Subjectivity is treated as a given. The cycles of planning-acting-reflecting ensures that co-researchers reveal their beliefs, values and expectations and continuously reflect on those (Reason, 2006; Levin, 2012). The validity of action research lies in this critical reflection, in the ability of research participants to reveal their subjective feelings and thoughts, reflect on and change them in order to improve practices (Reason, 2006; Levin, 2012).

Action research is also **action oriented.** It aims to change or transform system – being it on individual, organizational or societal level (Elden & Chisholm, 1993). Research methodologies belonging to the family of action research usually differ on which level this change happens. There are no clear boundaries but based on the literature review three distinct action research methodologies can be distinguished taking into account the Hungarian action research practices (based on Reason, 1994; Lajos, 2018; Gelei, 2015; Csillag, 2012; Udvarhelyi & Dósa, 2019).

Cooperative inquiry which emerged from the field of psychology, mainly focuses on the individual development pursuing better practices in one's life or within a group or in an organization (Gelei, 2005). Csillag (Lajos, 2018) identifies co-operative inquiry as a tool to create small, incremental steps toward human development and flourishing. In co-operative inquiry, the initiator – and usually the trained – researcher can act as facilitator to create a democratic space for those who wish to improve their skills, practices in what they think it is important for them (Lajos, 2018). Reason (1994) adds that the desired change on individual level in co-operative inquiry requires a certain level of self-reflexivity.

Action science or action inquiry roots in the fields of organizational behavior or organizational learning, and it is mainly concerned with changes within an organization. Action inquiry often aims to improve the effectiveness of an organization, to explore the role or the quality of leadership, to question taken for granted status quos (Argyris, et al., 1985) and to transform power (Torbert, 1991). This process can reveal defensive routines of organizations which are usually not reflected (Argyris & Schön, 1989). During action science within organizations, action

researchers can help to hold a mirror to the organization to learn from it and to make them capable for change and to improve their practices (Argyris & Schön, 1989; Gelei, 2005). Trained researchers can act as consultants or coaches while supporting the learning process.

Participatory action research (PAR) represents a more critical approach and it aims to change broader existent power relations in the society (Fals-Borda & Rahman, 1991; Reason, 1994; Torbert, 2001). PAR understands knowledge as power and control. It questions the hegemony of scientists in knowledge creation and the power of a so-called elite in deciding what useful knowledge is (Fals-Boda & Rahman, 1991). Through democratic knowledge creation, PAR pursuits to empower oppressed groups, communities and thus create a shift in power relations. The radical approach of PAR involves a strong system criticism by questioning dominant regimes (Fals-Borda & Rahman, 1991). Therefore PAR is often more action oriented and connected to bottom-up social movements and activism compared to other participatory methodologies (Lajos, 2018).

The research goals, which are intertwined with activism, and aim create a shift in the broader economic and social system, call for participatory action research. Furthermore, the strong political aspect of PAR is also underlined by ecological economics, and by the SSE as a concept and a social movement in questioning economic, social and political status-quos and power relations. PAR can serve as a tool to approach and work with organizations and encourage participants to release from the actual social settings and institutions (such as the market economy) and create spaces to experiment different forms of organizations with economic activities.

The collective I am involved in and the co-researchers whom I carried out the research process together with sincerely agrees with the strong political aspects of PAR. Furthermore, the collective represents a civil initiative which is usually excluded from knowledge creation and researchers would rather make research on it in form of a case study than engage themselves with the group and create actions.

In spite of the link between research goals and theoretical background, the research which has been implemented is not identical to the PAR presented in this chapter. The research was inspired by the radical approach of PAR, and obtains characteristics of

action science in terms of organizational learning. To avoid the confusion between distinct approaches I use the term action research for the methodology which was implemented. Nevertheless, the research process was participatory, action-oriented, cyclical, and it pursuits to transform and question dominant power regimes. Regarding the level of the research, it occurred on organizational level aiming organizational and systemic change. Critical reflection aimed to avoid regenerating power relations, however, it could have created others. I intend to present the research process in a transparent way and reflecting on the weaknesses and challenges of the process.

3.4. Research participants

In case of action research (AR), the research team can be formulated in two different ways (Bradbury & Reason, 2001; Reason, 1999). On the one hand, (relatively) independent participants can be invited to explore a topic which is interesting for all of them. On the other hand, the demand for research can raise within an already existing group which was formed for some other purpose (e.g. a civil group, local community, etc.) and they create a research group themselves (or invite a trained researcher) (Bradbury & Reason, 2001; Gayá Wicks & Reason, 2009). In case of the present research, according to the second option, members of an existing collective engaged themselves in the research process.

This collective called Cargonomia was founded in 2015 by five active citizens involved in local sustainable transition movements in Budapest, Hungary including the author. The mission of this group is to contribute to sustainable transformation toward a socially and environmentally just future by questioning the dominant economic system through practical, educational and research activities.

Figure 3. Activities of Cargonomia. Source: own photos and illustration

The collective initially was created to formalize and strengthen the cooperation between three socially and environmentally conscious organizations which dealt with complementary activities. These three main founding partners were a bike messenger company (Kantaa); a do it yourself bicycle workshop (Cyclonomia) and an organic farm situated in Zsámbok (Zsámbok's Organic Garden), a village within 50 kilometres from Budapest. The cooperation aimed at supporting the activities of these founding members by promoting sustainable urban-transport solutions and local, organic vegetable consumption. By the time, among the three partners the bike messenger company has transformed and the Cargonomia team have established cooperation with new messenger companies and cooperatives but the focus on sustainable transport solutions remained in the heart of the operation. Baes on the cooperation with its partners, Cargonomia carries out the following activities as illustrated in Figure 3:

- redistribution and pick up point for local, organic food;
- promotion of sustainable transport logistics by being a centre of cargobike sharing system and supporting cargobike deliveries;
- organization of educational events about organic food production and consumption, sustainable mobility, bike repair workshops as well as about transition and degrowth;
- organization of community events and participation in research via its open space.

As a redistribution point of organic food, at Cargonomia each week an average of 15-25 boxes of vegetables are distributed among customers who ordered previously from one of the partner organizations (Zsámbok Organic Farm) through its online platform. In addition to the vegetables, since the opening of the Cargonomia redistribution point, customers have had the opportunity to purchase other type of organic products, such as bread, organic wine or olive oil from other partners.

Cargonomia operating as a cargobike centre promotes sustainable transportation and usage of cargobikes. The name of the collective has been inspired by the Latin version of autonomy ('autonomia') to express the social aspect of cargobikes[9]. Regarding their environmental aspect, cargobikes offer numerous advantages especially in urban context compared to motorized vehicles, e.g. they are emission free, help to avoid noise pollution, occupy less space compared to cars and at the same time they are able to transport goods up to 60-120 kg depending on their structure. Cargonomia aims to increase accessibility of cargobikes for citizens through educational events where participants can try and train how to drive a cargobike, and parallel to that the collective develops a cargobike sharing system.

Organization of educational events covers workshops, occasional events organized for children, students or adults. They include both practical (e.g. bike repairing workshop) and theoretical workshops. Cargonomia participating in the informal education system aims to promote sustainable lifestyle and share good practices and knowledge which has been accumulated within the collective. Thanks to its diverse partnership, the Cargonomia collective has access to a wide range of infrastructure, from bike repairing workshop to gardening facilities. Educational events are often organized for schools, kindergartens, universities, but the collective are also invited to festivals or thematic events organized by municipalities.

Cargonomia as 'an open community space' seeks to serve as an incubator which can

[9] Cargobikes can be considered as tools of conviviality which can strengthen autonomy and contribute to personal creativity (Deriu, 2015; Illich, 1973). Convivial technologies are those which endows people with the capability of reusing and repairing them, and which contributes to human flourishing instead of creating dependence on energy-intensive, complex technologies. Thus, cargobikes can ease the dependence on the carbon-intensive, mainstream economic system while contributing to personal well-being.

enable synergies between emerging and currently existing social and environmental projects. It involves hosting projects and groups who do not have the possibility to utilize their own place yet and who share similar values as the Cargonomia collective or are complementary to those. In this way, Cargonomia has hosted Repair Café, do it yourself furniture building workshop, Energonomia (do it yourself workshop to create beer collector), Varronomia (a sewing workshop), as well as skill building workshops or for example discussions about transition. These event organizers and participants are asked to contribute to Cargonomia's maintenance with a small donation; however, the goal of hosting such events is not to gain profit but to provide space and opportunity for meaningful activities. The Cargonomia collective has contributed to the launch of the first agroforestry project in Budapest, and has supported the operation of several community gardens. The aim of the collective is also to provide an open public space where people can meet and share their opinion and values, discuss and debate about what is important for them without the need of consuming anything. The collective seeks to create a sense of community and to allow anybody to participate in its activities. Therefore, convivial community events are essential part of the operation of the collective in form of regular anniversary parties, or the vegetable pick-up afternoons on every Thursday which often turn into convivial events. In addition to these, the collective participates in research projects as well through its relation with universities.

The Cargonomia collective works in cooperation with many other organizations including non- and for-profit, informal groups and individuals. Cargonomia operates as an informal group without any legal entity even though it obtains a logo, website and social media platform including a physical space serving as the headquarter of the activities. Among the founders none receives any direct financial income from Cargonomia, nevertheless it indirectly contributes to their paid jobs through gaining experiences and new skills, social networks as well as to their personal wellbeing.

Half of the founding members are foreign citizens (French or American) who moved to Hungary between 2010 and 2015. Therefore, the working language of the collective (and of the AR) is English, even though all founders speak Hungarian at a minimum level. From the initially six founding members, two have started other activities even in Hungary or abroad during 2016 and 2017 which left them no time for actively being

committed to the Cargonomia collective. Beside the founders, other individuals join time to time the collective to support its goals and to carry out common projects. In addition to that, every year 5 to 10 international university students are welcomed for internship. These training periods last from a few months up to a year. The number of active members (including founding members, individuals and interns) thus varies between 3-10 persons.

My engagement with the collective covers several roles including professional and personal ones. Being a founding member of the collective I am emotionally committed to the operation and the goals of the organization. Since 2015 I have been involved in the daily operation of the collective which involves being responsible for vegetable box distribution, organization of events, facilitating round table discussion, holding workshop for students and children, transporting gardening material by cargobike, giving interviews in radio and holding presentations in Hungary and abroad, etc. Even though, the time I am able to allocate for these activities has been fluctuating, I have acquired many new skills and I have been challenged to move out from my comfort zone. My experience has been rewarded with the achievements we have accomplished so far, and with the many convivial events we have organized or we have participated in. In addition to that I am present in the collective as a researchers and I acted as the initiator of the action research process.

I am bond to the collective through friendship as well, as all the members of the collective are friends. The participation in the Cargonomia collective – beyond the ambitious goal of contributing to sustainable transformation – is motivated by "spending a good time with the friends" (Member 1, 2017). Therefore, being engaged in this group can rather be described by practicing a particular lifestyle than working. This aspect is reinforced by the fact, that I am also married to one of the co-founders of the Cargonomia collective.

The operation of the Cargonomia collective can be viewed (and it is considered so by the founders) as an experimentation of an alternative initiative beyond the market centered economy. It has always been a learning community aimed to experiment an alternative form of social organization with economic and educational activities. The group often faced challenges during navigating through the existing economic system while trying to challenge it. The AR process aimed to support this experiment with

theoretical inputs and methodological frames.

The **participants of the AR** include all active members of the collective which in general range from four to eight person. It covers founding members and interns who were spending their training period at the collective at the time of the certain research phase. The research process lasted from December 2016 until September 2018 which entails fluctuation among the research team (see the exact number of participants at each research cycle) due to the changing commitments of the members. The research group consists of individuals who are well-educated (even trainees came from higher education institutions) and form a relatively closed community. Concerning the gender composition, one of the co-researchers is female, the rest of the research group are men. The research group was established considering the following advantages and disadvantages.

Arguments in favour of the chosen research team include:

- members have practice in working together
- members trust each other
- members understand each other (regarding both the spoken language and special expressions which can characterize a closed group) which facilitates communication
- members can carry out actions together and reach out to a wider public through practical activities
- the similar level of education helps to avoid researcher-researched hierarchy (which can be a challenging characteristic of PAR if the research within disadvantaged groups is initiated by a trained researcher (Csillag, 2005)
- demand for long-term and regular commitment
- all the participants of the research holds a university degree which facilitates the engagement with complex concepts, understanding of theories and conceptualization of findings
- my long-term engagement with the group can facilitate the trust in the research process and the long-term commitment of the members to the research

Disadvantages of carrying out AR with an existing group:

- informal hierarchies and gender relations can affect the democratic character of the research
- practical outcomes and actions can overrule the learning and reflecting phases
- critical, sometimes sceptic approach which characterizes the founders' attitude toward academia can challenge the implementation of the research
- the learnings remain within a relatively small group
- critical findings about group dynamic can lead to defensive reaction toward the research
- relying on a group of well-educated people obtaining high cultural and social capital to generate social change, can re-create power relations (or reinforce those which they intend to change (Fals-Borda & Rahman, 1991)
- my long-term engagement with the group (including personal relations) might prevent practicing critical reflection and leave some aspects unexplored

Having in mind these advantages and disadvantages, the option of broadening the research team and invite other partners of the collective into the process has been discussed with the co-researchers. However, in order to have a greater chance to carry out a successful AR process (taking into account my own capacities and limits in coordinating a research team), in agreement with the co-researchers, the research group did not include partners of the collective (e.g. other civil groups) and customers (e.g. individuals who rent cargobikes). These actors, however, could access to some of the actions and practical outcomes of the research.

3.5. Research process

The AR covers the time period between December 2016 and September 2018. In presenting the research, the main challenge is to create order in the dynamic, emergent and diverse process and, at the same time, grab the diversity which can characterize action research according to Reason (1999). The process, the lived experience and the knowledge created on the ground are primary to scientific knowledge (Reason, 1994). Presenting an AR in one single dissertation written by one of the co-researchers is controversial, since the knowledge has been created in collaboration (Coghlan, 2019).

The rich but the scientifically often considered informal source of ‘data’ challenges the meaningful communication of the process and the results in the academia.

In presenting the research, I build on Coghlan’s (2019) distinction between the ‘core’ and the ‘thesis project’ to clarify some the above mentioned challenges. The core project is the one implemented in collaboration with the co-researchers, with other members of the organization. The thesis project is an inquiry into the core AR project, reflecting on its content (what has happened), on the process (how it happened) and the outcomes. The thesis project which relates to the content of a dissertation (or to other scientific publications), can be described as a reflective, meta-research cycle about the core project. This distinction clarifies that the thesis project, in addition to the collaborative work of the core project, involves individual reflection and analysis of the ‘field work’ (see Data analysis in Chapter 3.6). During the thesis project the practical outcomes can be further conceptualized in light of the theory (Coghlen, 2019). As a results of the core- and the thesis project, the meta-analysis answers the main research question of the dissertation.

Taking into account that the dissertation is evaluation about the content and the process of the core AR project, the research is presented through the establishment of the research relation, the research cycles, the data collection methods, data analysis and the quality and validity of the research.

3.5.1. Establishing research relation

The AR process, as typical to this type of inquiry, did not start with a fixed theoretical research question (Reason, 2006). The initial stage of the research consisted of the understanding and the engagement in the research process, to lay down the expectations and frames, and the identification of the research aim which will guide the research process. This first step establishes the conditions in which the research process succeeds or fails (Gayá Wicks & Reason, 2009).

The engagement in the research process is also referred as inclusion phase of the research by Gayá Wicks and Reason (2009) in which potential participants are approached with the idea of carrying out an action research. This step usually precedes the official invitation for the research. During the inclusion phase I had informal, often individual discussions with the members of the collective to explore their opinion and

their potential capacities to engage in an AR process.

Even though the AR process itself is democratic, some of the decisions are shaped by the initiator especially regarding the overall frame of the research (Csillag, 2012). This tension characterizes the overall process of the AR. The initiator of the research – under the pressure of formulating a research process adequate for scientific communication – needs to take prior decisions to be able to hold the qualities of the research but at the same time to allow enough flexibility to adapt to the needs of the group (Gayá Wicks & Reason, 2009; Coghlan, 2019). The initial, informal discussion with the potential participants prior to the engagement in the research helped me to ease this tensions.

In case of the present AR, the decisions taken by me cover the initial discussions around AR, the methods used for exploring potential research topics (which was organized in a way however, that participants could freely express their opinion within the given space – discussed later in detail), and some of the methods used during the research (which however were rather suggested by me and then agreed with the team). The research topic, the time frame allocated for the research and the action carried out were decided by the co-researchers. These open questions were discussed in the beginning of the research as an initial step[10]. Concerning the time frame of the research, desired actions and other expectations and demands, the co-researchers agreed on the following principles:

a) The research process does not take place at the price of concrete, practical activities of the collective
b) The discussions, observations and reflections related to the research occur during regular team meetings and not at separated ones. It was argues that it should not take a lot of extra time, but it can be also more effective if reflecting and learning phases follow the discussion about regular tasks and activities as they are interconnected. In this way, reflection can become a regular 'habit' of the team, happening naturally and not as an obligation.

[10] It occurred during the first research cycle which is discussed later. But as the presented guideline affects the time frame, the potential actions and data collections methods, the research guideline is presented here for the better understanding of the research process.

c) The coordination of the research and to comply with its validity criteria is my responsibility

d) Members commit themselves as co-researchers and to participate in the research process

e) The research results should be adequate for scientific dissemination and to write my dissertation in addition to the practical focus

f) The research topic supports the mission and activities of the Cargonomia collective

g) If possible, the research methods directly support the activities of the collective (the research team aimed to avoid the application of methods exclusively for data collection, they seek to use results of data collection for other purposes, e.g. dissemination)

h) Conventional research methods (interviews, survey) are carried out by me

i) All the participants pay attention to that everybody can equally participate in the research process (especially regarding meetings, discussions, sharing opinions)

3.5.2. Research cycles

The research is presented through three research cycles which emerged from the lived experience of the collective (illustrated in Figure 4). Each cycle consists of planning, acting, and reflecting phases, each cycle building upon what has been learned during the previous one. They are presented in a linear way, however, the research process in practice rather took a non-linear, organic way. Heron (1996) calls it a "Dionysian inquiry" which compared to a rational, linear way of planning-acting-reflecting takes "more imaginal, expressive, spiralling, diffuse, impromptu and tacit approach" (Heron, 1996:46). The cycles overlap with each other, but the cycles are distinct regarding their content, their aim, the type of activities which have been carried out and their time frame. Among the cycles, the first one in addition to find research focus and embed the research in the operation of the collective, aimed to reveal and deepen the understanding of the operation of the collective. Therefore data gathering and reflection on the data is dominating in this cycle. The second cycle pursued more practical goals compared to the first one, which could improve the performance of the collective. The third cycle combined the conceptual and practical learnings of the first

two cycle.

The research cycles relate to specific sub-research questions. The first research cycle aims to unfold what the underlying logic of SSE initiatives is which can support environmental sustainability. The second cycle reveals what kind of environmental principles an SSE initiative can aim to follow, including its limits and contradictions. The third one reflects on the limits of the SSE within the environmental discourse through the identification of the strengths and weaknesses of the organizational model.

While these sub-research questions contribute to academic knowledge creation as well, their practical implications to unfold organizational identity (Who we are?), to improve the organizational performance through deepening understanding (What do we want to be good at?) and through developing actions (How do we make choices to make improvement and implement them?) is more significant.

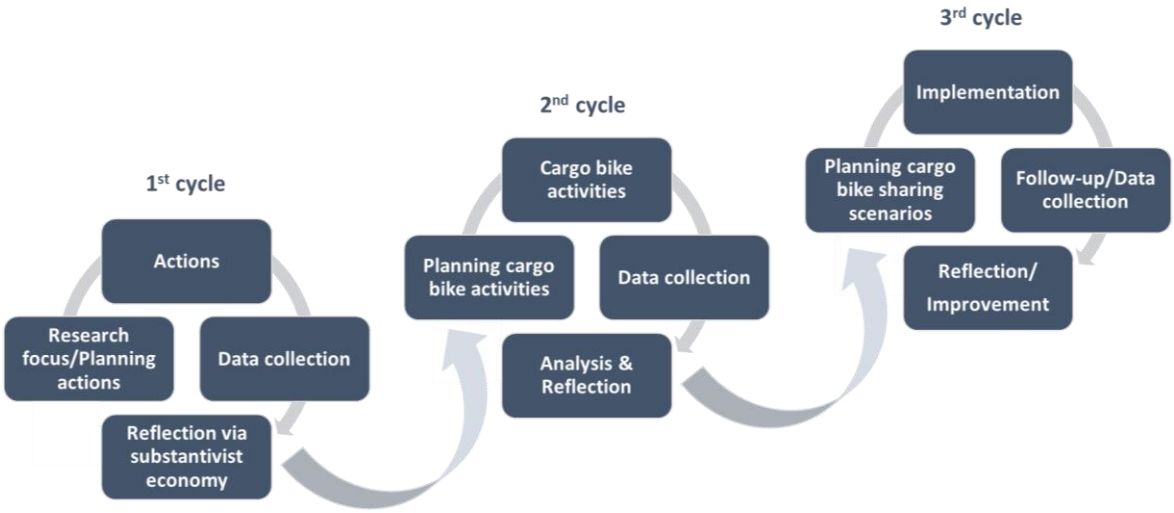

Figure 4. Research cycles. Source: own illustration

3.5.3. Type of activities within the research and data collection methods

The research process closely accompanied the practical activities of the collective. Therefore, a wide range of data collection methods were applied to be able to draw on the diversity of activities and the lived experiences. The research process consisted of the following types of activities accompanied by the presented data collection methods:

- **Meetings, workshops dedicated for the research** which aimed to find research focus, reveal theory-in-practice, analyse and reflect on the results. Such occasions usually were organized and facilitated by me. The time, the location and the topic of the meetings were always discussed and agreed with the team previously. The participants of these events include the active members of the collective and the actual interns who were spending their internship with Cargonomia. Often visual technics were applied to support the understanding of concepts, analysis and results. These events have been recorded, notes were taken by me. Data of these meetings cover written results produced during workshops, e.g. flipcharts, post-its.
- **On-site, practical and/or educational events** which form the basic operation of the collective (e.g. cargobike trial, environmental education for children, etc.). Such events have been organized by all members, and they were usually public and free (except specific educational events held for schools, kindergartens). They often had a well-defined target audience (e.g. families as potential cargobike users), but any interested citizen was welcomed. Members of the collective gained information through participant observation during such events, often photos were taken, and I took field notes whenever it was possible (see field notes). Each event was followed by a meeting within a week (see next point) when all members of the collective who have participated in the event shared their experience, reflected on the results, the process of the organization, the participants, and the interactions based on their observations.
- **Regular meetings** of the collective which were dedicated both to discuss operational issues and to regular reflection which accompanied on-site events. They occurred regularly, minimum once per month depending on the number of activities of the collective. The facilitation of the meetings were rotated

among the participants. Data of these meetings cover notes taken by me, and some of the meetings were recorded.

- Activities which intended to **collect information** and data online or offline about a targeted topic. Such activities included online desk research, literature review, exploring the opinions of 'customers' via interviews or focus group discussion. These tasks were shared between the members depending on the personal capacities. Such activities had a twofold aim: in addition to collect data, the research group aimed to use the collected information for dissemination. For instance, the literature review in form of article and the interview summaries about cargobike usage were published on the website of the collective (in agreement with the interviewees).
- **Informal discussions** during convivial events or private conversations are also important part of the operation of the collective. These occasions gave opportunities for analysis, reflections, and emergence of new ideas. It is not unusual that informal interactions among co-researchers contain important data regarding the action research (Reason, 1994; Coghlan, 2019). The challenge for the action researcher is to make sense of the information which is useful for the community and for the research (Reason, 1994). I aimed to take notes and reflect on learnings which emerged during informal discussions. I aimed to raise important question, contradicting opinions during meetings when all the co-researchers participated to be able to learn from those and reflect on them.
- **Online communications** is vital for the members of collective. Lots of information is shared through the common mailing list of the collective. Emails are often used to discuss and debate about issues (e.g. working with a new partner or not), share opinions and take decisions. Online communication also includes online documents which are edited together (e.g. suggested agenda, or program for on-site events). These online data sources formed important part of the research as well.
- **Interviews** given by the co-founders to media or to other researchers are important part of disseminating the activities of the collective. The co-founders are often approached by local radios or by international platforms to share the experiences of the collective in form of interviews or pod-casts. Researchers are also regular visitors to explore the practices of the collective. Some of the

interviews carried out by researchers or published in media were purposefully used as additional data resources to clarify or to illustrate specific questions which have emerged during interpreting the data.

To support and to document the research process I additionally produced two types of notes. During on-site events and regular team meetings I took **field notes**. These field notes cover hand-written notes and they include my general observations, questions raised during events, learnings from informal discussions, issues I wanted to raise during the next team meeting, answers from my co-researchers, decisions regarding topics of the research. Concerning that these notes were taken during events and meetings where I acted as an active participant and therefore I faced limited capacity to record everything, the notes can be described as quick records rather than detailed reports. These notes are also limited in the sense that they illustrate my view and what I perceived as important to note. They aim to serve as reminders of activities and thoughts and to briefly record what has happened.

During the research process I kept a **research diary**. The research diary in AR aims to reflect on the assumptions, thoughts and beliefs of the researchers during the research process to confront the researcher's individual perceptions and interpretations (Coghlan, 2019). Therefore, during the research process I regularly noted my thoughts, feelings, assumptions and expectations before activities, and I reflected on meetings, discussions and events which were carried out within the framework of the collective. Regarding events and meetings, I intended to reflect on the general mood, the environment, decision making processes, my own perception on decisions and my feelings during such occasions. As the researcher is part of the research as well, the research diary supports the critical reflection and allows to reveal potential distortions. My research diary chronologically includes the above mentioned subjective aspects. Reflections on meetings and events were concluded within 24 hours, or maximum a few days. Field notes often helped to reconstruct feelings and perceptions.

3.6. Data analysis

In interpreting the data I build both on the collectively produced knowledge by the co-researchers, and on my own data analysis. The collective interpretations which have emerged during the AR cover collective understandings, analysis and interpretations

of the results. These collective understandings form the basis of the AR, the co-construction of knowledge.

During my own analysis which has been carried out individually, I revisited and reviewed the data which have been gathered during the research cycles. This includes both the content (what has happened) and the process (how it happened). The evaluation and interpretation of the available data covers a more 'traditional' qualitative data analyses. I applied a deductive-inductive process to make sense of the data in light of the conceptual framework (outlined in Chapter 2.4.).

One of the main characteristics of the data which has been produced during the AR is its diversity and richness. It covers audio records, my research diary, field notes, emails, notes and visual illustrations from meetings and workshops and collectively produced documents (detailed in Chapter 3.5.3). Deductive data analysis which can be considered as a top-down process, refers to data analysis driven by a theoretical framework. Deductive analysis, therefore, provides a theoretical sensitivity which enables to keep focus and not to get lost in the empirical records (Bingham & Witkowsky, 2022).

Inductive analysis, on the contrary, can be described as being driven by the data. Usually inductive analysis refers to the thematic analysis of the data through open-coding (Bingham & Witkowsky, 2022). It enables to illuminate a diverse picture based on the lived experience, and it ensures that the knowledge produced is grounded in experience. During data analysis I draw on repetitive codes and patterns which emerged from the data and organized them into categories and bigger topics. The categories and topics were classified in an excel file and I usually cited my co-researchers to illustrate them (see excerpt from the analysis in Annex 1). Being driven by the empirical records allowed new topics to emerge, which did not seem to have a direct connection to the research question.

Given the specific context of the research – deep emotional and personal field involvement – critical subjectivity and reflective sense are particularly important during the interpretation of the data. The data analysis described above and thus the review of the research cycles helped me to take a distance and critically evaluate the AR. I specifically paid attention to contradictions, surprising events, challenges,

disappointments and to conflicting opinions which appeared in the data.

The coding was accompanied by a continuous reflection on the theoretical framework. Therefore, the data analysis process can be described as several cycles of coding, reflecting on the conceptual framework and organizing codes into bigger topics. It allowed me to be driven by the data but having in mind the research question. The several cycles of sense-making of the data led to the formulation of a few analytical concepts which answer the research question.

My own coding was contrasted with the collectively produced narratives, and the main analytical findings were discussed with the co-researchers during a thematic, one-hour-long workshop on 25th January, 2022. During this workshop the co-researchers shared their opinion and gave their feedback on the analytical results (see the workshop agenda in Annex 2). Based on their contribution, some of the analytical findings were more carefully specified and interpretations were clarified.

3.7. Quality and validity of the research

In this sub-chapter, I address the quality and validity of the presented AR. The validity of scientific research refers to the 'goodness' of the research. Within the participatory paradigm, the debate about what is good research is an evolving question. According to Bradbury and Reason (2001) and Levin (2012), in action research the goodness of the research shifts from validity concerns about rationality or goodness of the data to the quest of what is important, what is worthy and what relevant research is. It does not mean that objectivity does not play a role, but subjectivity is accepted, embraced and reflected upon. AR implies deep field involvement – which ensures the relevance of the research. Levin (2012) emphasizes however, that relevance of the research (working on local problems) and high emotional, personal involvement cannot overrule critical and analytical sense. These issues (importance, relevance, field involvement) needs to be addressed to present the trustworthiness of the research.

Reason (2006) highlights the importance of the quality of the research instead of validity. Validity suggests that there is one valid approach. However, each AR is contextual, therefore, what is important and worthy varies according to the needs of the community of the research. Accordingly, in the literature we cannot find a well-defined list about what is a worthy research. Each researcher has to critically set his

or her own validity criteria to prove the trustworthiness and the reliability of the research process (Bradbury & Reason, 2001). Bradbury and Reason (2001) suggest five aspects to be explored to outline the validity of the research. These aspects concern the quality of participation in the research; the reflective-practical outcomes of the research which describe the usefulness of the research for the community; the plurality of knowing referring to how the research enabled to capture the diversity of lived experience; the purpose of the work and the enduring consequences (Bradbury & Reason, 2001).

These validity aspects are, however, starting points for reflection rather than a list to fully comply with. As Reason (2006) argues, "it is not possible, either theoretically or practically, to engage in an inquiry that addresses all dimensions fully and completely; rather, there will always be choices about what is important to attend to at any particular moment" (pp.198). AR is a process of engagement in lived experience. Therefore, the research is an evolving process rather than a clear-cut plan, which is developing based on the needs of the community and according to emerging issues and shifting emphases. It implies methodological choices, and addressing ethical questions. Reason (2006) highlights that there are no wrong choices. The validity and the quality of the research lies in the ability to identify the important choices which have been made and to be able to report about it in a meaningful way (Reason, 2006). It provides transparency about the research which aims to serve and assure the reliability and trustworthiness of the research (Bradbury & Reason, 2003; Levin, 2012).

I describe the quality of the research based on the following aspects (Bradbury & Reason, 2001; Levin, 2012; Reason, 2006; Elden & Chisholm, 1993; Csillag, 2012): quality of participation, reflective-practical outcomes and critical reflexivity. Some of the following aspects were already touched upon during the description of the research. These features will be briefly mentioned.

3.7.1. Relational characteristics of the research – quality of participation

AR relies on participation and working with people. Thus, one important aspect of an action research is the quality of the participation and of the relations within the

research team (Bradbury & Reason, 2001). The quality of participation in research is usually strongly affected by the process of the engagement in the research process. The presented AR was carried out within an established group as indicated in Chapter 3.4, including myself as member of this group. The advantages and weaknesses of this feature are presented in Chapter 3.4.

The level or participation of the co-researchers and their involvement in forming the research questions, participating in actions, data collection and reflection has been also already described in Chapter 3.5. In the beginning of the research process, however, the co-researchers expressed a distinction between me, as the initiator of the research, and the rest of the team. The following quotes illustrate, that I was considered as 'the' researcher:

"*Orsi, you should make research about that*" (Member 1, 2017)

"*Orsi it would be interesting if you would study that*" (Member 3, 2017)

"You are the researcher so is your responsibility to form the research question, keep track of the research process and make it systematic which is acceptable as a research" (Member 2, 2017)

I addressed this issue with two types of strategies. On the one hand, to improve the participation in the research, in addition to involve the team in forming the research questions, I engaged in dialogue with them to listen their needs and desires, e.g. integrate the research into the daily operation of the collective and I did not impose something only to carry out research methods for the sake of my studies. I rather followed the interest of the team and proposed methods only if those could support the operation and the activities of the collective. On the other hand, to move away from being considered 'the' researcher, I paid attention to equally participate in the operational activities of the collective (organizing events, coordinating box distribution, etc.).

Regarding relational characteristics of the research, **informal hierarchies** can affect the democratic character of the research, some opinions and voices can be emphasized more than others. The co-researchers during the research sought to operate in a democratic way, which means that decisions were made together, members were

asked to share their opinions in each meeting. The co-researchers aimed to create a communicative space (Reason, 2006). Nevertheless, informal hierarchies could have been identified in the collective (as in many informal groups) related to the verbal communication skills of the co-researchers. Hierarchies were not related to the foreign (English) language which was used within the group, but differences rather emerged between dominating and more introverted, less talkative personalities. This issue was addressed by rotating facilitation during meetings, and increased attention to ask each members' opinion by practicing a certain self-discipline. The design of the workshops which were dedicated to the AR, also served to enable equal participation of the co-researchers, e.g. writing on post-its instead of speaking, usage of visualization of the content of the workshops.

Gender issues emerged regarding the roles that members have endowed each other with. For instance, the activities of the collective often involve discussion with potential partners. It could have been observed that the reach out and the communication with a mother- and child-friendly place was allocated to me as a female member of the team. While other places – which can be considered rather masculine, e.g. a bar – were assigned to other (male) members who were considered (and had experience) in business and entrepreneurship. This issue was justified by some of the members by the acknowledgment of different skills and capacities, and by the primacy of (successful) actions. In spite of this observation, the co-researchers aimed to broaden their understanding, challenge themselves with different activities and learn new skills. The expression "challenge ourselves" (in the meaning of looking for different tasks to explore our own capacities) became a motto of the collective. It manifested in the share of responsibilities, co-researchers were encouraged and supported to carry out new tasks, and some members withdraw from some project to let others to flourish.

3.7.2. Reflective-practical outcomes

One of the aim of action research is to create practical solutions for real needs of a certain community or group. Bradbury and Reason (2001) suggest that the co-construction of knowledge can be useful for the community in inducing new ways of acting, seeing the World differently or illuminating new ways of thinking. They refer to this question as conceptual-propositional integrity. Ideally practical problem

solving is accompanied by conceptualizing grounded experience enabling participants see their lived experience in a wider context and change themselves as an individual or as a group, community (Elden & Chisholm, 1993). In addition to scientific knowledge production, therefore, we have to explore if the knowledge which was created during the AR was useful for the collective.

In AR, the cycles of acting and reflecting aim to enable that the co-constructed knowledge is integrated in the lives of the communities or in the operation of organizations. It requires a reflective sense, the ability to identify new insights and learn from it. During the presented AR, the evolving, often diffuse activities of the collective challenged the reflective capacity of the researchers. One of the biggest challenge was to provide **balance between action and reflection.** Therefore, the reflection process aimed to follow the evolving needs and interest of the collective. It can be observed that in the first research cycle one occasion was dedicated for reflection, while in the following ones it is described as an ongoing process (see Chapter 4). From a methodological point of view, the management of one workshop dedicated for reflection is easier to handle – especially with limited experience in AR – and it is easier to report about it. Compared to that, the on-going discussions and debates which characterized the second and third cycle scientifically can be considered less rigorous. But the continuous practices of analytical and reflective sense, based on my experience serve better the integration of results and learning points into the operation of the collective.

By all means, both ways of reflection and learning process contributed to the evolving operation of the collective. The research has supported to put words on the undiscovered side, e.g. the organizational model, role of money within the collective. It induced new activities, and shed light on new insights which were unexplored before the research. The research influenced the attitude of co-researchers toward female cargobike practices, especially the communication about it, and introducing cargobikes for newcomers.

3.7.3. Critical subjectivity

The deep field involvement implies that the researchers' own beliefs, feelings and values can influence the interpretation of empirical evidence (Levin, 2012). The

analysis of the data therefore has to be accompanied by high critical-analytical capacity to reveal potential distortions. On the one hand, the cycles of action and reflection aim to address this issue (which has been described in the previous point). On the other one, it requires the participants' openness, self-awareness, capability to embrace and express their own beliefs and critically reflect on it. Levin (2012) suggests to be accompanied by independent partner(s) who do not participate in the research process. Such an outsider can hold a critical mirror and confront the researchers' individual perceptions and interpretations. During the AR, therefore, I regularly consulted with my supervisor about the research process, methods, participation, and the content. He guided me with provocative questions and encouraged me to question beliefs, perception, and interpretations. The research diary which I kept during the research aimed to support this critical overview. The regular notes on thoughts, feelings and assumptions were also subject of these consultations.

In addition, the reflection on personal beliefs, and feelings requires to explore my special relation within the research team. My marriage with one of the co-researchers – the higher amount of time what we spend together with my partner, potential private discussions, the influence on each other's opinion and thoughts and the biased mutual support – needed to be addressed during the AR. First, I aimed to diminish the influence on each others' opinion by minimizing to discuss privately the research (including plans and result), ideally issues of the collective. Second, I purposefully engaged myself in informal discussions with other co-researchers, and I actively looked for opportunities to carry out actions with other co-researchers to let myself influenced by their opinions and thoughts. Third, I paid higher attention to reflect on my relation with my husband and potential mutual influence in my research diary. Last but not least, the greatest support to minimize the role of this relation in the research, in my opinion, was the critical sense which characterized discussions and debates during the research cycles.

In spite of these efforts, probably I could not completely avoid the effect of this relation on the research process. In addition to influencing each others' thoughts, an inverse effect could have been identified as well. It could have been observed that we turned to each other more critically than to other co-researchers, and sometimes, I paid greater attention to other co-researchers' opinion. This proves that we cannot eliminate

personal relations, we can only reflect on it.

CHAPTER 4. ANALYSIS AND RESULTS

The chapter contains the content and the analysis of each research cycle. The main components of each cycle are summarized in Table 7. The cycles are presented in a chronological order through the planning, acting and reflecting phases. It unfolds the practical outcomes of the research. At the end of the description of each cycle, the analytical insights are summarized, and some feedback and reflection on the specific methodology which were expressed by my co-researchers are included.

<table>
<tr><td></td><td>Planning phase</td><td colspan="2">Action phase</td><td>Reflection</td></tr>
<tr><td></td><td></td><td>Type of action</td><td>Data collection method</td><td></td></tr>
<tr><td>Cycle 1</td><td>Establishment of the research and identify research focus via organized workshops</td><td colspan="2">Listing historical events organized by the collective</td><td rowspan="2">Reflection in a dedicated workshop via the lens of substantive economy</td></tr>
<tr><td></td><td></td><td>Organizing on-site events</td><td>Participant observation</td><td></td></tr>
<tr><td>Dates</td><td>19/12/2016
27/01/2017</td><td colspan="2">27/01/2017-17/08/2017</td><td>17/08/2017</td></tr>
<tr><td>Result</td><td colspan="4">Understanding the organization model and explore the potential impact of the collective</td></tr>
<tr><td rowspan="4">Cycle 2</td><td rowspan="4">Explore cargobike use the impact of the collective, and reveal environmental principles of the collective</td><td colspan="2">Listing and analysing historical events organized by the collective</td><td rowspan="4">Ongoing reflection in meetings</td></tr>
<tr><td>On-site cargobike activities</td><td>Participant observation</td></tr>
<tr><td>Explore cargobike use in general</td><td>Literature review</td></tr>
<tr><td>Explore the opinion of local cargobike users</td><td>Interviews,
Focus group discussion</td></tr>
</table>

Date	27/01/2017	27/01/2017-17/07/2018		14/02/2017-17/07/2018
Result	**Explore the limits and challenges of cargobike use and identify the environmental principle of the of the collective**			
Cycle 3	Plan cargobike sharing model via a scenario planning workshop	Implementation of cargobike sharing model	Participant observation, informal offline and online discussions	Ongoing reflection in meetings
Date	05/02/2018	05/02/2018 - 07/09/2018		20/02/2018 - 07/09/2018
Result	**Improve cargobike accessibility, deepen understanding of limits and challenges**			

Table 7. The main components of the research cycles

4.1. First cycle

The first cycle aimed to create space for the establishment of the research, understanding of AR and identify the research topic. **The planning phase of the first research cycle** covers 2 workshops on 19th December, 2016 and on 27th January, 2017. They were dedicated to understand the basics of action research, to lay down expectation and frames and to explore potential research topics. Both workshops were initiated and coordinated by me, they lasted for two hours. The number of participants in the first meetings was seven, in the second one five. To ensure the democratic characteristic of action research, and that all the participants are emotionally committed to the research topic, both workshops were organized in a participatory manner. I acted as a facilitator while the co-researchers contributed with their ideas, questions, dilemmas and commitments. It seemed to be a good idea to dedicate time for such activities during winter time because the collective is less busy during this period of the year.

The invitation for the first meeting (organized on 19th December 2019) was sent by email explaining the content, the aim and the planned agenda of the meeting (see Annex 3). The workshop was divided into two parts. The first part included a short

introduction of the basis of action research by me followed by clarifying questions and setting the framework for the research (see research principles before). Due to my prior knowledge on AR, this part can be described by a discussion between me and the rest of the team.

During the second part of the workshop, the co-researchers identified potential research topics. My aim was to explore the diversity of potential research topics, therefore I proposed a method which would enable to raise as many research ideas as possible. To ensure that everybody can equally participate, and to minimise the undesirable influence of existing power relations which could affect the process, I asked the participants first to think individually about potential research topics related to Cargonomia which they would be interested in to explore, and secondly, write them down on post-its. There was no limit for the number of ideas. As a third step, research topics were shared within the group one after another with a short explanation of the research idea. Co-researchers were asked to listen to each other carefully and ask clarifying questions without expressing their disagreements or critics. This process of collecting research topics resulted in total 46 ideas (see Annex 4). The ideas were organized into eight groups by the co-researchers to have a better overview of them. The eight main research topics are the following:

- Model/structure of the collective
- Short- and/or long-term future of the collective
- Cargonomia and its partners
- Define the aims of Cargonomia
- Impacts: targets and measurements (time based reflection)
- Lifelong learning outreach programs
- Data collection
- Internal processes

The second workshop of the planning phase of the first cycle (organized on 27th January 2021) was dedicated to narrow down the research focus by prioritizing among the research ideas which emerged previously. This process aimed to pay attention to individual preferences and to collective interest as well. Therefore, on the one hand, the co-researchers classified the research topics which had emerged in the previous

workshop based on their individual preferences. Similarly to the first workshop, I intended to avoid participants influencing each other's opinions. Therefore, the co-researchers individually voted on the research topics. After summarizing the votes, the result is a rank list which expresses the priority among the research potential topics (the results of the ranking exercise can be seen in the Annex 4).

Furthermore, the ranking of the research ideas was followed by a discussion and reflection on the results taking into account the previously agreed guideline and collective interest. The co-researchers emphasized "Let's avoid to make research for the sake of making research" (Member 3, 2017) (see guideline a), f), and g)). The co-researchers listed the up-coming, planned activities (events, workshops, etc.) and linked them to the potential research topics (see Table 8).

Research topics	**Number of votes**	**Potential actions**
Social impact 'measurement'	5	Collect data about planned and historical events
What kind of economic and organizational model a DIY bike workshop can have?	3	
Create a centre for cargobike maintenance, tools and sharing	3	On-site mobility programs, events in Budapest and in the countryside to explore cargobike usage Literature review, writing articles Explore practices of cargobikes usage among women Explore the opinion of cargobike users through interviews, discussions
Urban cargobike logistics and delivery	3	
Create a workshop format framework/create a toolbox to support regular appearances in universities, and schools	3	Teaching in a private high school, presentations in universities, development of alternative tourist program for conferences

Table 8. The result of prioritizing among research topics and planned actions

Based on both the ranking and discussion among the co-researchers, the research topic of 'social impact measurement' gained the greatest importance, and the actions of the first research cycle were designed to explore this topic. This ranking exercise also supported and directed the further steps of the research. During the second cycle action

related to cargobike usage were carried out (presented later). In addition, many other actions were also implemented which however, do not form core part of the presented AR.

The co-researchers decided to implement their own approach to explore the social impact of the collective:

"What I mean about impact is to see what has happened since we have created Cargonomia, what have we achieved, what was working and effective, what we have expected and did not happen or did happen. To go further it is important to review what has happened" (Member 3, 2017)

"We can also measure, what is better to make this type of events what we are doing or shift more toward consultancy" (Member 2, 2017)

During the **action phase of the first cycle**, the social impact measurement was carried out through a qualitative exercise. It enabled to address other research topics related to the organizational model. The co-researchers aimed to reveal the practical activities through which the collective seeks to 'change the world'. Their expectation was that through reviewing what has happened they were going to understand better the (potential) impact of the collective:

„I think we will be surprised to see how many things we have done" (Member 3, 2017)

The agreed actions of the 1st cycle took place from 28th January 2017 until 17th August 2017. The actions involved collecting data about events which had been organized since the existence of the collective (referred as historical events) and collect data about the actual events during the given time period. These events cover the regular activities of the collective e.g. vegetable box distribution; practical workshops e.g. recycling workshop or repair café; and events organized in partnership with other civil organizations, social enterprises or schools e.g. informal educational events. Data was collected about these events in a common (online) excel sheet (see Annex 5) regarding the purpose of the activities, number of participants, place of the event, involved partners and monetary or non-monetary transactions related to the events. The events were classified based on their purpose. The classification of the events was not agreed

a priori but it emerged during the data collection. The following classification was applied: thematic meetings, conference or presentation of activities, DIY practical workshop, demonstration or public appearance.

The data collection provoked discussions among the co-researchers about the interactions and transactions related to the events several times during the action phase of the first cycle. Especially the role of money emerged several times as a conflictual issue, for instance:

„We don't touch money, no need of income." (Member 1, 2017)

*"We have accumulated too much knowledge doing things voluntarily, we have gold in our hand. We should make a business model out of it, to generate income, even to employ people." (*Member 1, 2017)

Similarly, contradictory issues emerged in relation to cooperating with partners, the basis of the cooperation was also unclear:

„We should ask for money because now we are quite professional doing it to go for free" (Member 3, 2017*)*

"*The main goal would be to do popular education in sharing our experience and touch a diversity of people... and of course to collect money for Cargonomia"* (Member 3, email, 2017)

We should speak with (them) how many free beers we get? (Member 4, 2017)

Nevertheless, discussions suggested a strong desire and intention to use non-monetary elements:

"I am happy that the profit is not in the center. We have exploited all the natural resources, there is no worm in it any more. What do we want from this ideology?" (Member 4, 2017)

"X partner should not charge anything for the delivery to Cargonomia, because we bring them a lot of publicity, our relationship with them is based in cooperation and reciprocity" (Member 3, 2017)

“Cargonomia is able to produce a type of profit which is long term: you can eat healthy vegetables, your heart will beat, you can breathe. These things pay off in long term, not from one year to the next one." (Member 4, 2016)

"We are happy to do it for free for somebody who is part of our community" (Member 3, 2017)

The result of the data collection about the activities of the collective draws a diverse but unclear picture of activities and organizational model of the collective.

The reflection phase of the first cycle aimed to clarify this diverse picture and to deepen understanding about the organizational model and social impact. The reflection on the collected data occurred during a three-hour long workshop on 17th August 2017, the number of participants was four. I proposed to support this reflection by using a theoretical framework. The diversity of the activities and the variety of transactions which was revealed during the action phase of the research cycle suggested that the social impact and the organization model behind the activities cannot be understood through market-based approaches. An alternative approach suited better the understanding and the expectation of the co-researchers. Therefore, I proposed a theoretical framework which – based on my opinion and my prior knowledge – would help the research team to deepen understanding about the organization model.

The co-researchers applied the substantive understanding of the economy introduced by Polányi (1976) as a theoretical lens to better understand the actions and the underlying logic. This reflection process of the co-researchers was also inspired by the literature of social and solidarity economy and the plurality of the economy introduced in Chapter 2. Following my brief presentation of the concept, the substantive understanding of the economy first was operationalized by the co-researchers.

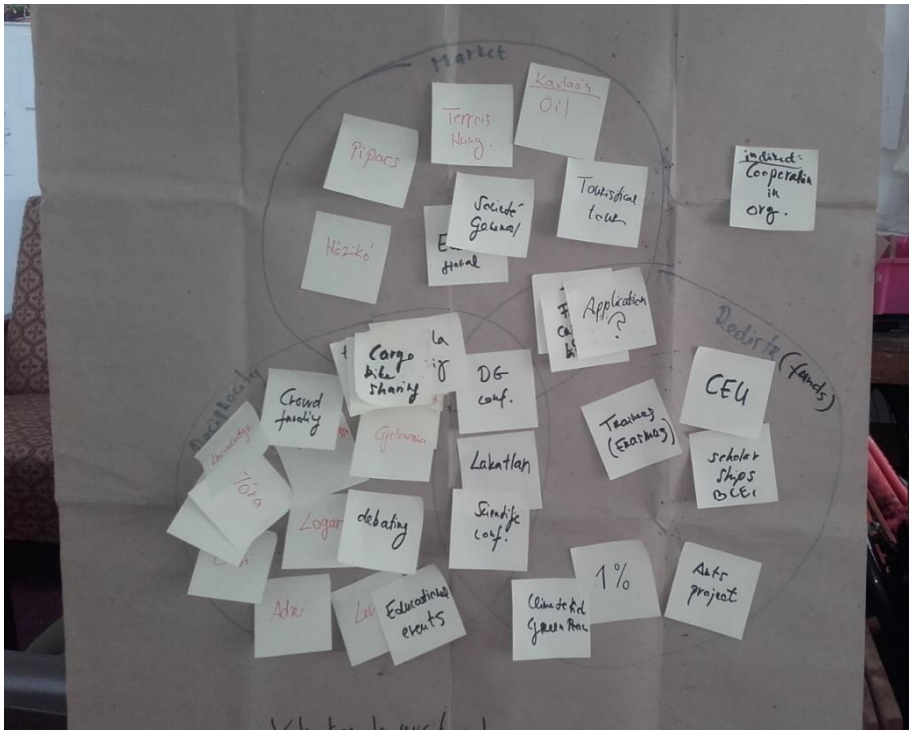

Figure 5. Visual analysis of the actions carried out by Cargonomia based on the substantive understanding of the economy. Source: own photo

The co-researchers using the substantive understanding of the economy as theoretical lens looked at how the institutional logics identified by Polanyi is represented in the every-day activities of the collective. But not being limited to the theoretical concept it inspired the team to create their own narratives and definitions. Based on the substantive understanding of the economy, the group could differentiate between reciprocity, redistribution and market exchange (they did not include householding) and also overlapping categories emerged (included in Table 9).

Domain	Definition
Reciprocity	obtaining resources (goods, services but also knowledge, network and experience) based on personal relationship and solidarity.
Free donations (Reciprocity & Market)	exchanging goods and services based on personal relationship in return of money or for other goods/services

Market exchange	obtaining goods and services by exchanging for money. Money and profit are the driving forces of these activities
Funding supported market activities (Market & Redistribution)	projects which are supported by applications/funds but aiming to carry out market activity (selling goods or offering services).
Funds	mainly financial resources which are collected centrally (by a central authority) and after redistributed in the form of subsidies or through applications
Voluntary redistribution (Redistribution & Reciprocity)	activities which involves funds as financial resources but the usage of these resources requires personal commitment

Table 9. Economic principles in the operation of the Cargonomia collective. Source: Own collection

Following the definition of the categories, the co-researchers classified the activities of the collective (which they have collected previously). The reflection process was supported by the visualization of the concept (see Figure 5). (For the detailed results see Annex 6.)

4.1.1. Main learning points

Through the operationalization of Polanyi's substantive understanding of the economy – inspired by Lemaitre & Helmsing (2012), Mihály (2021) and Laville & Nyssens (2001) – the first research cycle revealed a mixed and diversified portfolio of the resources and transactions which are involved in the activities of the initiative. The resources are not limited to financial assets or volunteer time, but involve monetary and non-monetary donations, barter and different forms of cooperation with other local actors and partners. Altogether these resources and interactions constitute the economic model of the collective, which was named as the 'plural economic model'

of Cargonomia. The distinct categories which have emerged during the first research cycle are illustrated in Figure 6.

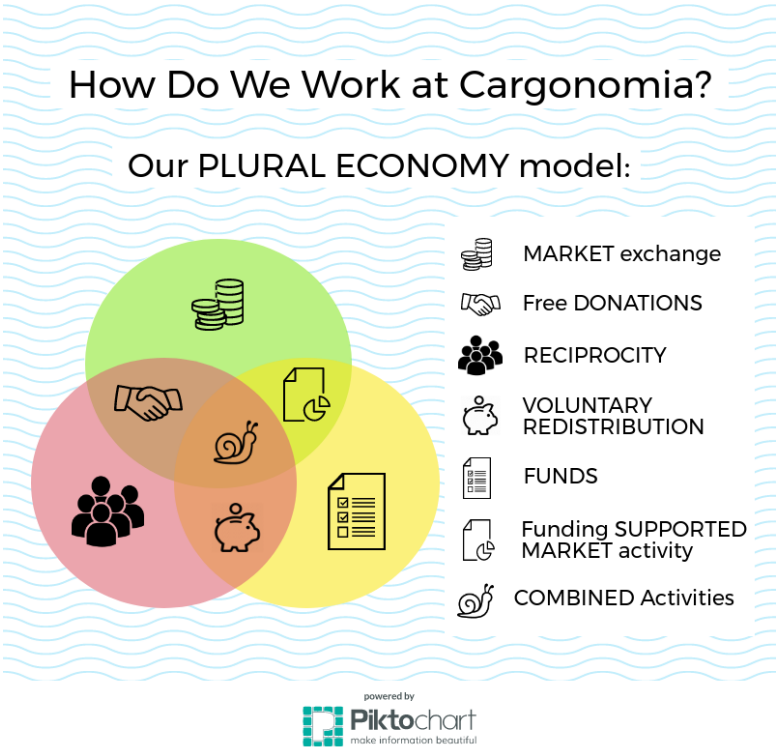

Figure 6. Plural economic model of the Cargonomia collective. Own construction

Resources which are obtained through reciprocal relations (reciprocity), cover for example, the personal time, effort, skills and knowledge provided by the co-researchers. Debates (among the members), which characterises the daily operation, were identified as an important resource. Debates contribute to generating new ideas, solutions and fostering the well-functioning of the collective. The resources which fall into this category can best described as ‘gifts’ because no direct compensation is expected. Namely, the co-researchers provide their personal time and capacities without demand for direct compensation (neither monetary nor in-kind). The reciprocal relations involved in the operation of the collective are characterized by personal commitment toward the mission of the collective.

Free donations (overlapping category between market exchange and redistribution) describe mutual, solidarity relations through which goods or services are exchanged and monetary or in-kind compensation is involved. Free donations characterize most of the cooperation with partners. Partners who use the space of the Cargonomia

collective are expected to contribute based on their income which are generated during their events or activities. The share of the income which they are expected to offer, however, is not agreed a priori, it is based on the partners' performance and on the trust in the partnership. The collective provides services based on free donations too: partners or citizens borrowing a cargobike can make a donation or offer barter. Donations and other, in-kind contributions in this category are embedded in social relations and are based on solidarity among the involved partners. The involved parties pay attention to each other's capacities and personal relations are often incorporated in the transactions. The embeddedness in social relations differentiates this category from market exchange.

Market exchange describe sales of goods and services for a fix price. In spite of the narrative of the co-researchers about not using money in the operation of the collective (e.g. "*We do not touch money*" Member 1, 2017), the research cycle revealed that market exchange is an integral part of the operation as well. The aim of offering services and goods based on fix price, is income generation, and it is usually based on a contractual relation. Solidarity and personal commitment are less characteristic in these relations compared to the previous categories (but they are not totally absent).

Funding supported market activities (which is the overlapping category of market exchange and funds) would involve activities which are financially supported by central (international or national) funds and pursuit income generation based on market exchange. At the time of the research however, no activities of the collective would fall into this category.

Resources obtained through funds relate to the principle of redistribution in Polanyi's substantive understanding of the economy. This category describes mainly financial resources which are first collected by a central authority (state or municipalities) and then redistributed in forms of subsidies or through applications. For example, financial income which is offered by the EU or national funds to carry out research projects, belongs to this category. Indirectly, the trainees who receive Erasmus support and other personal scholarships (e.g. received by the co-researchers) provided by EU or national institutes can also be characterized as funds. Relations falling into this category are usually bureaucratic and involves a lot of administration.

Voluntary redistribution (which is the overlapping category between funds and reciprocity) describes activities which involve funds as financial resources but the usage of these resources requires personal commitment. Individuals offering 1% of their personal income tax or conference participation financially supported by central authorities to present the activities of the collective can be described by this category.

The first research cycle shed light on the diversity of relations and the resources involved. The main contribution of the research cycle is to provide a better explanation of the rationale of the collective, to put words on the diversity of relations. The reflection process revealed the underlying organizational model behind the activities of the collective referred as the plural economic model.

Regarding the social impact ‘measurement of the collective (which was the initial target of the research cycle), the co-researchers revealed two potential levels of generating impact. Taking into account the mission of the collective and its activities which pursuit creating a change in the society toward a socially and environmentally just future, the targeted impacts can be described as follows:

- On local level, potential impacts concern cargobike use in the city and vegetable consumption patterns. They can be grasped through tangible results of the collective, for example the number of people ordering vegetable boxes, number of people borrowing and using cargobikes, number of participants passing through the events of the collective.
- On societal level, the desired impact of the collective concerns the political and cultural transformation of the society. Pursuing impacts on ongoing political discussion and on the public toward a cultural and political change can be described by intangible results, for example teaching people about farming, repairing a bike, people learning about alternatives, and people engaging or initiating their own alternatives.

The impact on the distinct levels are interconnected:

"*Cargonomia addresses and brings to light global environmental and social issues but want to provide locally appropriate solutions by accepting our limits, e.g. offering a few pick up points, providing a few cargobikes within places and community which we can control within our fingertips*” (Member 2, 2016)

"*The impact cannot be measured in the number of boxes, in the number of bike rentals, how many bikes are made in Cyclonomia, its nothing. It's just a showcase, it's just the top of the iceberg*" (Member 3, 2017)

4.1.2. Methodological considerations

The co-researchers found the overall exercise (listing and classifying activities and reflecting on them) useful. They expressed however, their critiques against theoretical frameworks which aims to simplify the reality: "*it is too reductionist, too narrow*" (Member 3, 2017) to describe real life experience. Is spite of such opinions, the research cycle unfolded some surprise too: The greatest reflection point was – as expressed by the researchers – is the role of market exchange in the collective.

Regarding the shift of the focus of the research cycle – from impact measurement toward analysing and understanding the organizational model – Coghlan (2019) explains that to revisit and review the initial aim of the research and change it according to the emerging needs of the co-researchers, is a usual circumstance of AR. The creation of a wide range of research topics in the first research cycle – which aimed to explore the diverse array of issues which could be assessed by the co-researchers – provided flexibility to choose among the raised topics. Among these topics some were supposed to disappear while others were expected to become more relevant. The flexibility of choosing and shifting research aim guarantees that the AR serves the interest of the co-researchers and the engagement in the process (Coghlan, 2019).

4.2. Second cycle

The aim of the second cycle emerged during the **planning phase** of the first cycle and the actions partially overlap with the first cycle. The second research cycles had a twofold purpose. On the one hand, the practical aim of the research was to explore citizens' attitude toward cargobike use in Budapest, to reveal and improve the impact of the collective on cargobike use without compromising the mission of the collective. On the other hand, the second cycle also aimed to reveal how an alternative, social and solidarity economy initiative can respect ecological boundaries (a goal which is expressed in the mission of the collective) what are the limits, and how to handle contradictions which may raise. The research plan of the second cycle was agreed

during the research meeting on the on 27th of January, 2017.

The strong commitment of the co-researchers toward cargobikes and the usage of cargobikes are intertwined with the mission of the collective. They are considered, in addition of being environmentally friendly transportation delivery devices as political tools. The co-researchers' main assumption which lies behind this belief is that cargobikes are more independent from the fossil-fuel based economic production than motorized vehicles, therefore they can have a significant role to ease dependence on the mainstream economic system. Cargobikes can also be seen as tools of conviviality which can strengthen autonomy and contribute to personal creativity instead of increasing dependence on complex, and energy-demanding technologies (Deriu, 2015; Illich, 1973). Speaking about the positive impact of using bikes and cargobikes one of the co-researchers expressed the following in an interview:

"The people would be much happier in general. And there would be less frustration, but more solidarity, and patience, and people would learn how to do that to each other. So this goes much further than transport. The transportation is a very good tool to show what we can do differently" (Member 1, 2016)

The **action phase of the second cycle** took place between 27 January, 2017 and 17 July, 2018, altogether six co-researchers participated in it. The actions include a wide range of activities to explore cargobike use, and to critically overview the impact of organization on cargobike use and to review the environmental performance of the activities.

The action phase of the second cycle – similarly to the first cycle – started with the overview of the achievements of the collective regarding the effectiveness of cargobike promotion. The co-researchers collectively gathered data about the activities of the collective related to cargobike promotion, rental and events. The data was shared during a team meeting (on 07/02/2017) and the co-researchers collectively analysed and reflected on them. The data revealed limits and challenges of cargobike promotion (e.g. lack of adequate communication, inadequate pick-up points, high prices), and a big gap between the desired and the actual number of cargobike rentals. This gap which was identified induced the following actions within this research cycle to better understand the constraints of using cargobikes.

The co-researchers have agreed to deepen understanding about cargobike use through traditional research methods. These methods cover literature review about cargobike use in general; exploring local cargobike use through interviews (see interview guide in Annex 7), focus group discussion (see round-table guideline in Annex 8) and participant observation during on-site activities e.g. cargobike trials. In addition to learn from the results, summaries of literature review in forms of several articles, and of the interviews were disseminated and published on the website of the collective[11].

Participant observation was carried out during on-site events when local citizens could try the cargobikes offered by the collective or share and use their own ones. These events which were named by the co-researchers as 'Cargobike-caressing' were organized either by the Cargonomia collective or in partnership with other organizations. In addition, the collective has been also invited to street festivals and demonstrations to organize such a program. The events are listed in Table 10. On the one hand, the events supported the understanding about both motivations and constraints of cargobike use.

On the other hand, the events were also tools to reflect on the principles of the collective based on the learnings of the first cycle, and to review the environmental aspect of the activities. The co-researchers identified a few points which helped them to systematically overview these events. Therefore, during team meetings related to the organization of these events, the co-researchers raised the following question before the events:

- What is the aim of the event? How is it connected to Cargonomia's mission?
- What kind of resources are available and required?
- Which is the target group? Why? Is it inclusive?
- How does the event respects ecological boundaries?

[11] www.cargonomia.hu

Name	Date	Location	Number of participants (approx.)
Mobility day in Zsámbok	15/04/2017	Zsámbok	15
Kazinczy street festival	06/05/2017	Budapest, Kazinczy street	150
Cargonomia 2nd anniversary party	19/05/2017	Budapest, Cargonomia	80
5th mutant-bike demonstration and parade	15/06/2017	Budapest	200
Cargo-'piknik'	02/09/2017	Budapest, Városliget	50
I cargobike Budapest (side event of I bike Budapest demonstration)	22/04/2018	Budapest	200
Mobility day in Zsámbok	28/04/2018	Zsámbok	15
Workshop for elementary school	11/06/2018	Budapest	25
6th Budapest Mutant bike parade	14/06/2018	Budapest	200

Table 10. List of on-site events to explore cargobike use

After the events, the co-researchers evaluated the events to unfold both the intended and unintended outcomes of the actions based on the following questions:

- Was the targeted goal of the event achieved?
- Did the expected public attend? If no, why? (Inclusiveness)
- How did the participants react to the environmentally friendly solutions which were applied?
- How was it organized, with what type of resources? Why?
- How did we feel during the action?

The evaluation occurred during a discussion when all the members who participated in the event shared their opinions.

The **reflection** on the results occurred during regular meetings of the collective between 14/02/2017-17/07/2018. Therefore, it can be described as an on-going learning and reflection process. The actions and the continuous reflection on them

supported the further actions. For instance, the literature review, interviews and participant observation revealed strong gender issues related to cargobike usage, which influenced the topic of the round table discussion, and the practices, communication and explanation of the co-researchers about of cargobike usage for newcomers.

4.2.1. Main learning points

The overall second research cycle revealed – among a wide range of topics – what kind of principles the collective aims to follow to comply with the environmental commitments of the co-founders. Other issues which were discovered during the research cycle concern how people relate to cargobikes and the several controversies about it, gender issues regarding cargobike use and the need for a cargobike sharing system. These topics, however, do not form core part of the dissertation.

The environmental considerations in the operation of the collective could be grasped related to the products and services offered, organization of and participation in events and to the operation of the collective. The products and services offered are inherently serve environmental goals according to the mission of the collective. But environmental concerns are not limited to the services and products provided or promoted by the collective. The co-researchers aim to comply with a number of principles throughout the organization of the activities of the collective which helps them to respect ecological boundaries. These principles emerged during the operation of the collective, through the choices and decisions made, and they were identified during the second research cycle. They are often interconnected to each other and are summarized in Table 11.

Principle	Practical examples	Contradictions
Preference of local, sustainable resources	Local, organic, seasonal food, Bike parts and accessories	Oil Promoting cargobikes vs food Lack of seasonal food vs participation Compostable plates are delivered from UK Personal tools, materials
Minimize material consumption	Emission free logistical solutions, deliveries by cargobikes Sustainable catering: compostable plates and cutlery Low-tech, DIY Sharing, reusing materials and tools	Materials delivered from abroad Personal practices, habits of the co-researchers
Link intellectual and physical work	Reflect and critically review potential practical solutions in the light of the knowledge of the co-founders Living classroom Diversity of activities	-
Shared know-how	Discussions and debates	-
Questioning personal habits	Humour, jokes Common jargon	Hurtful, harsh Exclusive
Staying small	Keep the 'human face' of the collective Avoid growth and financial investment	Limited reach
Conviviality	Informal gatherings	-

Table 11. Environmental principles of the Cargonomia collective. Own collection

The most visible environmental friendly choices can be grasped in the **preference of local resources**, ideally through the whole supply chain. Example given, locally produced food is cooked during community events, which is usually purchased from organic producers. During community events only vegan, seasonal food is served (in spite of that not all the co-researchers follow a vegetarian or vegan diet, they agree on

the need to shift toward a meat-free dietary regime to reduce the heavy environmental impacts of agriculture). During gardening workshops, the soil, seeds, seedlings are obtained from local partners. The preference of local resources are also applied to the cargobikes used by the collective. The co-researchers pay attention to obtaining cargobikes and trailers which are built by local mechanics, and to purchasing bike parts from local workshops and to reusing them as much as possible. Local partners are preferred even if they are more expensive or more difficult to purchase from them compared to larger wholesalers.

The co-researchers aim to **minimize the material consumption** which is required for the operation of the collective. On the one hand, the co-researchers are in an advantaged position, because the collective mainly offering services that do not require the production of many new goods and, thus, the use of raw materials. On the other hand, services also require tools and materials which, however, are aimed to be obtained by minimizing the consumption or production of new products. Therefore, the collective intends to use tools and materials which are already produced, instead of purchasing new ones:

"*For every service, for everything what we need, we first look in our network, in our know-hows, the tools what we have in common or we share with friends and so on in things which could be produced locally, how to mostly rely on what may be more sustainable or environmentally more friendly in recycling, reusing, sharing, put in common.*" (Member 3, 2022)

Low material consumption, thus, encourages many non-market interactions through sharing and reusing materials of other partners. The principle of low material consumption is also applied during event organization. As the co-researchers expressed, during dissemination events or workshops, the **infrastructure, logistics** and the organization cannot be disconnected from the content; it is important to pay attention how the event materials are delivered, by whom and for what purpose, where the event is organized, etc. Environmental principles can be touched upon in catering services (compostable plates and cutlery, reusable cups), in logistics (workshops materials are delivered by cargobikes) and in the infrastructure (tools are shared with others).

In minimizing material consumption, the use of **viable or convivial technology** plays an important role in the operation of the collective:

"We are trying to use a technology that requires little energy, appropriate or convivial technology." (Member 4, 2016)

It mainly manifests in using locally produced technology, especially bikes which can be repaired by local mechanics and organizing do-it-yourself (DIY) events. DIY events cover bike-repairing and upcycling workshops, and repair cafés to repair broken electronic tools. These type of activities help to reuse materials and electronic machines which otherwise would be thrown away. The emphasis on convivial technologies also entails a social aspect: it contributes to re-appropriate knowledge on technologies:

"Re-embed the economy in the reality, so that not all the goods need to be transported everywhere, that people can live with the local conditions and that they can share their knowledge, this requires DIY." (Member 4, 2016)

Linking intellectual and physical work was identified as an important principle which enables to respect the environmental commitments of the collective. It means that the knowledge on technology, agriculture, energy, logistics, etc. which are often required to understand complex, interdisciplinary problems faced during the operation of the collective, can be applied in practice. Example given, the co-researchers' understanding of the negative impact of industrial agriculture and its relation to consumption logistics and biodiversity, helps to find practical support for promoting organic food production and consumption through technical, social and logistical solutions.

Linking intellectual and physical work has a positive impact on the members' well-being given the diversity of activities which are involved in the operation of the collective:

"*It is also very emancipatory. We have this very large diversity of networks, of experience, of experimentation. It has become unique to be able to in a day or in a week to deal with children education, to deal with children, with more practical and technical issues, or to go to conference, etc. But it's a luxury.*" (Member 3, 2018)

The (intended) intellectual coherency between the practical issues and the commitments/mission of the collective is sustained by the diverse and wide range of knowledge and experience of the co-researchers in social, environmental and economic issues. The knowledge of the co-researchers cover the areas of food production, bike construction, transport, logistics, history of economics, politics, among others. Therefore, on the one hand, during decision making, many aspects of the given activity can be identified and critically reviewed. On the other hand, the richness in knowledge enables the co-researchers to learn from each other:

"I grew up with that my father was an entrepreneur, my mom was a private entrepreneur. I was into to make money. If somebody gives me hundreds of stuff I would have delivered that I didn't really thought about such issues. .. Now, a lot of things are narrowed down, cancelled, cut down" (Member 1, 2017)

The discussions and debates about potential projects, partnerships and activities create a type of **shared knowledge** on which the co-researchers can build:

"We learn from each other through our controversial debates, questioning each others' opinion, etc. which is our key pillar. That's our unlimited resource." (Member 3, 2017)

This habit of critically reviewing activities also involves **personal comments** on each other's individual choices in food, transport, electronic devices, etc. to push members even further in questioning what sustainable life is and to change their individual behaviour accordingly. These comments are often fuelled by an ironic, sarcastic humour which provides a lot of fun, joy and helps to get through the challenges and conflicts:

"*Can you take notes on your very smart device*?" (Member 3, 2018)

"*Which fancy device have you chosen to come to our meeting?"* (Member 2, 2017)

However, this jargon which characterizes the communication of the co-researchers, can sometimes be violent for outsiders or for people who are not used to this:

"*It's hard to tell the guys anything other than what they fundamentally think. You really need to be able to argue things.*" (Member 5, 2017)

"Jokes can be frightening." (Member 5, 2017)

Staying small is a goal and an advantage in itself to minimize material consumption and avoid increased energy demand. On the one hand, the collective aims to avoid having financial investment and enter into the "growth game". Therefore, staying small avoids the pressure to grow and to remain independent from individual, financial interest. On the other hand, a small organization has the advantage of having a 'human face': keeping personal relations with partners, customers and other local actors. Since, personal relations are crucial for reciprocal relations – which were identified as dominant relations of the collective in the previous research cycle – staying small is a fundamental condition of the collective which, at the same time, also contributes to complying with environmental commitments.

The operation of the collective, however, carries many **contradictions** related to its environmental commitments. The goal of having an impact and to reach people often contradicts with the strict, environmental principles of the collective. The preference of local, organic, seasonal food often encounter obstacles and even jeopardize participation in events or carrying out certain activities. Using cargobikes which serve food to promote best-practices of cargobike use in business for example, strongly compromises the principle of local resources:

"*We shouldn't have 20 types of shitty food on the courtyard while we have the best vegetable in the city*." (Member 2, 2017)

The lack of adequate resources thus often obliges compromises between the goals and principles of the collective:

"*This year the emphasis is on the cargobikes, last year it was the sustainable food, sandwich from Zsámbok with organic bread, now we rather emphasize the cargobike and not what is being delivered with it*." (Member 1, 2017)

„Exceptionally we can accept fruits which are not from Hungary." (Member 2, 2017)

The strict principles sometimes prevent the collective to support local businesses which otherwise share the values of the co-researchers:

„It (the olive oil) fucks up everything (…) it was asked by a journalist whether it is everything local, it fucks up everything that it's not local" (Member 3, 2017).

Other contradictions are related to the personal life of the co-founders. The co-researchers link the commitment of the collective and the personal, individual habits of the members which entails inconsistencies:

"If we would measure our personal life, we live in normal flats. We are quite outspoken in things like energy, but we are still quite embedded in the normal system of dwelling and residents. We don't necessarily participate in any kind of shared living or something like that even though these are things we might talk about"
(Member 2, 2022)

"*We use type of machineries, computers, mobile phones are unsustainable"*
(Member 3, 2022)

One of the main questions which emerged during the second research cycle among the co-researchers is how the collective deals with its contradictions. First, the most important is to identify, discuss and debate about the contradicting goals. Conflicting goals and processes of such an alternative organization are important part of the operation because they reflect on the contradictions between the dominant system and the desired World which such initiatives aim to construct. The contradictions shed light on the issues which are required to be solved. Therefore, identifying conflicts and contradictions are the first step to be able to work on them:

"The most important is not where you are but what are the dynamics: how you are aware and you work on your own contradictions" (Member 3, 2016)

The co-researchers apply three different strategies to deal with their contradictions: (1) exploring viable alternatives, (2) accepting compromises or (3) rejecting activities. Among these strategies, finding alternative solutions which comply with the environmental principles of the collective, is the most powerful. In addition to provide coherence for the Cargonomia collective itself, it can also help partners to apply more environmentally friendly processes. However, 'perfect' alternatives are often not feasible:

"*It is absurd to bring vegetables from 50 km far. But today we cannot do better*."

(Member 3, 2017)

"We cannot do everything from one day to another one. E.g. Zsámboki Biokert could be permaculture, and be in the city if it is producing food for the city. Ideally, I would be much happier working with a Zsámboki Biokert who would be agroforestry, and using the street where 50 % of the public spaces are occupied by parked cars" (Member 3, 2017)

An acceptable compromise depends on the comparison between the potential social, cultural, political benefits and on the level of inconsistency with original vision of the collective. Therefore, accepting non-local fruits to promote cargobike use while cooperating with a local partners is acceptable, while participating in a car exhibition for the same purpose to support an international can company is not.

Critical reflection on each potential project empowers the co-researchers to say no to some of the activities. As one of the co-researchers articulated it, one of the roles of the collective lies in the ability to identify systemic contradictions and to share it in the network of the collective:

"*Cargonomia's role is also to help/push its partners even further in degrowth*[12]*, to question themselves through the cooperations and help to deconstruct the contradictions. Or to make the people at least aware of the contradictions without judging them.*" (Member 3, 2017)

The understanding of the co-researchers is that alternative organizations often face such ambiguities, because – as one of the co-researchers labelled the collective as – transition type of organizations have to co-exist with the dominant economic system, and being embedded in a society which is unsustainable while working to implement a sustainable one:

"We are reliant on some pretty traditional part of the system which we criticize to

[12] Degrowth is a movement and an activist lead research field aiming at the downscaling of economic production and consumption while increasing well-being and improving ecological conditions through cultural-political transformation of the society (Schneider et al, 2010).

reach people, especially in communication" (Member 2, 2022)

As all the potential projects and activities of the collective are critically discussed and reviewed by the co-researchers, inconsistencies often emerge at an early stage of the decisions which gives time to apply the adequate strategy. An important aspect of these decisions is that – in contrary to any for-profit organization – the environmental principles overrule the financial interest.

The whole operation is characterized by a convivial type of organization**. Conviviality** – as defined by the co-researchers – refers to the importance of the processes in place of the actual results, the quality of participation and to the loyalty to the original vision of the collective. Conviviality thus lies in the ability of enjoying the activities, putting emphasize on 'having fun' while trying to have an impact. Conviviality have a role in dealing with the contradictions as well in form of jokes which gives strength to the cooperation among the co-researchers:

"*The pears from Argentina were delicious... we deal with our contradictions!*" (Member 3, 2017)

"Don't put a Bullit[13] *on your wall it would be a shame to relocalisation!"* (Member 4, 2017)

4.2.2. Methodological considerations

During the second research cycle, the main challenge was to balance between practical and methodological issues, especially regarding the evaluation of events. Reflecting on the results of the events sometimes was considered by the co-researchers as a waste of time. As one of the co-researchers expressed, meetings needed to be "Quick and effective!"

"You have to keep running to implement activities (…) you might never have the chance to step back and say hey, how successful we were, and review our successes,

[13] Bullit is a cargobike engineered and sold by an international company who hold the rights and ownership for the design, which makes it difficult and expensive to access spare parts for reparation.

*to see how successful we were or how we are compared to our targeted goals, it is very difficult to do this" (*Member 2, 2017)

According to the co-researchers, to review what we have achieved or to reflect on the qualities of working together, on the group dynamic, etc. could be discussed informally:

„*It's what we usually do in bars just you don't do it in bars but you do it with post-its with a methodology*" (Member 3, 2017)

Therefore, especially in the beginning of the research cycle there was a tension between me who was pushing for these conversations (because I believed that these reflection points served the interest of the collective), and some of the co-researchers who intended to allocate limited time to speak about subjective perceptions, feelings, or what has happened.

"I was really frustrated during the meeting, especially when I tried to gather information about the event, and he did not let me ask too many things about that: One-two sentences from everybody, and then that's enough, let's move on!" (research diary, 2017)

In spite of that, most of the time the research team managed to answer these questions. Furthermore, it soon became a usual habit of the co-researchers to evaluate the events systematically.

During the organization and evaluation, the co-researchers turned out to be very critical related to the mission of the collective and the organization of and participation in events. The main critics which emerged during the research cycle was the lack of inclusivity of the members of the collective:

*"Most of us are used to working for free/little/no money. We can't assume that any other partners would do this, so we will have to keep this in mind." (*Member 2, 2017)

"It is an obstacle that we can only involve people who can self-organize themselves like us" (Member 5, 2017)

It is challenging to participate in an organization which is *"largely based on volunteer*

time, especially in the local environment where people do not necessarily have the financial comfort to give 2 or 3 hours on the way home from work to something, is demanding from our members, so it's even hard to meet regularly, you need to be a very efficient communicators to be sure that everybody has the chance to express their opinions, their ideas, the goals for the organization." (Member 2, 2017)

In spite of the challenges in the beginning of the research cycle and the intention of the co-researchers, surprisingly many conventional data collection method (such as interviews, participant observation) was used. These methods and findings have provided with many new insights regarding cargobike use, which helped to develop the third research cycle.

4.3. Third cycle

During the third research cycle co-researchers aimed to develop a cargobike sharing system based on the leanings of the two previous cycles. The idea of developing a cargobike sharing system emerged during the second research cycle to improve cargobike accessibility and use, and to broaden partnership with local actors. The planning **phase of the third cycle** involves the identification of the desired cargobike sharing model through a scenario planning workshop. Scenario planning (Johnson et al, 2012; Stojanovic et al, 2014) enables the exploration and the evaluation of different models of cargobike sharing systems. The three-hour-long workshop which was dedicated to explore cargobike sharing scenarios took place on 5th of February 2018. The participants cover the active members of the collective which at the time of the workshop included four members.

Three different types of potential cargobike sharing systems have emerged among the co-researchers during informal discussions of the second research cycle. In order to develop and properly evaluate the options reflecting on the mission and the principles of the collective, I suggested to use the same analytical model as in the first research cycle. Thus, the co-researchers developed three different cargobike sharing scenarios based on the Polanyian substantive understanding of the economy using the institutional logics which have been recognized and defined during the first research cycle. The main distinction between the scenarios can be grasped by the dominating logic which describes each scenario. One of the cargobike sharing scenario is

characterized by reciprocity and related logics, the second one is dominated by market logic, and the third option is defined by redistribution. During the workshop, the co-researchers identified the required (and available) resources, interactions and potential partners, and classified them according to each scenario. The exercise was visualized which can be seen on Figure 7.

Figure 7. Cargobike sharing scenarios. Own construction and photo

Each scenario was named by the co-researchers: ‘Cargonomia-model’ dominated by reciprocal, non-monetary transactions envisioning cooperation with partners; ‘For-profit model’ involving financial investment and pursuing income generation; and ‘Public supported model’ cooperating with local authorities. The development of the cargobike sharing scenarios was followed by identifying and analysing their advantages and disadvantages taking into account the original mission and the environmental principles of the collective. The result is summarized in Table 12, a detailed report about the workshop can be seen in Annex 9.

Name of the scenario	Description	Advantages	Disadvantages
Cargonomia-model	Based on the existing resources and partnerships of the collective, dominated by reciprocal relations	- no further resources are needed to launch the project, the resources of the collective, established partnerships, knowledge and experience is sufficient to start it - does not question basic values of Cargonomia, the collective can keep control on it - allows practising political activism - less administrative requirements e.g. insurance - less risky from a financial point of view - participatory: hosts need to agree on the goal, goals need to converge, responsibility is shared with them	- limited time, infrastructure, financial resource and thus limited reach of the project, bigger impact is depends on the capacity of the members to develop it - risky from the point of view that it requires a lot from the members, it puts more responsibility on the collective - it depends on the personal input of the members of the collective: volunteer work, time, and also on volunteer resource contribution and donation (e.g. bikes)
'For-profit model'	Market based operation when the model should create profit	- bigger impact, much more bikes, much more professionalism - pays the people to handle the things, potential employment - relieves some of the management responsibilities	- questions the basic values of Cargonomia. moves away from a very alternative form of cargobike sharing system: risk of 'green social washing' - excludes potential hosts who do not have the financial capacity to buy/host bikes

		- better marketing	- no place for political activism - commodification of the knowledge, resources, and everything what the members would put in the development of the system
Public supported model	Model developed in cooperation with public authorities (e.g. local municipalities, public transportation)	- bigger impact, using public infrastructure - the aim of the model would not be overruled by profit and a lot of reciprocal activities could remain	- would lose a bit the 'soul' of Cargonomia - high administrative requirements due to Hungarian institutional context

Table 12. Cargobike sharing scenarios. Own collection

The main dilemmas among the developed cargobike sharing scenarios concern the potential reach of the project and its consistency with the mission of the collective.

Based on the analysis, the **Cargonomia-model** seems to be the most compatible with the mission of the collective due to the dominant, reciprocal relations. This model describes a cagobike sharing system in which cargobikes owned by the collective or by private persons are distributed in the city and hosted in community places. It is based on the available resources of the collective and the personal donation of its members (including a couple of cargobikes, trailers, tools, partners, volunteer time, etc). The envisaged sharing system is based on monetary or in kind donation and human interaction: potential users could borrow cargobikes in exchange for donating a certain amount of money or in barter. Solidarity could play an important role, because cargobikes would be shared with partners who would need delivery tools for a 'fair' reason (delivering food for disadvantaged families, collecting garbage in an abandoned area, etc.). Bikes would be handed over personally at partners' places to ensure the 'human face', the personal encounters in the sharing system. However, the potential reach of the model seems to be limited:

"It's not a naive, it's a small demo project. From my perspective it is more awareness raising." (Member 1, 2018)

The **for-profit model** promises broader reach. The development of the model requires financial investment which would allow larger bike-fleet, greater outreach and probably bigger impact in terms of number of cargobike users. High-tech solutions could play a bigger role in this model, including mobile applications, electronic lockers, gps tracker, etc. It would allow (and require) the investment in electronic cargobikes which are perceived to be more user-friendly compared to the traditional ones. The model allows the financial compensation of the partners who would host bikes. Therefore, the range of potential partners is wider since they don't need to follow the same values of and don't need to have converging aims with the Cargonomia collective. The financial investment, and thus the pressure of creating profit however, would require the implementation of market-based approaches and relations which "*would kill the soul of Cargonomia*" (Member 3, 2018). Electronic cargobikes for instance, offer great opportunity for promoting this type of delivery devices because they promise easier ride. But electronic batteries and the required

natural resources, technology and energy to construct them, from an environmental and social point of view are highly problematic (Chatterton, 2016; Nikolaeva, et al., 2019) and contradict with the environmental principles of the collective (which was detailed in the previous research cycle). Moreover, based on the collective's actions research findings (see second cycle), the barriers of cargobike use are rather social than technical. Based on the analysis of the co-researchers, the pressure of income generation would overrule social and environmental issues and the model would move away from political activism.

The **public supported model** envisages the implementation of a cargobike sharing system in cooperation with local authorities. The public supported cargobike sharing system would be integrated in the public transportation system and available city-wide. It promises potentially high reach and the potential to comply with the mission of the collective. The knowledge and infrastructure created by the Cargonomia collective would serve the interest of the public. Nevertheless, this model at the time of the research seems to be unfeasible from a technical-administrative point of view due to the Hungarian institutional context. A successful cooperation to implement a cargobike sharing system with public authorities might become viable in long term.

Based on the comparison of the three models, on the available resources, capacities, the mission and the environmental principles of the collective, the co-researchers have selected to implement the 'Cargonomia model'. This model similarly to the operation of the collective itself, is based on a diverse, plural economic model. The **actions of the third cycle** cover the implementation and the initial operation of the sharing system taking place between 05/02/2018 and 07/09/2018. The implementation of the cargobike sharing system includes technical, logistical and communicational tasks. Technical tasks refer to the development of the online system (available at www.kozteherbringa.hu), inventory of available cargobikes and exploring the legal framework. Logistical tasks cover selecting and approaching potential hosting partners, delivering bikes and organizing launching event. Communicational tasks include the development of an easily comprehensible narrative of the system, promotion through social media, radio interviews, communication with the partners

and users and producing a video about the sharing system[14].

As a result of the actions, five cargobikes were distributed in four locations in Budapest. Among the host places we can find bicycle workshop, university, a civil organization and a hostel. Following the launching event on 29th March 2018, several radio interviews and online communication, from April, 2018 a few rentals per week were registered in the system. Data was collected about the implementation and operation of the system by participant observation, informal discussion with hosts and users and through online feedback from the users in form of photo-documentation (see a few examples on Figure 8).

The **reflection** on the results occurred during regular meetings of the collective between 29/03/2018 (the launching event of the cargobike sharing system) and 07/09/2018 (the last team meeting in which I participated as a researcher) in order to continuously improve the system. The achievements were evaluated regarding the desired impact, the targeted public, the quality of the cooperation with partners and with the locations.

In terms of having a positive impact on cargobike use in Budapest, on the one hand, the cargobike sharing system met the minimum expectations of the co-researchers through the few rentals per week. The sharing system gave more visibility to the cargobikes offered by the collective thanks to the online platform and to the increased communication related to the launch of the project. On the other hand, the reach of the sharing system is quite limited regarding the number of new cargobike-users. Most of the customers of the sharing system already used cargobikes. This suggest that cargobike use is a privilege of a very narrow, environmentally conscious social group in Budapest. In addition to the public, the quality of the cooperation with partners turned out to be challenging too, which is detailed under the 'Main learning points'. The cooperation with partners and the reactions of the users shed light on the challenges and weaknesses of the system which helps the co-researcher to further

[14] The cargobike sharing video was produced as part of the New National Excellence Program supported by the Ministry of Human Resources, available at: https://www.youtube.com/watch?v=4xAQQaiioAw&ab_channel=Cargonomia

improve the sharing system.

Figure 8. Examples of cargobike usages in the cargobikes sharing system. Source: Cargonomia

4.3.1. Main learning points

The co-researchers identified the advantages and disadvantages of the implementation of the cargobike sharing system based on a diverse and plural economic model (addition to those which were identified in the time of the planning), which are summarized in Table 13. The research cycle also revealed how the wider community can participate in an economic model based on reciprocal, solidarity relations.

Advantages	Disadvantages
• offers freedom • financially less risky • diverse, self-organized structure • it can reflect on environmental and social values • dependence on local knowledge and resources • allows practising political activism • simple administration processes • participatory	• limited reach • depends on personal, individual input • difficult to communicate • users' preference of fix price • cooperation with partners requires investment in personal discussions • limits of reciprocal relations: not feasible for every potential partners

Table 13. Advantages and disadvantages of the implemented cargobike sharing model. Own collection

The sharing system was implemented without any financial investment and thus it avoided further financial pressure. According to the co-researchers it permits a certain freedom:

"It also offers time and freedom. Without loan to pay back you can stop for 6 month and think to see what we will do in 6 month, we can say that we start a project when we are ready." (Member 3, 2018)

The diverse 'resource-portfolio' and the self-organized structure which characterizes the implemented sharing system was identified as on of the strengths of the model: it provides flexibility and resilience. The human interactions and social relations related to handing over and managing the bikes, can substitute (unnecessary) technical solutions (e.g. electronic lockers). The sharing system involves locally produced or second-hand bikes and trailers. Therefore, the maintenance depends on local mechanics instead of geographically distant, mass-producing cargobike companies. The dependence on human interactions and local resources and knowledge enables the system to respect environmental principles of the collective.

The donations-system turned out to be functional in spite of the contradictory expectations:

"You are very naive to think that it will work like this, based on donation, and offer it for free." (User's feedback, 2018)

"They take it (the bike) out, they pay the donation, or not, who knows it's a donation. But they will I am sure." (Member 1, 2018)

The financial donations received for the use of the bikes cover the maintenance of the bikes and other small costs of the system. At the same time, the donation-basis delivers the social aspect of the system: users can contribute to the sharing system according to their capacities. Therefore, the co-researchers arrived to the conclusion that the absence of the pressure to produce financial profit allows to respect social values. The coherence of the system with the environmental and social aspects allows to practise political activism.

One of the main pillars and strengths of the implemented sharing system lies in the principles of the cooperation with the host partners. The cooperation with partners who host and hand over bikes to users aims to strengthen partnership between actors involved in local sustainable movements. Partners are invited to participate in the sharing system to enhance urban sustainability based on reciprocal relations instead of income generation. Obviously, participating in the sharing system by becoming a host carries some 'business' advantages as well, such as greater visibility, increased number of visitors, network, etc. But the system rather counts on the partners' commitments toward urban sustainability:

"*What do the partners get if they host a bike? - Celebrity. - Basically, nothing. You do it, because you believe in it."* (Member 1, 2, 3, 2018)

The cooperation based on common interest rather than profit aims to broaden the reciprocal/solidarity practices of the Cargonomia collective to a wider community. The solidarity-basis aims to empower the partners to be responsible for the bike which is allocated to them:

"We would like to create a grassroots initiative in which everybody is responsible for his or her bike not because it financially worth it but because he or she agrees with the principles of cargobike deliveries." (Member 2, 2018)

The dependence on reciprocal relations also implies simple administration processes, which was identified as an advantage of the implemented sharing system.

The results of the implementation of the cargobike sharing system raises many questions and challenges as well compared to the initial aim of the project. The limited number of available cargobikes and locations, the limited personal capacities to promote it lead the sharing system to be used by members of a quite closed bike community. Users often have personal relationship with the owners of the bikes, or with the location where the bikes are hosted. This means that the cargobike sharing system is used by a very narrow, environmentally conscious social group in Budapest. These results imply that the societal impacts the collective so much want to see to happen did not materialise within the given time frame.

Furthermore, users find it challenging to participate in the sharing system if not by means of financial support. An often asked question among users is the following:

"I understand that it is based on donation, but really, how much is the rental?" (Cargobike renter 1, 2018)

On the one hand, this type of questions suggests difficulties in the communication of the donation system. In spite of the efforts of the co-researchers, they were unsuccessful to widely share the main reason behind the donation system. On the other hand, it refers to users' preference toward fix price. Based on the feedbacks and the observation of the users, they feel uncomfortable to decide themselves about the contribution. Users seem to consider themselves as consumers rather than potential peers of the sharing system who could participate in the maintenance in a plenty of ways.

The reciprocal relations which form the basis of cooperation with partners, in addition of being the strength of the system turn out to be a limiting factor that brings new challenges as well. The cooperation needs to be based on converging goals, on the understanding of a plural economic model and on respecting ecological boundaries. Compared to the co-researchers who went through a learning process in developing an alternative economic model by questioning the hegemony of the market-centred economy and by implementing a community sharing system, there is no reason to expect a similar understanding from potential partners. It (would) require a lot of personal discussion and organization to share the motivation, interest and goals of each partners, which is given the limited capacities both of the co-researchers and of the

partners seems to be very challenging.

The reciprocal relations also raise technical barriers. Reciprocal relations are based on personal interaction and trust which are not compatible with some, usually bigger, hierarchical organizations such as public institutions or larger companies:

"Because it's a company, they will want to have a contract, they will wanna know about the business model: people arrive, they give money, where the money is going to, who is making the bill" (Member 3, 2018)

This forbids some of the partners to join who would otherwise willing to participate (because they agree with the goals or would like to support the project).

These contradictory results raise the question whether the sharing system – in spite of the planning process supported by the AR – was developed carefully enough, paying attention to a wide range of circumstances, interest of partners and users, legal conditions. Or other participatory processes involving the wider community should have been implemented to provide – better – embeddedness of the project in the local social context.

4.3.2. Methodological considerations

The overall third cycle helped the co-researchers to use a theoretical framework to better understand the relation between the collective and the dominant market centred economy, and to implement new actions to broaden their understanding of solidarity and ecological sustainability in developing partnership with local actors and interacting with cargobike users.

The greatest challenge was to gather sufficient data about the operation of the sharing system within the given timeframe. The workload of launching a new project and the limited time capacity of the co-researchers hindered to apply systematic data collection methods to explore the experience and the opinion of users and partners. Therefore, the feedback is limited to informal – usually online – discussion with users of the system and with the hosts.

The evaluation of the system depends on the critical and reflective approach of the co-researchers. In spite of the limited data, the third research cycle revealed many

learnings, achievements and contradictions of the implementation and operation of the system which are presented above.

CHAPTER 5. CONCLUSION

The chapter outlines the main research findings by addressing the research questions. Then, the sub-chapters present the main analytical results as follows; the implications of the radical sustainability approach on the environmental aspects of SSE initiatives; the contradictions which have emerged based on the empirical results; the underlying organizational logic which enables to apply strong environmental principles; and some further insights related to the role of work and to the limitations of the research are shared. Finally, some of the implications of the empirical results on future (action)research is outlined in the Summary.

In presenting the results, I build on the common understandings and perceptions produced together with the co-researchers during the AR, but the conceptualization of the research results inevitably based on my own interpretations.

5.1. Main research findings

The main research question of the dissertation – *How the ecological aspects can theoretically and practically be included in the social and solidarity economy?* – can be addressed through the sub-research questions in light of the conceptual framework.

i. What kind of environmental principles an SSE initiative can follow? How? What are the limits and contradictions?

SSE initiatives can follow some environmental principles to comply with the radical sustainability approach. The empirical research revealed a diversity of environmental principles which an SSE initiative can follow, including limits and contradictions. The environmental aspects following the radical sustainability approach stressed by the empirical results are related to reducing energy and resource consumption, downsizing material consumption, viable technologies, localization and the personal behaviour of the members (discussed in Chapter 5.1.1). Chapter 5.1.2 outlines how to handle contradictions based on the empirical results.

ii. What makes social and solidarity economic initiatives sustainable?

iii. What the social and solidarity economy can offer for sustainability?
iv. What is the underlying logic of SSE initiatives which can support radical environmental sustainability?

The empirical results demonstrated that the environmental aspects identified can be followed in practice if decisions are not made based on profit but on the potential social and environmental impacts. The prioritization of environmental principles becomes possible through, or embedded in, the organizational structure of alternative organizations which are distinct from market oriented (or from public) ones (Johanisova & Franková, 2013). The empirical research highlighted some of the aspects of the organizational structure which enables SSE initiatives to follow the radical approach to sustainability (detailed in Chapter 5.1.3). Beyond the organizational structure, the empirical results revealed the capacity of SSE initiatives to redefine the meaning of work, which can also support radical sustainability. The role of work within SSE initiatives is discussed in Chapter 5.1.4.

v. What are the limits of social and solidarity economy within the environmental discourse?

Finally, the results shed light on some of the limits within the context of the empirical research, mainly related to the high degree of personal commitment. These are discussed in Chapter 5.1.5.

To sum up, **ecological aspects can be included in the social and solidarity economy theoretically and practically through:**

- respecting certain environmental principles
- dealing with contradictions
- applying an organizational structure which allows to prioritize environmental and social values over financial gains
- redefining the meaning of work.

5.1.1. Environmental aspects

The research explored what type of environmental issues a SSE organization can consider in its operation based on a radical approach to sustainability. The implications of the radical sustainability was explored through the operation of the Cargonomia collective. The SSE literature presented in Chapter 2.2.5 suggests that the

sustainability of SSE initiatives can be grasped through their products and services and their production processes, their impact on material consumption, their localized character, the behaviour of the members. The empirical findings outline the implications of the radical sustainability approach on these aspects of the SSE initiatives.

One of the consequences of the radical approach to sustainability is the significance attributed to the physical limits of economic production which constrains the activities of any economic organizations. On the one hand, they have to minimize their ecological impacts through **reducing energy and resource consumption** in their production processes (Johanisova & Franková, 2013). On the other one, **downsizing material consumption** (or in other words minimizing sales of material goods) is also an important pursuit to respect the physical limits of economic production (Loh & Agyeman, 2019; Kawano, 2018).

Regarding the production processes, the targeted collective of the research does not produce new goods which would require a large amount of raw material. The empirical results highlighted that reduced resource use can, however, be pursuit while providing services too. Logistical and infrastructural choices of the Cargonomia collective (through emission-free, low-tech logistical solutions, local, meat-free catering services, and avoiding unnecessary carbon-based transportation) contribute to the radical sustainability approach. These sustainable logistical and infrastructural choices allow the collective to be coherent with its narrative: The vegetarian local food which has been delivered by cargobikes, offered in compostable plates during recycling workshops or presentations about sustainable transition, connects the context to the content.

Concerning the impact on material consumption, SSE initiatives can encourage low level material consumption through decoupling material wealth from satisfying needs / well-being (Henfrey, et al., 2019). The targeted collective of the AR aims to minimize material consumption through encouraging partners and customers to share and reuse tools and materials. According to the radical sustainability approach, however, the sharing and reusing of goods should not lead to increased consumption (see the rebound effect, Málovics & Bajmócy, 2009). It needs to be accompanied by and embedded in social relations, outside of the realm of market economy. Therefore, as

the empirical results demonstrate, the sharing of cargobikes, for example, cannot be accompanied by profit-orientation, because that would lead to increased material assets and to a shift from prioritizing environmental benefits toward financial interests.

Both the above mentioned aspects (reducing resource-use and material consumption) can be touched upon related to the question of technologies. The radical sustainability approach emphasizes the role of **viable technologies** (Gowdy & O'Hara, 1997). In spite of the spread of green, smart, often expensive and exclusive technical solutions globally, the research shed light on the significance of low-resource intensive, locally reparable technologies. Low-tech, or convivial technology phrased by the co-researchers, contributes to reduce resource consumption by reusing materials and by repairing tools. Furthermore, low-tech is not limited to the physical, technical aspect of sustainability; it contributes to democratizing knowledge and to mitigating the dependence on the carbon-intensive, growth oriented economy (Nikolaeva, et al., 2019). Among the activities of the collective, sharing know-how about repairing things during the repair cafés and DIY bike repairing workshops, and encouraging cargobike use increases the potential to create a transportation system and local communities which are less dependent on the global production of oil.

The **localized character** of the SSE initiatives reflects on the hierarchical relation and strong interdependence between economy, society and the natural world. Using local resources, cooperating with local actors, and working for the local community contribute to being responsible for the local context and thus for local natural resources. Initiatives with localized activities and production can take into account the available resources and also the absorptive capacity of the natural environment (Munda, 1997; Gowdy & McDaniel, 1999). If negative environmental externalities are not outsourced to distant places, the initiatives causing the problem can take the responsibility and can take immediate counter-actions (Johanisova & Franková, 2013; Henfrey, et al., 2019).

The empirical results highlight some of the options related to food and logistical solutions to take into account the local environmental context. The results furthermore, confirmed the positive social impact attributed to the cooperation among local actors. Cooperating locally mutually supports local partners, and contributes to enrich and strengthen local knowledge and capacities. The cooperation with local actors, and

therefore localization provides embeddedness in the local social and environmental context (Johanisova & Franková, 2013; Barkin & Lemus, 2014).

The question of sustainability is interlinked with the **behaviour of the members** of SSE initiatives too. According to Mihály (2021) and Johanisova and Franková (2013), the environmental performance of the initiatives is defined by the personal commitment of the members – which is underlined by the empirical results as well. In turn, the organizations can have an impact on their members' behaviour through technical-practical incentives (see examples in Sahakian & Dunand, 2014), or by questioning, debating and discussing personal habits (i.e. organisational culture) as presented in the empirical results. Critical review on personal habits through discussions and personal interactions (in case of the presented AR including jokes), can push individuals to change daily habits and behaviour which better respect environmental barriers. The impact on personal level unfolds the interlink between the analytical, macro-, the organizational meso- and the individual, micro level.

5.1.2. Dealing with contradictions

The empirical results revealed that following a radical sustainability approach is not evident and not easy. In case of the Cargonomia collective, many contradictions and obstacles arise related to the principles of the initiative and to the external, contextual conditions. The empirical results highlight that an alternative initiative committed to radical sustainability faces many contradictions in addition to the potential achievements. Both achievements and failures, however, can contribute to learn and enhance sustainability if they reflected upon.

The strategies of the Cargonomia collective (exploring viable alternatives, accepting compromises, rejecting activities) can serve as guides or starting points for further exploring and implementing coping strategies. The difficulties, contradictions and coping strategies raise awareness to the importance of critical reflection. Alternative organizations questioning the prevailing economic and political status quo has to be able to reflect on systemic contradictions (Quiroz-Niño & Murga-Menoyo, 2017). The ability to critically reflect on analytical-conceptual issues (such as on the complex question of sustainability) through daily acitivites of an organization can be supported by AR methodology as presented through the empirical case. The cycles of actions

and reflections can help to develop and adopt critical sences. Nevertheless, the empirical results reveal that sustainability is not an achivement at a point in time, but rather a journey over time which requires continuous negotiation, learning, reflecting, evaluating and adapting.

5.1.3. Organizational structure

The empirical results highlight three aspects of the organizational structure which can enable a SSE initiative to follow strict environmental principles. The understanding of the co-researchers is that market based solutions in the operation of the collective would overrule social and environmental values. Therefore they aim to avoid these and implement alternative processes. These alternative processes of the organizational structure are democratic governance, staying small and applying a plural economic model.

The democratic governance structure which – ideally – characterises the SSE initiatives carries the opportunity to make decisions which respect environmental aspects. Democratic decisions enable to follow collective interests rather than individual (financial) interests (Barkin & Lemus, 2014). Democratic governance however which is limited to one-person-one-vote or to similar practices (examples given in Johanisova & Frankova, 2017) does not necessarily lead to environmentally conscious decisions. Furthermore, the common interest of an SSE initiative might seek growing, producing more or offering more services (e.g. to generate more income for the community) which contradicts with strong environmental values.

The empirical results suggest that democratic governance should be accompanied by discussions, debates, questioning goals and assumptions which allow critical reflection (features and practices of a deliberative democratic ideal). The importance of critical sense has been already touched upon related to the contradictions. Critical reflection in the Cargonomia collective is assisted by a diversity of knowledge and experience which is shared among the co-researchers. Linking intellectual and physical work which characterizes the activities of the collective also enables the co-researchers to review practical activities in the light of scientific knowledge. These results suggest that following a radical sustainability approach is a multidisciplinary task which requires the ability to link environmental, social, political and economic

issues. Sharing know-how, sharing tasks and information can support the capacity to review and assess a wide range of different disciplines.

Staying small is a goal and an advantage in itself. Remaining relatively small allows the members of the initiative to keep their control over the organization (Johanisova & Franková, 2013) and to follow with their own (environmental) principles: *"to find a balance, and also to avoid an investor and losing our independency, but to maintain our independency and ability to make our own decisions"* (Member 3, 2017). Furthermore, according to the empirical results, being small-scale guarantees the 'human face' of the collective which allows the members to identify themselves with the impacts of the organization and with the organizational culture. The strong commitment and loyalty to the organization and to its activities increases the responsibility toward the local community and to the local environment which are touched by the activities of the collective.

The research revealed that staying small supports the collective to remain locally embedded, to maintain social relations with the direct partners and with the members of the wider community (e.g. citizens of Budapest). These social relations are essential to cooperate through social, reciprocal relations, instead of exclusively through market or bureaucratic ones. The empirical results, thus, reinforce that small-scale initiatives are more likely to be free from existing social, political and infrastructural lock-ins of the carbon-intensive economic system, and to successfully experiment different forms of livelihoods (Penha-Lopes & Henfrey, 2019). Altogether, the absence of the pressure of growth contributes to the operation of an organisation in which moral decisions are not overruled by profit generation.

Staying small, however, may contradict with the desired impact of the Cargonomia collective. Increased impact can be reached in case of such initiatives which pursuit social change, through the replication of the activities/projects instead of scaling up through the size of the organization (Vickers & Lyon, 2014). Another strategy to increase the positive impacts is to create networks of initiatives with similar interests, for instance, along value chains (Kumbamu, 2018; Loh & Agyeman, 2019). The replication of the initiative was perceived challenging by the co-researchers, due to the implications of the special organizational structure. But creating networks through local and international partnership was identified as one of the main strengths of the

collective. Networks of SSE initiatives can mutually support each other against market pressures, and local partnerships also contribute to the local embeddedness of the organization.

The plurality in the economy which describes the different principles of economic relations on macro level, also refers to the form of involvement of resources within SSE initiatives (Laville & Nyssens, 2000). Non-monetary and non-market relations are emphasized beyond market exchange, which differentiates SSE initiatives from market-oriented ones. Inspired by existing studies (Lemaitre & Helmsing, 2012; Mihály, 2017), the empirical research revealed the diversity of resources involved in the operation of the Cargonomia collective through the operationalization of Polanyi's concept of the substantive economy. Beyond the practical outcome of providing a better explanation of the rationale of the collective, the results also demonstrate links between the plural economic model and the radical sustainability approach.

The **plural economic model** allows the collective to step out from the growth-oriented, market economy which has been identified fundamental to comply with a critical environmental approach (Johanisova & Franková, 2013; Penha-Lopes & Henfrey, 2019). It creates a balance between different resources – which can be accessed through reciprocal relations, redistribution, market exchange and the combination of these – and, thus, eases the dependence exclusively on market exchange. The plural economic model, relying on socially embedded economic relations in addition to monetary income, such as cooperation based on barters, donations, and other in-kind contributions, liberates grassroots, economic initiatives from financial pressure. Therefore, income-generation does not have to be prioritized over social and environmental principles.

Furthermore, the emphasis on socially embedded relations can directly contribute to minimize resource demand through sharing, reusing and putting tools in common use. Instead of buying and investing in new assets (which would increase resource consumption), resources can be accessed through social relations: *"We value the importance of social interaction as opposed to financial exchanges and benefits – which is the core of environmental issues, it should be in the core of sustainability discussions that to reduce your environmental footprint you cannot produce the same amount of profit but you have to prioritize social interactions"* (Member 2, 2016). The

plural economic model allows a locally embedded initiative to access available resources within its network without high financial engagement while minimizing its negative environmental impact.

5.1.4. Role of work

The democratic governance, staying small and the plural economic model refer to the *organizational* structure of an initiative. The empirical results revealed, however, that to follow such an alternative organizational structure cannot be possible without strong personal commitment. In case of the presented AR, members of the collective **apply the plural understanding of the economy on the individual level** as well. Members of a collective, which relies on the plural economy, have to move away from satisfying their own needs exclusively through monetary income. Non-monetary and non-market goods can also contribute to individual well-being, which can be appreciated and valued while participating in such a collective. In the empirical case under discussion, the co-researchers can rely on locally produced, organic food, access to land, cargobikes, skills they develop during activities, joy, experienced community, knowledge on repairing things, conviviality, network – in-kind and material resources which they gain through their membership of the collective. It does not mean that earning monetary income through paid jobs becomes unnecessary. In case of the co-researchers, however, a full reliance on having a paid job is less of a need due to the fact that they can also count on the diversity of resources what they can get access to through their membership in the Cargonomia collective.

The plural understanding of the economy in relation to the individual level does not imply shifting responsibility from organizations and communities to individuals. On the contrary, relying on a diversity of resources which are embedded in social relations is fundamentally relational. It refers to mutual dependence and responsibility toward each other: "*But if you say, do it. And don't say that hey I am a volunteer and I didn't have time to do it*" (Member 1, 2018).

The implications of the plural economic model on the individual level suggest that SSE initiatives are capable of **redefining the meaning of work**. Work in the empirical case is not primarily marked by monetary income, but by the value which is created for the local community, by joy and by meaningful activities: *"it is much easier to*

keep something alive which does not pursuit profit, where profit is not in the centre, because you can do what you like to do, also if you don't get money for it. Then, you have to find survival possibilities, but that can be done based on what you know and what you are able to do" (Member 4, 2016). Work within the collective is considered a process which allows self-realization while creating benefits for the society: *"You don't separate your professional capacities from your activist tendencies and desires"* (Member 2, 2018) / *"We question division of work, not based on economic rationality but based on human interaction and what makes sense for the local community and to the society"* (Member 3, 2016).

To give an accurate definition of work goes beyond the ambitions of the present dissertation. But raising critique against the meaning of work as a tool for income generation, links the SSE to the critical ecological discourse (see Köves, 2015). Within the SSE literature, the role of paid workers and volunteers often emerges (Laville & Nyssens, 2001; Seyfang & Longhurst, 2013). Beyond the dichotomy between paid and unpaid employees, however, the diversity of provisioning, reciprocal relations which describe the participation in SSE initiatives, can be conceptualized as the decommodification of work. To extend the meaning of work to unpaid, non-monetary, reciprocal and non-market activities based on a holistic understating of work (Nierling, 2012; Gibson-Graham et al., 2013) can further strengthen the critical aspect of the SSE.

The implications of decommodifying work in relation to sustainability is that, it can shape social imaginaries which has been identified as one of the blockades to move away from the desire for material consumption (Mihály, 2021). It has been argued that shifting the emphasis from satisfying human needs through material consumption to satisfying needs through social relations can contribute to downsizing material consumption (Kallis, 2012; Hayden, 1999; Nierling, 2012). Social relations can compensate for reducing material goods (Penha-Lopes & Henfrey, 2019). The empirical results highlight that SSE initiatives can contribute to decouple well-being from material consumption by reconceptualising work through personal experience.

5.1.5 Limits

The empirical findings of the AR reveal that following a radical sustainability

approach is more complex than offering environmentally-friendly services or products. Sustainability, in addition to technical solutions, is interlinked with **social, economic and political processes.** The application of the plural economic model carries the opportunity to follow a radical sustainability approach. The personal commitment on which the activities of the Cargonomia collective lies demonstrates the most limiting factor of the model.

"*It's somewhat a shame that you have to be at the point of being privileged in your life to be able to say that I am going to choose only to do what I want to do and what I believe in. You have to be lucky. That is sad with the current system*." (Member 2, 2021)

The co-researchers, based on their own testimonies and reflections, need to self-organize themselves in their personal lives to be able to allocate time for earning income, practicing political activism, and for leisure and caring activities. The time-share among these activities is not dominated by the desire for earning more and more income. Instead of pursuing continuous increase in personal income, the co-researchers invest a part of their time and energy in the activities of the collective. The ability of self-organization, however, creates a significant exclusivity to involve further members within the collective:

"It is an obstacle that we can only involve people who can self-organize themselves like us." Member 5, 2017

"*It is challenging to participate in an organization which is "largely based on volunteer time, especially in the local environment where people do not necessarily have the financial comfort to give 2 or 3 hours on the way home from work to something, is demanding from our members, so it's even hard to meet regularly, you need to be a very efficient communicators to be sure that everybody has the chance to express their opinions, their ideas, the goals for the organization*" Member 2, 2016

Furthermore, the empirical reality reveals that personal conditions are shifting. It can occur that developments in personal lives, e.g. having a child, moving abroad or other changes in personal desires, restrain the opportunity of sharing personal capacities among paid job and other unpaid, reciprocal activities. It means, however, that while some of the members are becoming more reliant on paid jobs because of changing

personal responsibilities, others may become available for investing volunteer time in the collective.

The opportunity to share one's life in such a diversified way lies in the personal resources and capacities of the co-researchers, including social capital, level of education, access to social networks, family background, etc. Such a diversity and richness of social capacities usually characterizes the middle class. The fact that for a significant part of the society such resources are unavailable limits the opportunity to generalize the empirical findings. Therefore, the analytical findings and results are highly contextual and they can be understood within social groups which acquire such resources. The application of similar findings across social groups would require further investigation.

Further limitations of the empirical results concern the components of the radical sustainability approach which have been presented in Table 6 in Chapter 2.3.3. Even though there is a potential connection with the ecocentric approach of the SSE (see Loh & Agyeman, 2019, Miller, 2010 and Barkin & Lemus, 2014), the intrinsic value of nature and natural beings related to the empirical case remained unexplored. Furthermore, the empirical results suggest that the use of money plays a different role within the initiative compared to the mainstream economy. The scope of the dissertation however did not cover exploring this issue deeper.

Limits related to the methodology concern the generalizability of the results. Given the fact that the empirical results of an AR rely on one unique case, the research findings are often contextual and cannot be universalized beyond the case (Coghlan, 2019). Taking into account the specific context of the research and the case, the meta-analysis which was applied to review the whole AR process allows to construct robust analytical conclusions. Furthermore, the deep engagement of co-researchers, the embeddedness of the research, both its practical and theoretical outcomes enriches the research process and enhancing its practical validity which would have been impossible with other, conventional research methodologies. Based on the personal testimony of the co-researchers, the research can be considered an experimentation of personal transformation to move away from the conventional habits locked in the prevailing economic system:

„Cargonomia is an experimentation what happens if the basic needs of the people are fullfilled (even in cash or in gift economy) and so when you have some kind of security what kind of solidarity behaviour can emerge from this type of situation" if they in their 'free' time they come together to do thing" (Member 3, 2017)

"If we didn't start to explore these other ways which we can support our initiative, probably we wouldn't have gone where we are now. We learned these things as we went along." (Member 2, 2018).

5.2. Summary: recommendations and personal reflection

The research sheds light on the potential role of the SSE in the transition toward a sustainable and just future. The SSE offers a viable alternative to the market economy. Nevertheless, the SSE needs to incorporate the radical approach of sustainability. The research was an attempt to reveal how radical sustainability can manifest in the operation of SSE initiatives. It linked the analytical macro level to the organizational level and, even beyond, to individual level through the issue of work. The results emphasise the interplay between systemic and organizational level dynamics affecting the individual level and vice versa.

Beyond the findings of the actual research, linking the SSE and the critical ecological discourse opens many opportunities for future research. Some of them has been outlined, as the solidarity toward non-human beings within the ecocentric approach or the role of money. Furthermore, any of the topics discussed under the main analytical findings can be further investigated in depth. Some of the topics which seem to be under-investigated cover, for instance, the role of deliberative decision making processes or the role of convivial technology within the SSE.

My most important recommendations though are methodological and rely on my personal reflections as an action researcher. Based on the experience of the research presented, I would encourage other researchers who feels responsibility toward shaping the World to engage in AR. AR can be a mutually fruitful cooperation between academia and the civil sphere. As a researcher, it is empowering to participate in the lived experience of civil groups and communities. In formulating the lived experience as a research, being creative plays an important role. It can be perceived as a challenge, because AR cannot be learnt only from books. An AR process is never identical to

another. Thus, as an action researcher you have to build on abstract concepts in designing something practical. It implies that many of the things you read before becomes clear *after* the research.

Becoming an active participant allows to leave the role of an impartial outsider and to articulate your own opinion. The research can be a common journey instead of an individual and lonely work. It can provide joy and fun which in my case has never been secondary in relation to the quality of the work. In my opinion, AR can become a genuine passion.

The institutional context, however, is not the most favourable in most of the times. Action researchers being embedded in conventional research institutions have to navigate through the institutional context and research criteria defined by traditional research approaches and conventional expectations. At the same time, action researchers also have to be able to provide enough time and energy to engage in a long-term research process and comply with the expectations of the co-researchers. The institutional context therefore is recommended to provide more flexible research conditions which can be adapted to the needs of different research approaches, being it conventional or action research.

As a civil actor, doing AR provides material and in-kind resources, intellectual support and problem solving techniques. One of my observations – which is shared by my co-researchers – is that the research process can be perceived as 'ineffective' compared to the emergent and dynamic reality. Similarly to Csillag (2012)'s co-researchers, the participants of the AR questioned how the slow, unhurried but deliberated knowledge creation can support the quickly changing conditions, context and actions? My answer is that AR provides a framework and it pushes for (self-)reflection in a certain way. It allows raising issues which otherwise would remain unquestioned. Knowledge creation is undoubtedly a slower process, but more matured. The long-term process of the AR compensates for time and energy invested in it. It allows to conceptualize your reality and encourages to review that what you are doing is the right thing to do, and to reinforce a commitment: "*you can stop and make philosophy*" (Member 3, 2018).

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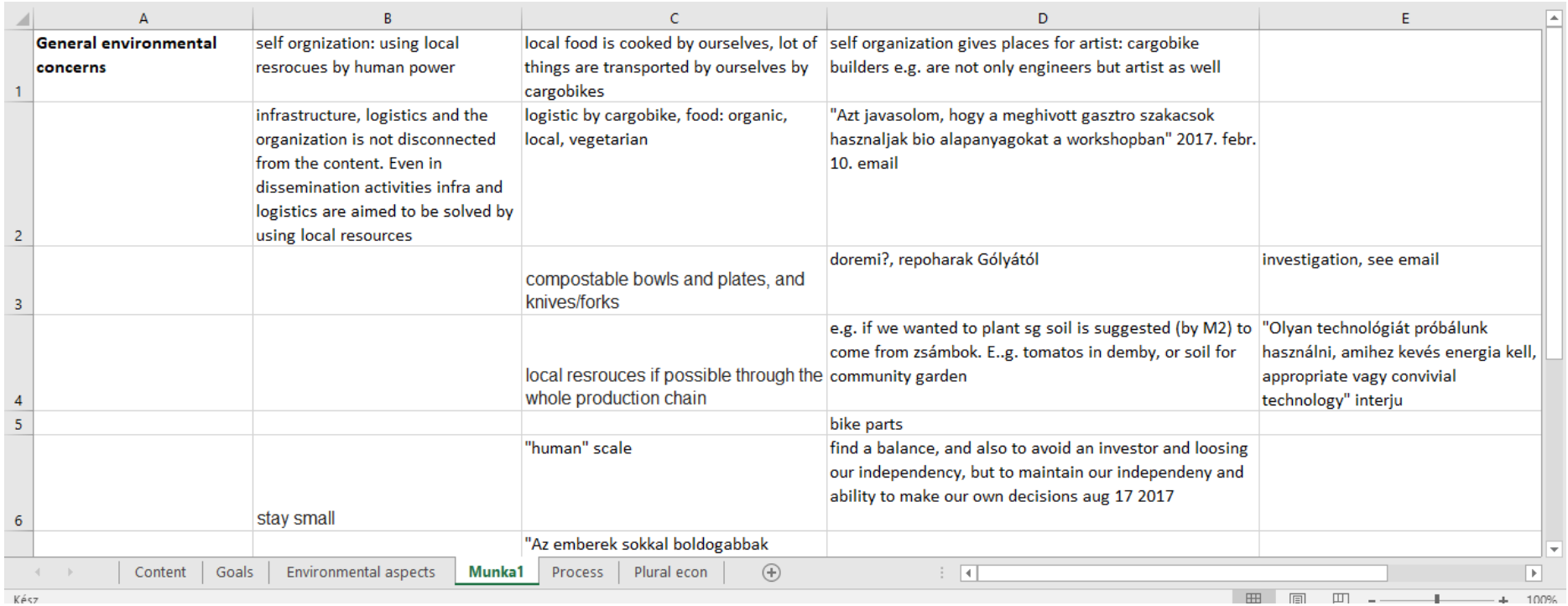
ANNEX

Annex 1. Excerpt from the data analysis



	A	B	C	D	E
1	**General environmental concerns**	self orgnization: using local resrocues by human power	local food is cooked by ourselves, lot of things are transported by ourselves by cargobikes	self organization gives places for artist: cargobike builders e.g. are not only engineers but artist as well	
2		infrastructure, logistics and the organization is not disconnected from the content. Even in dissemination activities infra and logistics are aimed to be solved by using local resources	logistic by cargobike, food: organic, local, vegetarian	"Azt javasolom, hogy a meghivott gasztro szakacsok hasznaljak bio alapanyagokat a workshopban" 2017. febr. 10. email	
3			compostable bowls and plates, and knives/forks	doremi?, repoharak Gólyától	investigation, see email
4			local resrouces if possible through the whole production chain	e.g. if we wanted to plant sg soil is suggested (by M2) to come from zsámbok. E..g. tomatos in demby, or soil for community garden	"Olyan technológiát próbálunk használni, amihez kevés energia kell, appropriate vagy convivial technology" interju
5				bike parts	
6		stay small	"human" scale	find a balance, and also to avoid an investor and loosing our independency, but to maintain our independeny and ability to make our own decisions aug 17 2017	
			"Az emberek sokkal boldogabbak		

Content | Goals | Environmental aspects | Munka1 | Process | Plural econ

Annex 2. Agenda for sharing research results

Cargonomia feedback / validity check

1. How the environmental aspect / ecological boundaries are respected through the operation of Cargonomia?

- Brainstorming, open discussion
- Sharing my own findings
- Feedback

2. Organizational model

Plural economy can be described by following topics:

- Usage of money
- Cooperation with partners – *coherent or dogmatic?*
- Volunteer time, personal skills, redefining work

The co-researchers reflect on these topics through their own quotations which has been printed out and handed over for them.

3. Further insights

Annex 3 Agenda of the action research meeting on 19th December 2016.

Place: Bp., Bartók Béla út

1. **Introduction to action research (AR): 0,5 hour**

- what is research?
- action research?
- participatory action research?

Advantages for Cargonomia:

- deepen understanding about what we are doing
- faces and solve challenges, practical issues
- better understand context (organizational, institutional, etc)
- AR questions conventional research, knowledge creation – democratic process of knowledge creation of AR is parallel to Cargonomia's values
- Action research seeks to address the gap between social science and practice, which has emerged in the last decades
- AR is a deeply democratic process – not only because of the shared knowledge creation but because in AR process all participants are equal and decisions made by consensus
- it can be a good practice to reflect on Cargonomia's activities
- if somebody is interested in academic work it is a good practice
- other?

Important notes on what can be considered as research:

- research must be a structural, transparent and systematic knowledge creation through repetitive actions
- it means that discussions has to be recorded, transcript because it has to be transparent process
- at the end 'evidence' has to be shown

Potential Methodology – what will really happen: how to answer a research question

- reflection and discussion in weekly/monthly meetings
- other:
    - interviews
    - photo-documentation
    - video making
    - drawing
    - collection data
    - history line
    - etc
- these methods can be carried out by the groups and by me
- method will be decided next meeting – according to the research question

2. Establish framework: 0,5 hour

- Steps:
    - engage in the AR process (today)
    - establish research question
    - find methodology
    - carry out actions (act, collect data about it)
    - reflect on them (analyze data)
- Decision points:
    - meetings: how often? monthly?
    - until August 2017
    - who is willing to participate?
    - how much are you willing to participate?
        - discussion in meetings? (when we reflect on our actions e.g. on what have happened in one month)
        - collection of data – e.g. taking photos? drawing? making interviews? taking notes between meetings?
        - analysis during meetings?
        - writing?

3. Look for research question: 1,5-2 hours

- everybody writes on post-its all questions (practical, theoretical, funny, etc) is he/she is curious about, would like to know more about Cargonomia, think it is important to solve?
- after everybody shows and explains it and we try to classify them and create bigger groups
- we should and up with 2-4 bigger groups
- we do not have to decide about the research question now, it can be a next time!

Annex 4 Research topics, votes and potential actions

Research questions/topics	Votes	Potential actions
Life/long learning outreach programs:	**12 /1**	
Cargonomia as an experimental small scale centre with a part inside the system, a part outside		
Create a centre of cargobike maintenance, tools and sharing	3	On-site mobility programs, events in Budapest and in the countryside to explore cargobike usage Literature review, writing articles Explore practices of cargobikes usage among women Explore the opinion of cargobike users through interviews, discussions
Urban cargobike logistics and delivery	3	Explore the possibility of bike parking plot in residential buildings
Support the creation of another cargobike collective in another district, explore the possibility of long term replication	1	
Create a workshop format framework/create a toolbox to support regular appearances in universities, and schools:	3	Teaching in a private high school, presentations in universities, development of alternative tourist program for conferences

Popular education in empowerment, action research, low tech, alternative economy agriculture	1	DIY workshops for students, trainees, children, low-tech energy workshop with a partner
Impacts: targets and measurements (time based reflection)	**8 / 1**	
How to continue of being a link between civil service groups and decision makers to help in spreading results (continuity of ARTS project)?	1	
Is Cargonomia degrowth? (a critical reflection)		
Social impact measurement	5	collect data about planned and historical events
What is the role of cargonomia in transition toward more just and sustainable society?		
Strengthening our processes for setting half year/annual goals targets reflections		
Re-appropriation of the commons	1	
Cargonomia and its partners:	**6 / 2**	
How to involve more partner members in the meetings?		
How to improve communication between Cargonomia and partners?	1	
What are the relationship between Cargonomia and partners?		

How to improve regular communication with partners and to promote degrowth in practice in Budapest?		
Cargonomia to create synergies and also debates between diversity of approaches and actors	3	
Is Cargonomia really an open space? What does that mean that Cargonomia is an open space?		
Define aims of Cargonomia:	**5 / 2**	workshop/creating participatory video?
Self-determined mission statement points in common language	1	
What are the aims of Cargonomia?		
Conviviality, sustainability/capitalism, growth		
Re-create society: open relocalisation – how cargonomia is contributing to open relocalisation?		
Cargonomia as a transition tool and showcase toward degrowth, and social environmental justice		
Destroy capitalism – how cargonomia is contributing to destroying capitalism?	1	
What is the service portfolio outline of Cargonomia?		

Friendship, enjoyment of life, hope in a collapsing civilization	1	
Internal processes:	**4 / 2**	
Exploring hiring a regular, paid intern	1	
Roles, responsibilities, hierarchy		
What are the motivations to participate in Cargonomia?		
Dilemma between need to be structured and creativity, diversity, time, number of people involved, size, effectiveness, small is beautiful?		
How to improve communication?		
Group dynamic: how decisions are made?		
Balance between research, activism and other activities?	1	
Model/structure:	**3**	
Format of the organization in the future		
What kind of economical and organizational model a DIY bike workshop can have?	3	
What is the business model of Cargonomia?		
Short and long term future of the collective:	**1**	
What are the long term goals and vision, and what is the structure supporting that?		
What are the long-term plans?		

How Cargonomia can be still structured and grow more at the same time?	1	
Strategy planning: what are the targets, objectives and steps?		
Data collection:	**1**	
Energy efficient heating for houses and greenhouses through thermal-solar system		
Performance of low tech alternatives		
Usage of cargobikes in urban development	1	
Low-tech agricultural tool research		
Cargobike sharing tools, methods, maintenance methods examples		
Women and cargobikes: delivery, children, shopping		

Annex 5 List of events of the Cargonomia collective

Date	Title	Co-organizer	Type	Location	Nb of participants	Payment
01/04/2015	Moving by bike	Cyclelift	Demo		40	-
18/04/2015	DiY furniture WS	Kulturgorilla	DiY WS	Cargonomia	30	-
07/05/2015	Opening Party		Conviviality	Cargonomia	200	free donation
n.a.	BKK meeting	Hajtás Pajtás	Meeting	Cargonomia	5	-
07/06/2015	Community Lunch	Szimpla Piac	Conviviality	Szimpla Piac	100	free donation
10/06/2015	PÉJ ATTENTION – A jövő politikája? Stratégiák a változásért – a pártokrácián innen és túl	PEJ	Conf	Cargonomia	40	-
11/06/2015	II. Mutánsbringás felvonulás és karnevál	other	Demo		50	-
25/06/2015	Varronomia	varronomia project partners	DiY WS	Cargonomia	15	free donation
15/08/2015	Bringabörze - Cargosimogató és verseny a Cargonomiával	Bringabolha	DiY WS - Conf	Dürer Kert	5	-

n.a.	Repair Café	other	DiY WS	Cargonomia	30	free donation
n.a.	Francia Intézet Open doors	Francia intézet	Conviviality	Francia Intézet		-
03/10/2015	Bringaműhely és beszélgetés		DIY WS - Conf	Gólya	30	-
n.a.	Hackaton	Ecobytes	DiY WS	Cargonomia	10	-
n.a.	Mexican Dance	other	DiY WS	Cargonomia	10	free donation
20/11/2015	Energianomia	other	DiY WS	Cargonomia	5	-
20/11/2015	Cargonomia Félévfordulós mulatság aka Half-Year Anniversary Convivial Party		Conviviality	Cargonomia	100	free donation
n.a.	Presentation of Cargonomia at Place to B COP 21 festival		Conf	Place to B COP 21 festival, Paris	50	-
01/03/2016	short supply chain presentation	Corvinus/Marketing dep.	Conf	CUB	25	-
04/06/2016	Workshop for students	Lauder Gimnázium	Conf	Lauder Gimnázium	50	paid
23/04/2016	I Bike Budapest 2016 - bringás felvonulás	MKK	Demo		?	-
23/04/2016	Magnet Bank Civil days		Conf	Magnet Bank	10	-

	Presention for students		Conf	CUB	30	-
11/05/2016	1 ÉVES A CARGONOMIA		Conviviality	Cargonomia	100	free donation
09/06/2016	IV. MUTÁNSbringás felvonulás	other	Demo		100	-
23/06/2016	Repair everything with Degrowth - DiY Workshop at Cargonomia	other	DiY WS	Cargonomia	40	free donation
22-25/06/2016	Presentation of Cargonomia at EMES Summer School (Social Entrepreneurhsip, Social and Solidarity Economy)		Conf	Glasgow	30	-
26/06/2016	Cargonomia Közösségi Ebéd a Szimpla Piacon / Cargonomia Community Lunch at the Szimpla Piac		Conviviality	Szimpla piac	100	free donation
16/08/2016	Grundkert Klub: Ismerd meg a Cargonomiat		Conf	Grundkert	30	-
08/2016	Recyling workshop for students	Magonc Alapítvány	DiY WS	Cargonomia	30	-
	Sociocracy	other	DiY WS	Cargonomia	30	-
31/08/2016	Cargonomia presentation at the Degrowth Conference		Conf	Degrowth Conf, CUB	30	-
31/08/2016	Social Entrepreneurship discussion at the Degrowth conference	Degrowth conference	Conf	Degrowth conf, Gólya	40	-

10/2016	Arts-Seism Project Meeting with local decision makers	ARTS project	Meeting	CEU	30	paid
	Workshop for students	German High School	Conf	Cargonomia	30	-
	Workshop for students	Danish Group	Conf	Cargonomia	20	-
08/11/2016	Varronomia	Varronomia project partners	DiY WS	Cargonomia	15	free donation
16/12/2016	Cargonomia/Morzsa Records Év Végi Ünnepi Buli / Christmas Party		Conviviality	Aurora	100	free donation
17/01/2017	Workshop for students	Lauder Gimnázium	Conf	Lauder Gimnázium	50	paid
18/02/2017	Endgame Akademia	Endgame Akademia	Conf	Endgame Akademia	25	paid
21/02/2017	Presentation of Cargonomia - short supply chain presentation	Corvinus/Marketing dep.	Conf	CUB	15	-

Abbreviations	
Meeting	Thematic meeting
DIY WS	Do it yourself workshop to construct something, practical workshop
Conf	Conference-style events to present our practices, educational event presenting or communicating of our activities
Demo	street demonstration
Conviviality	party, celebration, etc.

Annex 6. Meeting report about the workshop on 17th August 2017

The meeting aimed to reflect on the diversity of activities in Cargonomia based on the substantive understanding of the economy. Economy is embedded in the society where market should not dominate nor economic nor social relationships. Cultural, spiritual and political values can be present in economic activities as well since economy is part of a broader social (and ecological) domain. And Cargonomia intend to operate so. In this framework we intend to demonstrate how economy can be "humanized" through personal involvement and that the economic activities can be organized based on human interactions, solidarity and communities with a diversity of people who are cooperating with each other.

We looked are organization and had an overview on the resources and transactions which help us as an organization. Based on Karl Polanyi plural (or substantive) understanding on the economy we used the following domains:

MARKET exchange involves obtaining goods and services by exchanging for money. Money and profit are the driving forces of these activities.

Funding SUPPORTED MARKET activities are project which are supported by applications but aiming carry out market activity (selling goods or offering services).

FUNDS are resources which are collected centrally (by a central authority) and after redistributed in the form of subsidies or through applications.

VOLUNTARY REDISTRIBUTION involves activities when the resources are funds but the usage of these resources requires personal commitment.

RECIPROCITY refers to obtaining resources (goods, services but also knowledge, network and experience) based on personal relationship and solidarity.

Free DONATIONS are exchanging goods and services based on personal relationship

Domain	**Reciprocity**	**Free donations** **(Reciprocity & Market)**	**Market exchange**	**Funding supported market activities (Market & Redistribution)**	**Funds** **(Redistribution)**	**Voluntary redistribution** **(Redistribution & Reciprocity)**
Definition	obtaining resources (goods, services but also knowledge, network and experience) based on personal relationship and solidarity.	exchanging goods and services based on personal relationship in return of money or for other goods/services	obtaining goods and services by exchanging for money. Money and profit are the driving forces of these activities	projects which are supported by applications/funds but aiming to carry out market activity (selling goods or offering services).	mainly financial resources which are collected centrally (by a central authority) and after redistributed in the form of subsidies or through applications	activities which involves funds as financial resources but the usage of these resources requires personal commitment
Concrete activities	• volunteering • personal experience, knowledge, skills • time and motivation to work together, personal commitment • cooperation with other partners • income gained from crowdfunding campaign	• donations for services e.g. cargo bike rentals, bike repairing, room rental • donations for participating in festivals, conferences • donations at fund raising events (e.g. birthday parties) by selling wine, beer, food	• services provided for fix price, e.g. educational workshops • room rental for fix price • providing guided tour and visit of Cargonomia	none	• income from research projects funded by EU or national funds • trainees supported by Erasmus (EU) • Income from 1% personal income tax • Personal scholarships provided by EU or national funds	• conference participation financially supported by central authorities to present the case of Cargonomia e.g. scientific conferences • finding headquarter through Vacant City project

Annex 7 Questions for interviews with cargobike users

- Please introduce yourself, tell me a few things about yourself!
- Why did you start using a cargobike?
- Could you tell me about your first ride? What was your first experience like?
- How often do you use a cargobike?
- What do you carry with it?
- Do you have any negative experience? Could you tell me about it?
- What do you think about the impact of cargobike use on cities?
- How is your dream-cargobike?
- What is missing from Budapest related to bike/cargobike infrastructure? How the city could develop?

Annex 8 Round-table discussion guide

The aim of the round-table discussion is to launch dialogue about cargobike use for private people, and to explore the advantages of cargobike use for families and cities. The discussion also aims to explore how to promote cargobike use, improve accessibility and to reveal its limits.

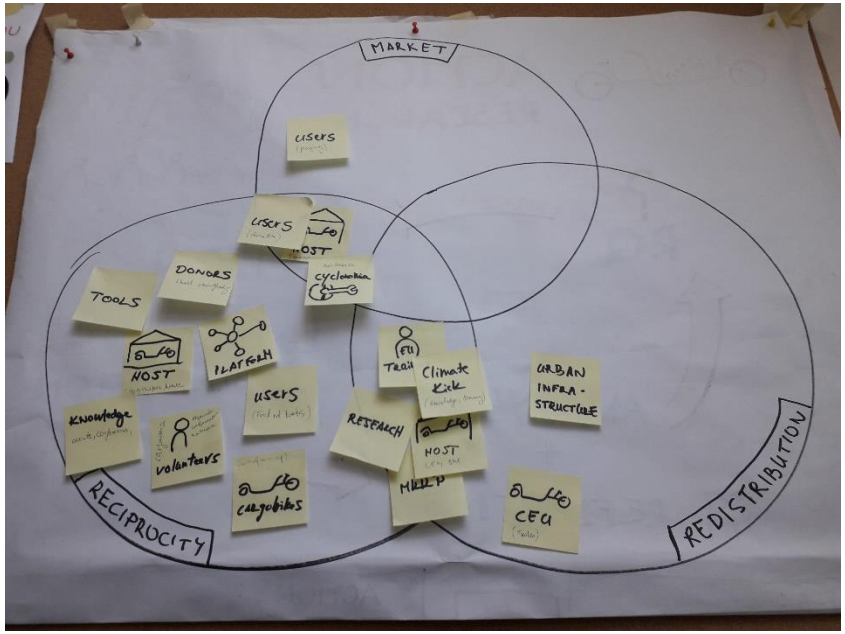
Questions for participants:

- Please, introduce yourself! What is your name and what is your relation to cargobike use?
- What kind of cargobike do you use? What is your experience with it?
- What kind of advantages cargobike use can have for families?
- What kind of advantages cargobike use can have for cities? Do you think that it is a real alternative for the usage of car?
- How long trips do you usually make with a cargobike?
- Why do you think cargobikes are not used by a wider public?
- What do you think about these obstacles, challenges? Do you considers these ‘real’ difficulties? How do you think these challenges could be improved, solved? (.e.g traffic, storage, parking, etc.)
- What do you think would motive more people to use a cargobike?

Annex 9 Cargo bike sharing scenarios

Meeting report, 5 February 2018

1. **Cargonomia model**: this scenario describes a model which could be started immediately based on existing resources and partnerships of the collective without additional financial investments



Reciprocity	**Reciprocity & Market** **(Free DONATIONS)**	**Market exchange**	**Market & Redistribution** **(Funding SUPPORTED MARKET)**	**Redistribution** **(FUNDS)**	**Redistribution & Reciprocity** **(VOLUNTARY REDISTRIBUTION)**
Volunteers and voluntary time spent on organization, communication, maintenance, mainly by members of Cargonomia	Users using cargobikes in exchange for donation	Users using cargobikes for a fixed price		Usage of urban infrastructure	Knowledge gained in Climate Kick training
Knowledge gained in past events, conferences	Hosts which receive some financial support and receive cargobikes/trailers			CEU application support for trailer	Trainees supported by EU funds
Online, open source platform	Maintenance in exchange for financial support (Cyclonomia)			Other application?	Research, and knowledge gained through publicly supported research (BCE)
cargobikes offered by Cargonomia members					Public host e.g. CEU
Users e.g. Food not Bombs, who use cargobikes on solidarity basis					MKKP application

Tools offered by members, partners based on solidarity basis					
Donors, donation e.g. through small crowdfunding campaign					
Hosts for cargobikes e.g. Cargonomia, Humusz ház					
Practising political activism through our activities and projects					
Popular education					

2. **Business model**: this scenario describes a market based operation which could create financial income and profit

Reciprocity	**Reciprocity & Market** **(Free DONATIONS)**	**Market exchange**	**Market & Redistribution** **(Funding SUPPORTED MARKET)**	**Redistribution** **(FUNDS)**	**Redistribution & Reciprocity** **(VOLUNTARY REDISTRIBUTION)**
	Outreach campaign	Users using cargobikes for a fixed price	Hosts (public)	Usage of urban infrastructure	
		Online, open source platform used for a fee	In kind support e.g. communication		
		Host (who buy cargobikes/trailers)			
		Investors (to gain profit)			
		Tools			
		Cargobikes, trailers			
		Administration (staff)			
		Lawyer, insurance			
		Green Social washing			
		Maintenance as paid service			

		Advertising services			
Outreach programs					

3. **Public supported model**: this scenario is based on cooperation with public authorities (e.g. local municipalities, BKK)

Reciprocity	**Reciprocity & Market** **(Free DONATIONS)**	**Market exchange**	**Market & Redistribution** **(Funding SUPPORTED MARKET)**	**Redistribution** **(FUNDS)**	**Redistribution & Reciprocity** **(VOLUNTARY REDISTRIBUTION)**
Volunteers and voluntary time spent on organization, communication, maintenance, mainly members of Cargonomia			Expertise, advocacy	Usage of urban infrastructure	*Cargobikes, trailers and tools (offered by Cargonomia in exchange for public support?)*
Knowledge gained in past events, conferences			Users (using cargobikes/trailers for a fixed price but supported by public resources)	Public hosts or publicly supported hosts (e.g. housing communities 'társasházak')	
Online, open source platform?				Administration	
Practising political activism					

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