

Corvinus University of Budapest

Valuing Sustainability in School Meals: The Social Return on Investment
(SROI) of SchoolFood4Change's Sustainable Food Model

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1. Introduction

Children and adolescents spend the majority of their days at school, which serves as a location for not just studying but also eating and socializing. According to SF4C (n.d.a), change is desperately required. No European country is on pace to reach its obesity reduction targets by 2025. In reality, obesity rates among young people are rising in several European nations. Children today are developing lifelong dietary habits as we speak, but we must take advantage of the window of opportunity provided by childhood. School food programs have the great ability to introduce kids to healthy, regional, and tasty meals from an early age, allowing them to become change agents and spread the word to their homes and communities.

It has been projected by the World Obesity Federation (2022), that Hungary, Turkey, and Croatia are predicted to have the highest rates of childhood obesity (those aged 5 to 19) in Europe by 2030, at 19 percent. This means that nearly every fifth child will be considered fat.

At the same time, we must be mindful of the influence our eating choices have on the earth. Agriculture contributes significantly to global greenhouse gas emissions. It is the leading cause of biodiversity loss and deforestation, exacerbating the sustainability crisis we are experiencing. SchoolFood4Change tackles two of our most pressing issues at the same time by combining aspects of planetary and human health (SF4C, n.d.a). GHG emissions from agriculture worldwide (not including land use change) have increased by almost 20 percent since 1990 due to population growth and rising food consumption. About 12% of the world's yearly GHG emissions come from this sector, which is also the biggest human-caused source of emissions of methane and nitrous oxide, two powerful GHGs with significantly higher potential for global warming than carbon dioxide (Statista, 2024). When looking at the European scope of GHG emissions, the agricultural sector emits more carbon dioxide than international shipping and international aviation within the EU combined (EEA, 2024).

The topic of more sustainable school meals is of particular interest to me, both because of personal and professional reasons. When I was a kid in elementary school, the canteen food was not my favorite. I remember that it was mandatory for us to sip a few spoons of the main course before we were allowed to skip to the dessert. Later, a common practice that we also followed was that children rather brought sandwiches to school made by their mom and later had a warm lunch at home. Professionally, I chose this topic because I would like to contribute to the green side of logistics. I wanted to work on a sustainability-related issue because I believe that it is our responsibility not only to solve complex supply chain and logistics problems efficiently, but our solutions must be carried out in a way that is sustainable to our planet as

well. The SchoolFood4Change project is the perfect choice for me that meets my professional interests, and I can also relate to it from my personal background.

The aim of my paper is to assess and measure the Social Return On Investment (SROI) of the SchoolFood4Change project, focusing on Hungary's representation among the 12 participating European countries. The answered research question is the following: "What is the expected social return of the SchoolFood4Change project in Hungary and how does it contribute to the regional goals?"

As for the structure of the thesis, the introduction is followed by a theoretical background. This chapter introduces and explains all important concepts and models for better understanding. It takes a top-to-bottom approach beginning with a literature review of the Farm2Fork initiative, then it continues by collecting and evaluating different sustainability and food-related EU-funded projects. After the comparison of the SchoolFood4Change initiative to other projects, the chapter continues with gathering and assessing different methodologies and measurement models that are used to evaluate such sustainability related projects. By the end of the chapter, it becomes clear how the SROI framework works and why it was applied in the SchoolFood4Change project.

The theoretical chapter is followed by a definition of the practical problem of the current situation of public catering in schools, focusing on Hungary. It presents the background and the actors of the problem. Following the problem definition, the methodology is composed of two main components. These include semi-structured interviews with stakeholders from the participating cities in the SROI project and the project coordinator, as well as a secondary data analysis of the SROI results. The problem analysis chapter holds the main value added. In this chapter, the chosen methodologies are carried out. The results are presented and analyzed to answer the research question. The conclusion showcases the drawn conclusions with suggestions. Limitations of the research and further research possibilities are also highlighted. Finally, the summary provides a clear overview of the thesis for readers who may not have gone through the entire document, highlighting the key messages from each section without introducing new content.

2. Theoretical background

This chapter lays the theoretical background for comprehending the fundamental concepts and frameworks central to the thesis. It provides context for assessing the SchoolFood4Change initiative and its wider implications.

2.1 The Farm to Fork initiative and short food supply chains

2.1.1 The Farm to Fork strategy

The European Green Deal outlines a plan to make Europe the first climate-neutral continent by 2050. The plan presents a sustainable and inclusive growth strategy to benefit the economy, promote health and quality of life, protect the environment, and ensure no one is left behind. The Farm to Fork Strategy is key to the Green Deal. This holistic approach to sustainable food systems acknowledges the interconnectedness of healthy individuals, societies, and the environment. The plan is crucial to the Commission's efforts to meet the United Nations' Sustainable Development Goals. The Farm to Fork Strategy is a more comprehensive approach to how Europeans view food sustainability (European Commission, 2020).

The sustainability policy is advanced by the F2F's commitment to creating shorter food supply chains, lessening long-distance transportation, and controlling unsustainable crops in the hyper-intensive food chain. Therefore, the European Green Deal and F2F strategy reinforce the idea of "think locally, act globally" by actively bolstering local networks and economies, which will undoubtedly benefit small-scale farmers, consumers, and the environment (Giannou, 2022).

Promoting sustainability is great, but there is an issue. The Farm to Fork strategy aims to establish a common sense of sustainability and assign accountability for sustainability. The efforts will probably be completed in their specialized areas, but ultimately, the future Common Agricultural Policy (CAP) will be crucial to the strategy's success. By requiring the food industry to include sustainability in business plans, the European Commission hopes to enhance the corporate governance structure. However, the execution of this idea will be complicated by the absence of a precise definition for the term sustainability. All food industry owners should be aware of and ready for the reality that sustainability, in whatever form, will have an impact on their company, even though it is unclear exactly what will be covered in it and what obligations will be required of them (Schebesta et al., 2020).

2.1.2 Short Food Supply Chains (SFSC)

Consumers prioritize environmental, health, social, and ethical concerns when purchasing food. Despite urbanization, people desire a stronger connection to their food sources. They like food that is fresh, little processed, and sustainably sourced. The current epidemic has led to increased requests for shorter supply chains (European Commission, 2020).

The short supply chain supports the objectives of "sustainable agriculture" by lowering transportation costs and CO₂ emissions, and promoting biodiversity (i.e., consumer-identified "local" products). Therefore, as compared to the long supply chain, the short supply chain has a beneficial impact on public goods with obvious environmental advantages (Canfora, 2016).

According to Paciarotti and Torregiani (2020), the scientific community lacks a clear definition of short food supply chain (SFSC). Geographic proximity is the most cited attribute of SFSC, indicating the proximity between producers and customers. This closeness can be conceptualized in terms of political boundaries, such as regions or countries, or in terms of distance, whether measured in kilometers or time. SFSC emphasizes direct contact between farmers and consumers, fostering trust and honesty, and it has few or no intermediaries. It is a value chain that provides social and economic advantages to supply chain participants while not irreversibly depleting natural resources. Effective management requires trust, transparency, cooperation, and shared governance among stakeholders (Paciarotti & Torregiani, 2020).

In connection with SFSC, research indicates that 25% of Europeans are classified as having "LOHAS" (Lifestyles of Health and Sustainability), which are characterized as well-educated, well-off customers who favor eco-friendly and healthful items. Customers utilize the SFSC to take part in a "social event" where the values of justice, the environment, food, and economic democracy are felt. Conversely, the producer might reevaluate his or her social position by using direct selling to enhance the network of relationships and value the products' quality (Fabbrizzi et al., 2014).

From a legal perspective, small farmers who sell directly to customers are subject to a specific rule that has been granted to the short food supply chain under the food law. Protecting the sustainability of rural regions is the primary goal of the unique regulations for local markets. The flexibility of regulations related to safety trading conditions allows for the maintenance of agricultural operations as well as the reduction of costs for farms that sell their goods directly or through local markets (Canfora, 2016).

According to current literature, there are three types of SFSCs. The first type is face-to-face, meaning that the buyer buys a product directly from the manufacturer in person. Personal interaction acts as a mediator between authenticity and trust. Through online commerce and websites, the Internet offers a different kind of in-person interaction. The second type is spatial proximity, where the goods are manufactured and sold in the particular area (or location) where they are created, and customers are informed of the product's "local" status at the point of sale. It usually means selling regional goods through regional marketplaces, including supermarkets, food service establishments, farm retail markets, and local food shops. Finally, the third type is spatially extended. Customers who are not in the actual production region and may not have firsthand knowledge of it are given valuable and meaningful information about the location of production and the people who produce the food. It involves selling locally produced food items to everyone, not only local customers (Marsden et al., 2000; Todorovic et al., 2018).

The SchoolFood4Change project can be positioned in the second SFSC category, that is, spatial proximity. It focuses on sourcing food locally to supply schools and canteens. By prioritizing regional producers, it supports local economies, reduces food miles, and ensures consumers know the food's local origin. It does not belong to the face-to-face category, because schools typically operate through organized procurement processes rather than direct personal transactions with producers. Their transactions are mainly mediated by coordinators, procurement contracts, or third-party suppliers.

2.1.3 Sustainable School Food Systems (SSFS)

To promote children's and adolescents' health in a way that is profitable for each actor of the food value chain and protects, restores, and regenerates natural resources and ecological processes, schools must implement sustainable school food systems (SSFS). It encompasses the entire range of activities, components, and actors related to the production, processing, distribution, cooking, serving, consumption, and waste management of food in schools. Furthermore, SSFS offers wider societal advantages and boosts local economies and short food supply chains. Healthy, sustainable school diets (HSSD) aim to level social disparities in dietary habits and health. They are safe, meet nutritional needs based on students' age and individual needs, prevent non-communicable diseases and malnutrition in all its forms, are reasonably priced, culturally appropriate, palatable, and supportive of overall wellbeing. The majority of HSSD diets are plant-based and "win-win-win," meaning they are good for the environment, society, and individuals (SF4C, n.d.b).

2.2 Sustainability and food-related EU projects

Besides the SchoolFood4Change initiative, there are many other EU projects. After a thorough examination of the EU Cordis Database, which stores all the completed and ongoing EU projects, I collected 22 initiatives that are similar to the SchoolFood4Change project, meaning that they are related to sustainability and food. In my search, I used a variety of keywords in different combinations. The used keywords include sustainability, food, short, supply chain, procurement, public, and catering. To overcome the issue of thousands of results, I applied a Hungary filter, ensuring that only projects involving Hungary were included in the results. After an extensive search, a table of 22 projects was born. To make the table more comprehensible and because of the length limitations, I narrowed it down to only 10+1 projects. I excluded the projects that focus more on the supplier's side rather than on the consumer's. The excluded projects are mainly already concluded crop projects, but some of them were too broad or niche to make it into the final table. When selecting the projects, I tried to remain as objective as humanly possible. The chosen projects in the table can be divided into five main categories that are social, F2F, food waste, crops, and short supply chain. Table 1 highlights the selected sustainability and food-related EU projects.

2.2.1 Excluded crop-related projects

Seven projects were excluded because they were crop-related projects that are no longer ongoing. The excluded projects are CO-FRESH, Diverfarming, FORBIO, RELACS, LIVESEED, TRUE, and CERERE. Their scopes include competitive fruits and vegetables, crop diversification, bioenergy production, phasing out contentious inputs, boosting organic seed and plant breeding efforts, sustainable legume-based systems, and cereal food systems.

2.2.2 Excluded broad and niche projects

Removing these projects from the main table is probably the most subjective part of my selection. After removing the crop-related initiatives that were no longer ongoing, I felt that these four projects were not relevant enough to be represented. The broad projects excluded from the analysis are One Health EJP and NUTRI2CYCLE, while the niche projects are SEAFOODTOMORROW and FARMWELL. One Health EJP addressed the integration of the animal-human-environment interface, and NUTRI2CYCLE focused on nutrient upcycling. Among the niche projects, SEAFOODTOMORROW concentrated on seafood-related issues, while FARMWELL addressed the well-being and mental health of farmers.

Table 1. Overview of Consumer-Oriented EU Sustainability and Food Projects

Project	Category	Ongoing	Hungary
SchoolFood4Change	social	✓	✓
Strength2Food	social		✓
FOODCLIC	social	✓	✓
DIVINFOOD	crop	✓	✓
RADIANT	crop	✓	✓
OrganicTargets4EU	F2F	✓	✓
ENOUGH	F2F	✓	✓
REFRESH	food waste		✓
FOODRUS	food waste		✓
COACH	short SC		✓
SMARTCHAIN	short SC		✓

Source: Own creation based on European Commission. (n.d.). CORDIS - EU research results.

2.2.3 Short supply chain

The agri-food system in the EU depends heavily on short food supply chains. Improving this sector's competitiveness and sustainability is essential. The goal of the EU-funded SMARTCHAIN project is to accelerate and encourage the shift to cooperative short food supply chains. Concrete steps, suggestions, the creation of strong business plans, and the implementation of creative solutions will all be used to achieve this (European Commission, 2022c). By promoting and enabling cooperation between farmers, consumers, local governments, and other stakeholders to create short agri-food chains, the EU-funded COACH project will foster innovation in regional food systems. A 'living library' of 32 successful examples from 12 countries will also be developed to show how farmers may take advantage of consumer-driven possibilities (European Commission, 2024a).

2.2.4 Food waste

The REFRESH project's overall goal is to maximize the value of inevitable food waste and packaging materials. It creates a "Framework for Action" model that is founded on government-backed strategic agreements at every stage of the supply chain. (European Commission, 2023a). Food waste and losses in the agri-food chain will be decreased by the EU-funded FOODRUS project. The emphasis is on bread in Slovakia, meat and fish in Denmark, and vegetables in Spain (European Commission, 2024d).

2.2.5 Farm to Fork

The projects that fall under the Farm to Fork category could also be categorized as broad, but they were kept on the list because their F2F aspect provides relevance to the SchoolFood4Change project. By 2030, at least 25% of the EU's agricultural land must be organic, according to the EU Farm to Fork Strategy. In order to develop potential scenarios for accomplishing this aim, the EU-funded OrganicTargets4EU project will evaluate the major forces and obstacles influencing the organic industry (European Commission, 2022b). By developing new knowledge, technologies, tools, and techniques to help the industry cut greenhouse gas emissions by 2050, the EU-funded ENOUGH initiative will support the F2F goal (European Commission, 2024c).

2.2.6 Crop

There are two crop-related projects that are still ongoing and have Hungary as a participant. Food and nutrition insecurity may be lessened by neglected and underutilized crops (NUCs). In this regard, increasing the value of NUCs is the goal of the EU-funded DIVINFOOD project. It will pay particular attention to nutritious plant-based foods and locally or regionally branded goods (European Commission, 2024b). Underutilized crops will also be a focus of the EU-funded RADIANT project. The project will collaborate to create tools and solutions to increase agrobiodiversity through dynamic value chains (DVCs), bringing together a collaboration of trained value chain operators, researchers, and end users (European Commission, 2024e).

2.2.7 Social

The projects listed under the social category are in the closest relation to the SchoolFood4Change initiative. By establishing robust food policy networks and testing out novel strategies and business models in living labs spread throughout eight European city regions, the EU-funded FOODCLIC project will produce more sustainable urban food environments (European Commission, 2022a). There is an urgent need to improve Europe's short food supply chains (SFSCs), public sector food procurement (PSFP), and food quality schemes (FQS). In order to address this problem, the EU-funded Strength2Food project was created. Strength2Food, which was led by a group of 30 partners from 11 EU and 4 non-EU nations, measured the social, economic, and environmental effects of SFSC, PSFP, and FQS. It evaluated how PSFP regulations affect school nutrition (European Commission, 2023b).

2.3 The SchoolFood4Change project and its situation in Budapest

2.3.1 The SchoolFood4Change overview

Schools have the ability to serve as educational institutions for youth about healthy eating habits and foster the growth and experience of a sustainable food culture. Building on this potential, the EU-funded SchoolFood4Change (SF4C) initiative views schools and school meals as key players in bringing about systemic change at a large scale in society. While acknowledging their transformational potential and capacity to drive change, the focus is on empowering children and adolescents via education. It includes creating sustainable and creative food procurement methods, promoting planetary health diets and cooking, and introducing the so-called "Whole School Food Approach," a framework for schools and municipalities that aims to create a child-friendly food culture involving all relevant parties associated with the school environment. The project began in January 2022. By directly affecting more than 3,000 schools and 600,000 youth across 12 European nations, its 43 partners help achieve the goal of reaching at least two million EU residents (SF4C, n.d.c). Furthermore, Table 2 presents the seven targets established by the SF4C project.

Table 2. The seven targets the SF4C project aims to achieve

Target	Criteria
Protect biodiversity and organic production	Food and drink items offered should include at least 40% (by mass/volume or value) certified organic ingredients
Nutrition, quality, taste, and seasonality	Every food shall undergo quality and taste testing and be 100% traceable back to its source, offer in-season items
GHG emission reduction	Track and decrease food production, transportation, consumption, and disposal-related GHG emissions
Food poverty and inequality reduction	Give all children access to wholesome meals and repurpose extra food in an acceptable way
Food education and culture	Guarantee that food education is a significant component of school meals
Small farmers and integration of disadvantaged groups	At least 10% of the food should come from small farmers or businesses with disadvantaged individuals
Fair Trade and decent labor conditions	At least 50% of the coffee, tea, sugar, and exotic fruits should come from Fair Trade certified suppliers

Source: Own creation based on SF4C, (2023).

2.3.2 Budapest and the project

Hungary is also one of the participating EU nations in the SchoolFood4Change project and Budapest is a replication city. Replication cities act as models for a larger target group of cities, allowing them to adopt and learn from the strategies and solutions used in SchoolFood4Change. Replication cities benefit from exchanging information with pioneer towns, hearing firsthand knowledge and advice, and obtaining specialized tools, resources, and guidance. These cities hold yearly meetings, study visits, ad hoc visits, webinars, and trainings (SF4C, n.d.d).

Since 2015, Hungary has had a Public Procurement Act that establishes national guidelines for public procurement practices and puts the relevant EU Directives into effect. Although there is not a clear national food policy in Hungary, there are laws requiring standards for food safety, cleanliness, and nutrition (SF4C, 2022).

Besides SF4C, the city also participates in two previously mentioned EU projects. By taking part in the DIVINFOOD project, the Municipality hopes to raise awareness of underutilized plant species and create plant-based food chains that are more resilient to environmental stresses. Budapest is also a partner in the FOODCLIC project, which intends to increase the school's understanding of food sustainability and create an urban food plan.

The food services in Budapest's educational institutions are provided by the Catering Service Provider (CSP), managed by the Municipality of Budapest. The parents and the town each contribute a portion of the funding for this service. Schools serve breakfast, lunch, and two snacks. The average cost of a school lunch is €1.27, which comprises a main course and soup. Breakfast and snacks account for around half of this total. This amount includes 27% taxes.

In addition to operating as a contractual authority, the catering service provider is required to purchase food and associated services. Procurement is an open and digitalized process. Typically, the technical specifications outline the sustainability standards for the bids, and bidders must provide seasonal food. With winning bids, a conventional renewable contract is signed. The primary obstacles to enhancing these services have to do with how transparent the operations of the catering service provider and its suppliers are. Furthermore, because it is required by law to supply animal protein every day, the antiquated laws on public catering restrict the capacity to make more sustainably produced meals.

In the SF4C initiative, Budapest's preferred topics are opportunities for regional SMEs and small-scale farmers, reduction of animal-based food, measuring the environmental effect of food procurement, supply chain shortening, and enhancing the price-quality ratio (SF4C, 2022).

2.4 Evaluation models, frameworks, and methodologies

There are many tools, frameworks, and methodologies that can be used to evaluate the SF4C project (Ness et al., 2006). However, to narrow down the applicable frameworks, I decided to focus on the social aspect of the project, rather than on the economic or environmental.

2.4.1 Cost-Benefit Analysis (CBA)

Cost-benefit analysis (CBA) evaluates the costs and benefits of an intervention in monetary terms. CBA assesses the efficiency and value-for-money of actions compared to one another. Behavioral and social CBA acknowledges that individuals are not rational and that sources of value beyond motivation to pay may accurately reflect society's values (Edwards & Lawrence, 2021). According to another literature, three CBA types (fCBA, eCBA, and sCBA) have emerged as a result of financial, environmental, and social concerns. A project is assessed from the perspective of society at large using social CBA (sCBA). Welfare is the main focus, even if money is employed as a common unit to convey social and environmental costs and benefits. It is possible to quantify and compare well-being across projects by utilizing money as the unit of account. Recreational advantages, a decrease in air pollution, a reduction in noise levels, and the creation of jobs for populations with low labor market demand are examples of included benefits. Costs include items like building and maintenance expenses, health and environmental consequences, and safety declines. Such costs and benefits are never clearly monetized, particularly when one considers that the losers and beneficiaries include people with varying incomes, levels of education, and health conditions. Similar to this, elements that are hard to measure will often be overlooked, which may lead to bias. As long as the total net present value (NPV) is positive after weighing, a project is beneficial to society (Hoogmartens et al., 2014).

2.4.2 Life Cycle Assessment (LCA)

There are four steps in LCA. The first phase involves choosing the functional unit and system boundaries in addition to defining the study's purpose and scope. The creation of a life cycle inventory, which identifies and measures inputs and outputs at each stage of the life cycle, is the second phase. These inputs and outputs are divided into distinct midpoint and endpoint impact categories in the third stage, the effect assessment phase. It is debatable how various environmental and social effect categories are combined and weighted in order to evaluate various items (Hoogmartens et al., 2014). It is true that weighing necessitates a subjective assessment of the relative importance of various effect categories. The final stage, the

interpretation phase, is to interpret the LCA's findings. Businesses are searching for methods like social life cycle assessment (sLCA) that enable them to make well-informed decisions on social impacts over the whole life cycle of products, as they are increasingly held accountable for producing social impacts. A wide range of decision-makers, including those involved in investment, design, industrial management, consumer behavior, and public decision-making, have expressed interest in sLCA. It is still in its development and has a long way to go. If the sLCA is to be used as a decision support tool, there has to be some consensus on which aspects are the most important to include in order to adequately cover the area (Jørgensen et al., 2007).

2.4.3 Social Impact Assessment (SIA)

According to Freudenburg (1986), the term social impact assessment refers to assessing a large variety of impacts (or effects, or consequences) that are anticipated to be experienced by an equally extensive range of social groups as a result of some course of action. The process of addressing the social challenges of development is thought of as social impact assessment or SIA. Everyone agrees on what constitutes a good SIA practice. It aims to prevent and lessen negative effects and to maximize positive benefits throughout the life cycle of developments; it supports impacted individuals, advocates, and regulatory bodies; it improves knowledge of change and the ability to adapt to it; and it places a strong emphasis on improving the lives of those who are vulnerable and disadvantaged (Esteves et al., 2012). There are three different kinds of social impact assessments: micro, meso, and macro. Individuals and their actions are the main focus of micro-social effect assessments. While macro-social impact assessment concentrates on national and global social systems, meso-social impact assessment concentrates on organizations and social networks, including communities (Becker, 2001).

Besides CBA, LCA, and SIA, there are other frameworks that were analyzed in my research. However, due to limitations in length, I would only like to mention them. Other methodologies include the Triple Bottom Line and the Theory of Change (Cornell & Kubisch, 1998; Svensson et al., 2018). After researching the mentioned tools and methodologies, I verified that the Social Return On Investment (SROI) framework is appropriate for the goals of SF4C project, since it addresses the constraints of approaches such as CBA, which may neglect difficult-to-monetize features, while also complementing the larger social focus of tools such as Social Impact Assessment (SIA) by directly tying outcomes to stakeholders' lived experiences. This makes SROI an ideal tool for assessing the project's impact on community well-being, inclusion, and public health.

2.5 The Social Return On Investment (SROI) framework

As researched by Pathak and Dattani (2014), social impact evaluation is crucial for general stakeholder accountability, mission reinforcement, resource acquisition, and performance monitoring. Social impact assessment is becoming more widely acknowledged as a long-term success indicator of social enterprises and social ventures in general. SROI is described as "a framework for measuring and accounting for the much broader concept of value" (Banke-Thomas et al., 2015).

There are two forms of SROI. The first one is evaluative, which focuses on past outcomes. The second one is forecast, which estimates the social worth of actions, assuming they achieve their desired consequences. Forecast SROIs are extremely valuable during the planning phase of an activity. These tools may demonstrate the benefit of investment and identify key metrics for project success. In order to guarantee that you have the proper data-gathering mechanisms in place to do a thorough study later on, it is frequently best to begin with SROI by forecasting what the social value may be rather than analyzing what it was (Nicholls et al., 2012).

Since the initially created SROI framework in 1996, the original approach has undergone a series of revisions. The methodology has been integrated with concepts and procedures to create a framework that can capture the broader impact of interventions (social, economic, and environmental). This idea is commonly known as the "triple bottom line" (Banke-Thomas et al., 2015). The SROI methodology has been evaluated in previous narrative reviews, which have highlighted its strengths (such as the ability to produce a single ratio that captures both positive and negative outcomes, the platform for meaningful engagement of multiple stakeholders, and the ability to represent stakeholder benefits) and weaknesses (such as the challenge of assigning monetary values to "soft outcomes", determining what would have happened in the absence of the intervention, and the poor comparability of SROI ratios).

According to another research by Yates and Marra (2016), the benefits of SROI include (1) data about the program's results and its social worth; (2) the possibility to compare programs even if their results are usually reported in various units; (3) ability to convey the value of a program to the entire community instead of just one stakeholder group; (4) encouragement of participation from a variety of parties. The disadvantages of SROI include (1) inaccurate assessments of the costs and benefits to society; (2) the presence of additional biases when a program's financing is at risk; (3) the reliability, validity, and importance of evaluation results may be overstated when dollar symbols are added to quantitative measurements.

In accordance with Nicholls et al. (2012), to conduct a SROI properly, one must follow its core principles that are stakeholder involvement, understanding changes, valuing things that matter, including only what is material, avoiding overclaiming, transparency, and result verification. The analysis will necessitate some degree of judgment. The idea of materiality guides judgment: information is considered material if it can impact the decision-making of readers or stakeholders. An item of information is considered material if leaving it out of the SROI will misrepresent the organization's actions. Documenting material decisions is crucial for transparency and demonstrating the reasons for inclusion or exclusion.

The Social Return on Investment (SROI) analysis follows a structured process, ensuring a comprehensive evaluation of social value. Table 3 summarizes these key stages. This structured approach helps quantify and communicate the broader impact of social initiatives, ensuring that stakeholders can make informed decisions based on measurable outcomes.

Table 3. The six stages of the SROI framework

Stage	Description
1. Scope & Stakeholders	Define the scope and identify key stakeholders.
2. Mapping Outcomes	Create an impact map (Theory of Change) by engaging with stakeholders and linking inputs, outputs, and outcomes.
3. Evidencing & Valuing Outcomes	Develop indicators, collect data, determine the duration of results, and assign value to outcomes.
4. Impact Establishment	Elements of change that would have occurred regardless or are the consequence of other variables are not considered until proof of results has been gathered and monetized.
5. SROI Calculation	Conduct projections, calculate net present value, find the SROI ratio, perform sensitivity analysis, and optionally determine the payback period.
6. Reporting, Using & Embedding	Communicate findings to stakeholders, answer questions, and verify the report.

Source: Own creation based on Nicholls et al. (2012).

3. Problem definition

Ensuring sustainable and healthy school meals is becoming a higher priority in Europe, with initiatives such as the SchoolFood4Change (SF4C) project attempting to change public catering systems. However, the execution of such initiatives poses economic, logistical, and social obstacles, especially in Hungary, where public school catering is subject to financial limitations and a strict regulatory framework. This study seeks to evaluate the expected social return on investment (SROI) of the SF4C project in Hungary and assess its contribution to regional sustainability and public health goals.

3.1 The problem of public catering in schools

With the implementation of successful preventative measures, the prevalence of nutrition-related diseases can be considerably reduced in the population's diet through public catering. According to a study by Molnár et al. (2016), which collected data from Hungarian children aged between 10 and 16 years who were also customers of public catering for at least more than two years, flavor was the primary element influencing children's opinions on their meals. The same study found that the analyzed menus did not accurately fulfill the regulatory standards, and the nutritional content of the meals provided by public catering services varied greatly. Neither the salt nor the energy contents met the recommended levels. Another study by Kiss et al. (2019), conducted interviews with different stakeholders. The findings demonstrate the ineffective communication amongst them and the lack of preparation for the implementation of the new regulatory framework. In contrast to Western-European school boarding options, the Hungarian school catering system (SCS) is marked by significant backwardness and delayed development. It is unable to adapt to shifting needs. The sharp decline in the take-up rate as youngsters get older is a great indicator of this. In 2013, 85% of parents prepared some form of prepackaged food for their kids, which is another sign of issues. In conclusion, public catering meals lack appropriate taste, requiring formulation improvement through new technologies and raw materials. A comprehensive nutrition education program and regular interactions between the stakeholders are required (Kiss et al., 2019; Molnár et al., 2016).

The findings presented above also highlight the need for a SROI analysis, particularly from a sustainability perspective. The benefits of investing in healthier, more sustainable catering options can be quantified, demonstrating their long-term value not only for public health but also for the overall efficiency and effectiveness of the school catering system.

3.2 Background and actors of the problem

3.2.1 Governments, local authorities, and public education institutions

Neither the national nor local governments prioritize the growth of the SCS because it gives far fewer opportunities to expand the number of voters. This unusual behavior is ingrained in Hungary's paternalistic political culture. This phenomenon can explain why, up until 2010, no meaningful attempts were made to reverse the rather severe trends in obesity. The ministry provided significant support for both the Canteen-Pattern (in Hungarian: Minta Menza®) and Canteen Reform (in Hungarian: Mensareform®) projects. However, without government assistance, both programs lost momentum. A potential reason for failure could be that countless small-scale projects were launched, many of which had little prospect of success, because they could not be managed simultaneously. Due to their duty for the efficient operation of schools, local authorities have been instrumental in the creation of the SCS. The national government has a significant effect on the decisions made by local administrations. They have a rather high amount of control over business enterprises since they can devote more financial resources to improve school catering subsidies through agreements with SCS firms (Kiss et al., 2019).

According to Diófási-Kovács and Freund (2022), the issues on the "downstream" side of the food system, or the customer side, originate from the fact that the public education institution owns the dining room, but the canteen is run by the catering service provider, and its employees report to it. This frequently makes it difficult to provide a high-quality food service for students. Many times, the dining rooms' furnishings, lighting, and other features make them unsuitable for serving a satisfying meal. Another issue is the limited amount of time allowed for meals at public education institutions, which discourages culturally appropriate and healthful meals and leads to a rise in food waste as kids are forced to eat quickly.

3.2.2 Catering service providers and managers

As found out by Kiss et al. (2019), more and more towns are purchasing school catering services from certain businesses that manage school or finishing kitchens, where they reheat and serve food made in the businesses' central kitchens. The managers of catering services are in charge of the kitchens. Their duties often include obtaining raw ingredients, preparing food, and overseeing the serving procedure. Although local managers play a crucial role in the SCS, their decision-making authority is limited by financial constraints and complex regulatory frameworks. They are frequently unable to get raw ingredients for the type of cuisine that would meet the standards, and they often lack the knowledge necessary to make a broad menu.

Public procurement is also a part of the catering service provider's internal operations, which makes it difficult for the company to work with small-scale producers. Additionally, laws governing public catering restrict the capacity to prepare more sustainably produced food, even though it is well known that a plant-based diet that excludes meat on one or two days per week can have a substantial positive environmental impact. To lessen the impact on the environment, the catering service provider's fleet of trucks, logistical procedures, and internal operations (such as waste reduction, energy efficiency, and chemical usage) can all be optimized to be more efficient. Optimizing the forward and reverse movements within the food system has a lot of potential for cost and GHG emission reduction. The catering service provider is in contact with several other actors. This comprises food raw material suppliers, from whom it uses the ingredients to produce meals in its own kitchens. There are also some providers who deliver prepared meals straight to public schools. Additionally, there are food service consulting partners who conduct satisfaction surveys. Moreover, food waste management organizations carry the food waste for additional recovery after performing reverse logistics operations (Diófási-Kovács & Freund, 2022).

3.2.3 Parents, children and teachers

Parents frequently go to fast-food restaurants because they lack the time to prepare meals. Families' influence over children's and adolescents' healthy diets is diminished by this phenomenon. Additionally, it is challenging to discuss parents as a homogeneous group since some parents just lack the time or energy to be concerned about their children's food intake. In the case of poor families, the school canteen plays a significant role in relieving families (and their budgets) of the burden of daily food provision. On the other hand, some parents are concerned about the low quality/quantity of food served to their children in school canteens, which is why they pack sandwiches for them or give them money to buy extra food. The needs of children are very different from the SCS's existing reality. Only if students enjoy and prefer to consume the meals can catering reform be successful, but in Hungary, this factor has been overlooked. Additionally, decades have elapsed since the outdated catering infrastructure was last updated. This stands in stark contrast to the bright colors and design of most fast-food establishments that cater to the younger demographic. As for the teachers, if they eat in the same canteen, they consume primarily the same foods as the students. There is an emerging trend of overloaded, burned-out teachers who lack the energy to care about what their students consume (Kiss et al., 2019).

3.3 Analysis of the macro environment influencing school catering systems

To analyze the macro environment, the PESTEL framework is a widely recognized tool that examines various key factors. PESTEL is an acronym, and the letters represent six categories to be investigated: political, economic, social, technological, environmental, and legal factors. Overlap between the elements of several categories can occur, but the recognition of a certain factor is more important than its placement between two categories (Bright et al., 2019).

As shown in Table 4, the analysis highlights the key external factors influencing sustainable school catering in Hungary, categorized according to the PESTEL framework. This table serves as a great summary of the problem definition chapter.

Table 4. The PESTEL framework analyzing the situation of school catering in Hungary

Category	Description
Political	Lack of preparation for implementing new regulatory framework SCS is low political priority because fewer number of voters Uncertain government support, procurement laws limit flexibility
Economic	Financial limitations from authorities Tight budgets make sustainable food seem costly
Social	Ineffective communication amongst stakeholders Need for staff training, lack of knowledge to make a broad menu Parental time constraints, low engagement, limited nutrition awareness Overloaded teachers Low awareness of child nutrition
Technological	Outdated catering infrastructure Unsuitable dining room for serving satisfying meals
Environmental	Insufficient time to eat Food waste from rushed meals Reliance on packed food from home Limited local/seasonal sourcing
Legal	Strict regulatory framework Menus do not fulfill regulatory standards Favoring large-scale and low-cost suppliers, barriers for local farmers Restricting the capacity to prepare more sustainably produced food Dining rooms owned by school, canteen run by catering provider

Source: Own creation based on Bright et al. (2019), Diófási-Kovács & Freund (2022), Kiss et al. (2019), Molnár et al. (2016).

4. Methodology

Social scientists may use either quantitative or qualitative designs, depending on the desired outcome of the research. Because they strive to explain events from different perspectives, both are viable methods for evaluating a phenomenon in the appropriate context. By assessing the current situation, the research topic, and the essential features of each design, the researcher can make a better educated decision, improving the study's reliability and validity (Lowhorn, 2007).

According to Choy (2014), the quantitative method has two distinct advantages. First, it can be administered and analyzed rapidly. Second, numerical data enables comparisons between groups and measures agreement levels, but it can overlook complex human traits like identity and beliefs. Additionally, effective quantitative research often requires a large sample size. On the other hand, one significant advantage of the qualitative approach is that the inquiry is broad and open-ended, allowing participants to highlight the concerns that are most important to them. Qualitative research is well-suited for exploratory studies, as it allows for a deeper understanding of complex social phenomena by capturing different perspectives, motivations, and contextual influences that quantitative methods may overlook. The main disadvantages of qualitative analyses are that they take a long time and that crucial issues may be missed. Personal experience and expertise influence observations and conclusions. Some academics argue that qualitative research produces data that is not objectively verifiable. To successfully collect primary data, trained interviewers may be required (Choy, 2014; Lowhorn, 2007).

I choose to apply a qualitative research approach in my thesis. By focusing on descriptive data, stakeholder perspectives, and a SROI evaluation, this approach provides a deeper understanding of the SF4C project's broader implications beyond numerical metrics.

4.1 Semi-structured interviews

In accordance with Adhabi and Anozie (2017), interviews can be either formal or informal. Informal interviews are a normal aspect of people's lives. Formal interviews are more organized and are more often employed in professional settings. Formal interviews are divided into three types: structured, semi-structured, and unstructured interviews. Interview techniques vary, but they all have one thing in common: they use questions to understand people's ideas, feelings, beliefs, and behavior. The fundamental distinction between them is the interviewer's level of control over the encounter and the purpose of the interview (Stuckey, 2013). Table 5 outlines the key differences among the three types of interviews.

Table 5. Comparison of structured, semi-structured and unstructured interview types

	Structured	Semi-structured	Unstructured
Control	Completely controlled by the interviewer.	Moderate control by the interviewer, but the participant can shape the discussion.	Minimal control by the interviewer; the participant has the most influence.
Flexibility	Low flexibility, limited to preset questions.	High flexibility, allowing for deeper exploration.	Very high flexibility, with participants guiding the direction of the conversation.
Data type	Produces quantifiable data (useful for statistical analysis).	Produces qualitative data, but with some structure for easier comparison.	Produces rich qualitative data, often in the form of narratives or detailed stories.
Advantages	Reliable and consistent, easy to compare across participants.	Allows for exploration of new topics while maintaining a focus on the research questions.	Provides deep insights and allows participants to reveal unexpected information.
Disadvantages	Can feel rigid and stressful for participants, leading to shallow answers.	May not be as consistent, some topics might be missed.	Difficult to analyze due to the large volume of diverse data; hard to maintain focus.
Use cases	Best for quantitative research or when consistency is critical.	Ideal for qualitative research where flexibility and depth are important.	Best for exploratory research or when studying personal experiences in depth.

Source: Own creation based on Adhabi and Anozie (2017), Alsaawi (2014), Stuckey (2013).

A semi-structured interview is the best fit for my research as it balances structure with flexibility, allowing for deeper insights from diverse stakeholders. Unlike structured interviews, which are rigid and best for quantitative research, this approach ensures that key topics are covered while giving participants the freedom to share their perspectives. Unstructured interviews, while rich in data, are harder to analyze and less practical for my study. This method enables a focused yet open conversation, capturing both expected and unexpected insights, ultimately strengthening the understanding of the SF4C project's impact.

4.2 Secondary data analysis

In addition to analyzing the semi-structured interview answers, the other key contribution of my research will come from secondary data analysis. By combining these perspectives, my research aims to offer a more nuanced and well-rounded understanding of both the SROI outcomes and the situation of school food catering in Hungary.

Primary data is information gathered by researchers directly. Secondary data, on the other hand, is information derived from secondary sources, which are not directly assembled by the analyst; it may comprise published or unpublished work based on research that depends on primary sources (Rabianski, 2003). According to Boslaugh (2007), the first advantage of secondary data analysis is cost savings. The data has already been acquired, and it leaves more time for evaluating data. Another advantage is the accessible variety of information. Few individual researchers would have the means to gather data from a representative sample of individuals. Secondary data analysis also uses data where the data collection process was carried out in a highly knowledgeable and professional way, which smaller research groups may lack. On the other hand, it can be considered as a disadvantage that we can only operate with already existing data. It was not collected to address our exact research questions, therefore, some information that we would like to have may not have been obtained. Another drawback is the lack of insights into the data-gathering process. Every data gathering attempt has small tricks that, although not invalidating the data, should be evaluated by the analyst.

In the context of SchoolFood4Change, these advantages mean that I can focus on analyzing the SROI rather than conducting the analysis myself. Relying on existing data saves time and ensures that the information was collected by experts with the necessary resources and expertise. Given the scope of this research, independently gathering comparable, high-quality data would not be feasible. Therefore, using the data already compiled by SchoolFood4Change allows for a more thorough and well-supported analysis.

The first disadvantage is less relevant to my thesis, as the SROI analysis conducted by SF4C already provides the necessary data to answer my research question. The SROI is a standard framework that, when completed thoroughly, should include all relevant information. However, the second disadvantage is more significant. Since I was not involved in the data collection process, I must carefully assess how the data was gathered and ensure that my analysis remains accurate and objective. To address this, I will pay close attention to understanding the methodology behind the data to interpret it in the most reliable and unbiased way.

5. Problem Analysis

In this chapter, the aim is to understand the implementation and impact of the SchoolFood4Change Social Return On Investment (SROI) project within the broader context of sustainable school food systems in Europe. To provide contextual depth to the analysis, three semi-structured interviews were conducted. One focused on the methodology and implementation of the SROI assessment, while the other two offered country-specific insights from Hungary and Belgium, both participating in the project. These qualitative findings complement the secondary data analysis of SROI evaluation data, together providing a comprehensive view of the project's design, implementation, and perceived value, while highlighting key challenges and opportunities for more sustainable school food systems.

5.1 Analyzing the interviews

During my research, I carried out three interviews with three different interviewees. My first interview was with Giorgia Balducci, and the focus of the interview was on how the SROI model was conducted. As the project coordinator, she was responsible for moderating the data collection of the participating cities of the SF4C SROI project, ensuring that the participating countries were progressing. With weekly meetings, she was checking the countries' progress, while also giving feedback and answering questions. Besides the SROI project, she deals with project assistance on Green Public Procurement, environmental criteria, and environmental taxonomy, as well as technical assistance for sustainable public procurement and European planning. My second interview was with Kinorányi Éva, who represents Hungary, more specifically Budapest, in the SF4C SROI project. She is a sustainable food supply chain specialist. She works at the Budapest Metropolitan Municipality Mayor's Office in the Department of Climate and Environment. Besides the SchoolFood4Change project, she is also involved in other food-related EU projects, namely FOODCLIC and DIVINFOOD. My third and final interview was with Sarah Bruinaars, who represents the city of Ghent from Belgium in the SF4C SROI project. She is also an EU Project Officer working in the Food and Beverage Team, being involved in the Services, Logistics, and Facility Management Department.

It is important to understand that Éva and Sarah represent participating countries in the SF4C SROI project, while Giorgia is not a representative of any country. As the project coordinator, she was responsible for guiding the cities and ensuring that the project was successful. Table 6 provides a summary of the interviewees to facilitate a clearer understanding.

Table 6. Summary of the interviewees

Name	Job & field	Interview type & focus	Referred to as
Giorgia Balducci	Green Public Procurement, Sustainable Public Procurement	Written answers + Weekly meetings (60 minutes x 2) – Conducting the SROI model	Project coordinator
Kinorányi Éva	Sustainable Food Supply Chain Specialist, FOODCLIC, DIVINFOOD	Written answers + follow-up discussion (30 minutes) – Budapest’s participation	Hungarian representative
Sarah Bruinaars	EU Project Officer, Food and Beverage Team	Written answers + follow-up discussion (30 minutes) – Ghent’s participation	Belgian representative

Source: Own creation based on the interviews

In the following subchapters, I would like to highlight the most important insights gained from the conducted interviews. To provide a meaningful comparative analysis, four key perspectives were selected: (1) Understanding, (2) Data Collection, (3) Practical Applications and Future Outlooks, and (4) Challenges and Limitations. These categories were chosen based on the thematic relevance and depth of responses provided across the interviews. The first aspect reflects insights from the project coordinator and offers context on how the methodology was conceptualized and coordinated. The remaining three aspects were central to the interviews conducted in Hungary and Belgium and offer comparative value regarding local implementation. The project coordinator’s reflections were selectively included in these sections where they added contextual depth or helped bridge project-level intentions with local realities. By focusing the comparison on these themes, the analysis aims to connect theoretical expectations with the lived experience of implementing SROI within the SF4C project.

5.1.1 Understanding

The primary objective of applying the SROI methodology within the SF4C project was to develop a case study assessing the effectiveness of sustainable procurement in school catering, an area previously lacking such analysis. As it was also confirmed in the literature review, the SROI methodology serves as a tool for measuring the social impact of a project. In the context of SF4C, they are also aiming to promote its adoption in other cities. Through this dissemination, the goal is to encourage broader implementation of the methodology.

The framework was tailored to assess school catering systems across different countries. Before preparing a map of the stakeholders in the cities, they analyzed how the school catering system works in each of them, by answering who the stakeholders are, what their roles are, how

they interact, and what the regulations are. At this stage, with the support of the partners/cities, they conducted a short document search and collected the municipal data already available. Once a stakeholder map was created in each city, together with the partners/cities, they prepared the forms to start collecting data. This approach reflects a sound implementation of the SROI framework, as it did not bypass the initial phase of defining scope and identifying stakeholders. Instead, cities were actively involved in shaping this foundational step, which in turn enabled a more precise and context-specific mapping of outcomes in the subsequent stage.

Applying the SROI framework to school food systems is unique. They wanted to create a case study about the usefulness of the application of sustainable green procurement in this context. School food systems affect health, education, local economies, and the environment. Improved nutrition can reduce obesity and diet-related illnesses, while better food quality and education promote healthier habits among students. Socially, these systems support vulnerable children by providing free, healthy, and sustainable meals, including Fair Trade options. Economically, sourcing from local producers strengthens regional economies, and environmentally, reducing food waste and emissions fosters sustainability. As it was also highlighted in the literature review, together these benefits illustrate how sustainable school food systems (SSFS) serve as a holistic approach to advancing public health, environmental goals, and local development, all aligned with the F2F strategy.

In the SF4C project, they also developed an Environmental Impact Calculator Tool for school food meals. The SROI relied heavily on this tool, both to find the data and to find the results. The calculator considered several aspects. First, an analysis of the environmental impact of food was done, along its entire supply chain, therefore considering GHG emissions, pollution, water use, and land use. The environmental impact calculator also measured diet quality, nutritional values, and potential health outcomes. By integrating these dimensions, the tool addressed a limitation of the SROI methodology, namely its inability to adequately capture environmental impacts, thereby enhancing the comprehensiveness of the assessment and providing a more accurate measure of the F2F goals related to sustainability and public health.

They collected the data from each city that has joined them in this project task. They were conducting one-to-one meetings to collect the data, and the cities were asked to do two different simulations in the environmental impact calculator, to help data collection from before and after the project. This direct and guided engagement with each city ensured that the data collected was both context-specific and accurate, thereby strengthening the reliability of the assessment.

As found out in the literature review, according to different researchers, SROI has many different weaknesses and advantages. During our interview, the project coordinator agreed with

all the strengths from the current literature. When it comes to the weaknesses of the framework, she confirmed that it is challenging to assign monetary values to soft outcomes; it is hard to determine what would have happened in the absence of the intervention; and the framework may have inaccurate assessments of the costs and benefits to society. On the other hand, she does not believe that there is a poor comparability of SROI ratios; that there is a presence of additional biases when a program's financing is at risk; or that the reliability, validity, and importance of evaluation results may be overstated by dollar symbols.

5.1.2 Data collection

In Hungary, data collection was managed by the Catering Service Provider (CSP), a public catering company operating under the Municipality of Budapest. It runs central kitchens as well as serving kitchens in each participating school and institution, ensuring the preparation and delivery of meals. CSP was an active project partner, however, in the case of schools, the main issue was that there was no overlap between the schools involved in data collection by CSP and the schools participating in the Whole School Food Approach (WSFA) model. They only had an active relationship with the latter group of schools. For the SROI data collection, CSP selected 5 schools, while 12 schools were involved in the WSFA model. Unfortunately, CSP staff did not coordinate in advance to check which of the 12 schools were already part of the WSFA model. As a result, the collected data lacked alignment, severely limiting the ability to measure actual project outcomes. Furthermore, relying on a small, non-representative sample of schools undermines the generalizability of the findings, particularly in drawing conclusions relevant to the broader Hungarian school food system.

In Ghent, the city administration is responsible for managing data, actively collecting it from schools and catering companies. Ghent is one of the few Belgian cities that operates its own network of 120 city-managed schools. These schools follow a unified tendering process for meal provision. While there are many more schools in Ghent overall, only these 120 schools fall under direct city management. This centralized structure enabled Ghent to gather comprehensive data from all its city schools, in contrast to Hungary, which had access to data from fewer than ten schools. It is worth mentioning that Leuven is another Belgian city that participates in the SROI project, and they do not have any schools that are managed by the city. They only collected data from around 10 schools, like Budapest. In this regard, Ghent's centralized structure gave it a significant advantage in terms of data collection, resulting in more comprehensive and reliable data compared to both Budapest and Leuven, where the sample sizes were too small to provide a representative overview of the city's school food systems.

While the possibility of comparing programs across different contexts was mentioned as an advantage of the SROI framework in the literature review, I believe this may not be so true for the following reasons. In Budapest, although the quality of the data was generally good, it was not readily accessible from a single source, resulting in significant gaps. The complexity of the system also hindered the collection of education-related data, such as teacher training courses outside the scope of SF4C. The process of collecting data in Ghent presented several significant challenges as well. One major obstacle was that they do not typically collect the specific data required for the analysis. Schools have the autonomy to manage their own data collection, and the Belgian representative did not have direct visibility into the activities and data managed by the education department. Additionally, due to tight deadlines and the low prioritization of the SROI analysis, collecting the necessary data proved challenging. Furthermore, the project coordinator mentioned that the availability and quality of data differ considerably between cities. Some municipalities systematically collect information on nutrition, academic performance, procurement practices, food waste, training hours for staff and cooks, and the transition of local suppliers toward organic systems. However, such data are often incomplete, inconsistent, or difficult to access. This was confirmed by both Budapest and Ghent. These variations in data collection methods and the uneven availability of data across countries and cities hinder the comparability of the SROI analysis, highlighting a significant weakness in the project's ability to draw consistent and reliable conclusions across different contexts.

Although the literature emphasizes that a key strength of the SROI framework is its function as a platform for the meaningful engagement of multiple stakeholders, this advantage did not materialize in practice during the SF4C project. When asking the interviewees about the difficulties in the different stages of the SROI, both highlighted that the data collection phase was the hardest. Obtaining information related to education, such as data on teachers, absences, attended training sessions, etc., was challenging. Colleagues from departments who might have had this information were often difficult to reach and had different priorities. This made it harder to collect comprehensive data for these aspects. Furthermore, the project coordinator also stated that when the project was in stages three and four of the SROI analysis, it was much more difficult to collect all the data they needed from each city, due to the actual availability of data or the possibility of access to it. These challenges suggest that stakeholder engagement was limited and that the project was not sufficiently prioritized within local administrations, ultimately undermining one of the framework's frequently cited strength.

5.1.3 Practical applications and future outlooks

In Hungary, communication of the results is primarily directed at municipalities, as they are solely responsible for institutional child catering. Schools and the educational administration have no direct influence, so communication with them is viewed as informational rather than decision-oriented. In contrast, the Belgian approach is more inclusive. The Belgian representative believes that the best way to communicate the SROI results to school administrators, caterers, and decision-makers is through clear, concise presentations and reports that highlight the key benefits and impacts. They will appreciate seeing the data that supports their initiatives and may be more inclined to support and engage with their programs as a result. Even though only the administration of the city of Ghent has real decision-making power, they also value the opinion of teachers, parents, and children. When preparing a new tender, the city consistently conducts surveys with schools to gather their input, which is considered during the tender development process. The surveys typically explore perceptions of current meals, desired changes, and overall satisfaction. Adopting well-designed and targeted questionnaires in Hungary could lead to improvements. Even though schools do not have formal authority over catering decisions, their involvement could serve an important educational function, increase stakeholder engagement, and ultimately contribute to a more effective implementation.

The interviewees were also asked about ideas for potential improvement of the SROI framework. Interestingly, the Hungarian and Belgian representatives both had the same suggestions. They highly recommend allowing the criteria to be flexibly adapted to local conditions because they felt that some of the questions were not entirely relevant to their local situation. By tailoring the assessment to address the specific circumstances and challenges faced in their cities, they can ensure that the results are more accurate and meaningful. This refinement would help in capturing the true impact of initiatives and provide more actionable insights for future improvements. I agree with this recommendation. Not only would it facilitate data collection, but it could also enhance local relevance and ownership. While this may hinder cross-city comparability, the gains in accuracy and relevance could outweigh this drawback.

Additionally, the project coordinator suggested to consider long-term outcomes, like climate resilience, or local economic development, but also disparities between different groups. Personally, I do not fully agree with this suggestion. While these dimensions are undoubtedly important, incorporating them meaningfully into the SROI analysis would be complex and add to an already resource-intensive framework, making further expansion likely impractical. The SROI methodology, as currently structured, lacks the analytical depth to adequately capture such broad and long-term systemic impacts. In fact, even for environmental outcomes, the

project had to rely on an external tool (the Environmental Impact Calculator), highlighting that assessing additional dimensions like climate resilience would likely require another tool.

The Hungarian and Belgian representatives also agree that if the SROI analysis were done at the level of a county seat, or a smaller (rural) town compared to Budapest or Ghent, it would have different impacts. The lower the level (the smaller the town), the easier it is to coordinate things. Therefore, it would be easier to implement the necessary changes in a smaller town. Also, the involvement of small-scale producers that leads to a higher percentage of SFSCs would also be more feasible. This assessment is well-founded, as smaller towns tend to have simpler governance structures and closer ties between stakeholders, which can significantly reduce administrative fragmentation and facilitate both quicker implementation of sustainable food initiatives and more straightforward, efficient data collection.

Both the Hungarian and Belgian representatives recommend using the SROI framework in future assessments of public catering. The Hungarian representative believes that it helps to properly frame the role and significance of school catering from both a social and environmental perspective. The Belgian representative critically noted that while SROI offers valuable insights into progress, data collection is challenging. Not all public institutions have the time or capacity to gather the required information, making implementation demanding. This perspective reinforces a recurring limitation of the SROI framework. Although it offers valuable strategic insights, its effectiveness depends heavily on the availability of high-quality data and adequate institutional capacity. In the absence of sufficient resources and coordinated data systems, the full potential of the framework is difficult to realize. Furthermore, these concerns also strengthen the earlier point that the implementation could be more feasible and impactful in smaller towns, where coordination and data collection may be simpler and less time-consuming.

I also asked the interviewees whether this initiative could position Budapest/Ghent as a leading example in sustainable school catering. Given the serious structural and funding problems in Hungary, the Hungarian representative believes that this tool will not be enough. On the contrary, Ghent is already a frontrunner in providing sustainable, delicious, healthy, and accessible school meals. The SROI can certainly help maintain and even enhance this status. By providing concrete evidence of the positive impacts of their initiatives, the SROI results can reinforce their commitment to sustainability and quality. This data can be used to showcase their successes, attract further support, and inspire other cities to follow their example. It was also indicated by the project coordinator, that cities also differ in their levels of development regarding sustainable food policies. While some have established advanced procurement practices and integrated food strategies, others are still in the early stages of implementation.

As a result, outcomes and expectations across cities can vary widely. While Ghent already has a mature and integrated approach to sustainable school catering, Budapest is still in the early stages of development. This disparity in conditions between cities further complicates the comparability of SROI outcomes. As such, interpreting their SROI results side by side may create misleading impressions, as the framework does not fully account for structural differences. This highlights the importance of considering each city's stage of progress before drawing cross-city comparisons. Thus, another weakness of the framework is revealed. As a synthesis of the insights, Table 7 summarizes the best practices identified in this subchapter.

Table 7. Summary of the best practices from the interviews and their potential outcomes

Best practice	Outcome / Rationale
Communicate the SROI results clearly highlighting key benefits and impacts	Better understanding of results; increased stakeholder engagement and support
Survey schools before tendering	Menus better aligned with preferences; reduced food waste
Adapt SROI criteria locally	More accurate, meaningful results; context-specific insights for action
Apply SROI in small towns	Easier coordination; realistic implementation of needed changes; greater inclusion of SFSCs

Source: Own creation based on the interviews

5.1.4 Challenges and limitations

As identified in the literature review, the reform of the school catering system has not been a political priority in Hungary, largely due to structural governance issues and the limited political incentives supporting small-scale initiatives. This context explains why the Hungarian representative views SROI as insufficient on its own to shape Budapest's school food strategy, given deeper structural and funding issues it cannot address. Still, the growing recognition of public catering's importance among municipalities offers hope for greater openness to using such tools in decision-making. When it comes to Ghent, the situation of sustainable school catering is also in danger. Given the debts the city is facing, it will remain a hope rather than a reality that the SROI results will have an actual influence, as a significant round of budget cuts is approaching. The new legislation had just started, and they are making budget cuts everywhere, especially on food-related issues. The project coordinator also noted that applying the SROI model to school food systems in several European cities has met multiple challenges. Political contexts and funding mechanisms for school feeding programs vary significantly

across Europe, leading to differences in governance structures, cost distribution, stakeholder involvement, and the prioritization of outcomes. These contextual differences directly shape the scope and impact of school food initiatives. She also predicted that the analysis might also reveal a lack of infrastructure or insufficient political will, guiding not just school-level but structural policy reforms. These challenges hold true for both Budapest and Ghent. Ghent's potential inability to act on the SROI findings highlights that even in more advanced contexts, sustained progress in school catering depends heavily on institutional and fiscal support.

One of the most pressing issues in Hungary is that while education is centralized at the national level, school catering is fundamentally a municipal responsibility. This makes it extremely difficult to integrate sustainable catering with education. Furthermore, most municipalities do not have their own public catering units, unlike the Municipality of Budapest, so they have no direct control over the kitchens. They can only set certain criteria during the public procurement process for catering services. These companies typically operate large central kitchens, producing tens of thousands of meals daily, which makes the procurement of products from small-scale farmers and local producers economically unfeasible due to capacity constraints. Additionally, the fact that meals are not prepared on-site but often several hours before consumption affects their quality and requires specialized food preparation technologies. Decentralizing kitchens could address these issues and support the creation of sustainable school food systems (SSFS) by improving food production, processing, distribution, cooking, serving, and waste management in schools. However, decentralization is hardly feasible due to both space and funding shortages. The quality reduction of meals by preparing them hours before consumption is problematic, since it also results in worse taste, and as supported by the literature, taste is the most important factor for children, thus it likely leads to lower consumption and increased food waste. The difficulty of integrating small-scale producers is also confirmed in the literature, which notes that public procurement forms part of the catering providers' internal operations, structurally favoring large suppliers over local ones. In Ghent, the same issue is also present. The city does not manage in-house meal preparation; instead, it relies on a large external catering company to provide meals for its 120 city-managed schools, which makes over 4,000 meals per day. Due to the scale of operations, working with small suppliers or implementing small-scale solutions proves to be challenging. Unlike Ghent, the city of Leuven partners with a small catering company that serves only three schools. This initiative was started by a parent and even includes the cultivation of their own vegetables. However, such models are not feasible in Ghent, where small suppliers and local farmers cannot reasonably be expected to meet the daily demand of thousands of meals.

Another important issue in Hungary is the need to shift children's attitudes toward healthy food. Without a corresponding transformation in school catering practices, children's eating habits are unlikely to change. At the same time, introducing healthier menus without fostering acceptance among students is equally ineffective, as unfamiliar items like chickpeas often contribute to food waste. These behavioral shifts require time, familiarity, and targeted educational efforts, all of which demand significant investment. As highlighted in the literature, Hungarian children are not inherently resistant to healthier options like plant-based meals. Rather, their acceptance is primarily influenced by taste. This suggests that with well-prepared and flavorful recipes, even more sustainable options could be successfully integrated into school menus, especially when accompanied by educational efforts. Generally, children's attitudes toward food in Belgium are like those observed in Hungary. However, Ghent stands out as a progressive example. They offer healthy sustainable school diets (HSSD) that are safe, nutritionally balanced, affordable, and culturally appropriate. The majority are plant-based, promoting environmental, societal, and individual benefits, aligning with F2F goals. This cultural shift began in 2009 with the introduction of "Thursday Veggie Day," which has since evolved into offering vegetarian options daily. Despite the availability of meat, the weekly protein intake across meals averages out to 50% animal-based and 50% plant-based sources. Even those who opt for meat-based dishes regularly consume ingredients like lentils and chickpeas. Children are generally open to healthier choices, though parents often resist vegetarian options. In Ghent, the new meal standard prioritizes vegetarian dishes, with meat as an alternative. Although most children still choose meat, the shift has had a noticeable impact. The ordering system is designed to subtly encourage vegetarian choices, though many children still see meat as the "regular" option. This gradual, step-by-step approach in Ghent, which started with one vegetarian day per week and evolved into a choice-based system, could serve as a useful model for Budapest and for other cities. Although Hungary may face even greater resistance from parents when it comes to vegetarian options, Ghent demonstrates that progress is possible through small changes and a focus on taste and familiarity.

A key limitation in Hungary is the SROI framework's inability to clearly demonstrate the environmental impact of school catering. This is not just a shortcoming of the framework itself but also reflects broader systemic issues within Hungary's governance and market conditions. Without strong legal or institutional frameworks to enforce sustainability standards, it becomes difficult to accurately capture environmental outcomes. The Hungarian representative highlights that the lack of legal requirements for organic products, Fair Trade goods, and small-scale suppliers limits the environmental impact assessment. Although Government Decree No.

676/2020 (XII. 28.) requires that 80 percent of public procurement purchases originate from short food supply chains (SFSCs), the law created its own definition of “catering short supply chain,” allowing up to one intermediary in the supply process. This vague definition fails to account for the actual geographic origin of products, meaning that imported goods can still qualify. Moreover, this decree applies only to public procurement, excluding entities like CSP. The decree’s target is also unrealistic, as large-scale kitchens cannot rely on small producers to meet their volume demands. These factors significantly limit the law’s practical effectiveness and, in turn, the ability of SROI to capture environmental impacts meaningfully. The City of Ghent has developed its own procurement policy, which applies locally and is not mandated at the national level in Belgium. Within this policy, the city sets specific sustainability targets, such as sourcing 25% organic products and requiring that all bananas be Fair Trade certified. These criteria are incorporated into tender specifications. While it is relatively straightforward to request organic products, including short food supply chains (SFSCs) presents greater challenges due to limited transparency and the difficulties in demonstrating supply chain length. Furthermore, under European procurement law, it is prohibited to require local products, as tenders must remain open to all suppliers across Europe. However, cities are legally permitted to request SFSCs as a proxy for supporting regional sourcing. Ghent leverages this legal distinction by specifying SFSCs in its tenders. In conclusion, both Ghent and Hungary face transparency challenges in implementing SFSCs. Related to the environmental aspects, the SROI coordinator believes that if the analysis demonstrates high returns, policymakers may be better positioned to justify increased funding for initiatives such as sourcing local, organic, or plant-based foods, supporting small-scale kitchens, procuring Fair-Trade products, and investing in staff training. This would shift the focus from short-term cost efficiency toward long-term value creation. While the SROI coordinator sees potential for positive results to justify greater investment, responses from Hungary and Belgium suggest this may be overly optimistic. Structural and financial barriers often prevent meaningful change, even when returns are evident. In Hungary, past reform programs were ultimately abandoned, showing that favorable outcomes may not be enough without strong political and institutional commitment.

Finally, the interviewees were asked about the potential of data misinterpretation by the stakeholders. Both the Hungarian and Belgian representatives believed that there was a risk that not all data would be correctly interpreted by stakeholders. To mitigate this, they regularly met with the project coordinator to discuss the results and provide context. These discussions helped ensure that the findings were clear and understandable for everyone involved. By adding reasoning and explanations, they aimed to make the data more accessible and prevent any

misinterpretation or underutilization. The project coordinator further detailed that when they started creating the general impact map for this analysis, they involved the cities, so that they could structure the necessary indicators together. Co-designing with the cities was the best way for them to ensure that their data was not misrepresented. This highlights one of the strengths of the SROI framework, namely its ability to encourage broad stakeholder participation. While public institutions were less engaged, the participating cities demonstrated a strong commitment to co-designing indicators and clarifying results, which helped ensure the reliability and relevance of the findings. For a clearer overview of the subchapter, Table 8 summarizes the main identified challenges.

Table 8. Summary of the key identified challenges from the interviews

Challenge / Limitation	Cause / Context	Insight / Implication
Off-site meal preparation	Meals cooked hours before consumption; centralized kitchens	Reduced food quality and taste; children are less likely to eat it
Infeasibility of small-scale sourcing	Thousands of meals; small producers cannot meet high volumes	Limits inclusion of local suppliers and SFSCs
Children's resistance to new healthy foods	Cultural habits, low exposure to plant-based meals	Waste risk; menu rejection
Parental influence on food choices	Parents may resist vegetarian options; conservativity	Resistance to healthy reforms
EU law limits on "local" sourcing	Local products cannot be explicitly requested	SFSCs are a workaround; transparency issues
Environmental impact hard to measure	Financial/legal constraints on sustainability in procurement	SROI framework struggles to fully capture impact
Difficulty meeting SFSC criteria	Limited transparency; struggle to prove supply chain length	Weak enforcement of sustainability goals; low inclusion of target products
Lack of influence (Hungary)	Underfunding and poor infrastructure	SROI cannot drive systemic change; policy reform needed
Budget constraints (Ghent)	Budget cuts threaten food programs and food strategy	Low implementation capacity
Diverse European political contexts	Funding, governance, and priorities vary across cities	Effectiveness depends on local political will & policy frameworks
Risk of data misinterpretation	Complex data misunderstood by stakeholders	Indicators and regular feedback improves clarity and impact

Source: Own creation based on the interviews

5.2 Interpretation of the current status of the SROI data

The secondary data analysis was conducted differently than initially anticipated. At the time of writing this thesis, the results of the SROI analysis were not yet available, as the project was in Stage 4, with the calculations still pending. Therefore, the data analyzed in this study came from Stage 1 to Stage 4 of the SROI framework. Since the final results were not available, this thesis emphasizes my own interpretation of the data and its implications. To facilitate comparison, Table 9 provides a summary of the available data on Budapest and Ghent.

Table 9. Summary of available data comparing Budapest to Ghent

Indicator	Hungary (Budapest)	Belgium (Ghent)
n. of schools considered for the analysis	5	120
n. of meals served per year	67 269	919 623
n. of students	356	14 026
average meal fee for the meal	0.89 €	4.90 €
n. of meals including sustainability criteria in 2023/2024	All	All
% of food waste 2020/2021 (before SF4C)	45%	35%
% of food waste 2023/2024	40%	35%
% of Fair-Trade exotic food	0%	100%
% organic farmed fish + % sustainable wild fish	0%	100%

Source: Own creation based on data from the SROI project coordinator

The data comparison between Budapest and Ghent reveals a seemingly significant discrepancy in the average number of meals served per student. In Budapest, the average number of meals per student per year is significantly higher, at 189 meals per student, compared to Ghent's 65 meals per student. This difference raises questions, and one possible explanation could be the way the meals are counted in both cities. In Budapest, it is likely that not only lunch but also snacks before and after lunch are included in the total meal count. In contrast, Ghent may only account for the lunch meals, which could help explain the disparity in the figures. Therefore, this apparent difference in the number of meals served is not an accurate reflection of the catering systems in both cities but rather a result of differing reporting practices. Such inconsistencies not only hinder comparability but also increase the risk of data misinterpretation.

It is also noteworthy that both Budapest and Ghent incorporated sustainability criteria into all their meals for the 2023/2024 period. However, as revealed by the interviews, Budapest

lacks legal requirements for a minimum portion of organic products, Fair Trade goods, or small-scale producers. While a government decree mandates that at least 80% of public procurement products must come from SFSCs, this does not reflect reality, as large-scale catering operations cannot meet such requirements. Therefore, I find this indicator to be vague, which could lead to misinterpretation. A quick review of the table may suggest Budapest is highly sustainable, but this is not the case. The specific sustainability criteria met by Budapest remain unclear.

In addition to the risk of misinterpretation, the table also underscores the issue of inconsistent data collection methods across cities. As it was also highlighted in the interviews, Budapest's data is based on only five schools, whereas Ghent collected data from 120 schools, significantly limiting comparability and the ability to generalize findings. Nonetheless, certain indicators remain relatively comparable across cases, such as the percentage of food waste. It is difficult to draw broad conclusions from such a limited dataset, but results expressed as percentages seem to offer more meaningful comparisons between the cities.

Below in Table 10 are the stakeholders identified by the SF4C SROI project. While the table offers a useful overview, I would like to share my critical reflections. I agree with prioritizing students as the main stakeholders, as they are the central focus of the project. However, I am skeptical about the claim that school directors will receive more resources for food-related projects. As it was revealed by the interviews, given recent budget cuts in Ghent and tight finances in Budapest, additional funding seems unlikely. The inclusion of teacher training is positive, but possibly unnecessary. Teachers are generally health-aware and unlikely to resist healthier meals. Unlike students, they do not require targeted encouragement or education to accept nutritious food. The role of municipal governments also seems underrepresented. The interviews revealed that they hold the key decision-making power, so their influence should go beyond reduced waste management costs, such as promoting local food sourcing and SFSCs. I strongly support the training of school chefs, particularly in Hungary as it is supported by the literature. Their education is crucial to the project's success and arguably more impactful than that of teachers. It is also encouraging to see the recognition of organic producers, small farmers, and fair-trade suppliers. Expanding their market share is vital for building a more sustainable and healthier food system. Finally, for the government, while CO2 reduction is important, more emphasis should be placed on the policy changes needed to structurally support healthier, more sustainable school catering.

Table 10. Stakeholder map of the SchoolFood4Change SROI project

Stakeholders	Intended/unintended changes	Outcomes
Students	Offering healthier and more sustainable school food	n. of meals served including SF4C innovative procurement criteria
	Encouraging to take healthier and more sustainable eating decisions	food waste reduction trends through the school year
Vulnerable students	Access to free and healthy food	n. of free meals/snacks served
School director	Improve the reputation of the school through a better management of food	more resources for food related projects
Teachers	Expand knowledge and implement competences on healthier and more sustainable school food	n. of hours spent on training
Municipal government	Bear less costs of waste management	reduction of school food waste
School food chefs	New and improved appetizing planetary health menu skills	cost of training that they receive for free per chef
Food enablers & food ambassadors	Improved knowledge and efficacy	n. of hours of training
Regional farmers (non-organic)	Incentivize to switch to organic or agroecological production	n. regional suppliers shifting to organic and agroecological production
Organic producers	Increased market	% organic food procured
Small farmers		% food from small farmers
Fair trade suppliers		% of fair-trade exotic food
Organic and sustainable fishing companies		% organic farmed fish + % sustainable wild fish
NGOs	Improved food surplus collection	n. of unserved meals
	Enhanced school collaboration	n. of projects in schools
Government	Reduction is CO2 emission	reduction of GHG emission

Source: Own creation based on data from the SROI project coordinator

6. Conclusion

This thesis examined the expected social return of the SchoolFood4Change (SF4C) project in Hungary and its contribution to broader regional sustainability goals. By analyzing both qualitative insights from interviews and secondary data from the SROI evaluation process, the study identified key opportunities and limitations.

A major limitation in the data collection phase was the significant difference in sample sizes between cities. Budapest collected data from only five schools, while Ghent included 120, making fair comparisons difficult and generalizations from Budapest's small sample unreliable. Structural constraints make expanding the sample size challenging in many cities. As found out from the interviews, Leuven, who also participated in the project, only had access to around ten schools. Given these limitations, I recommend that future evaluations also apply weighted or normalized indicators (such as outcomes per student or per meal served) to improve comparability across cities with different data volumes. This approach allows for more meaningful analysis even when sample sizes are uneven, by focusing on proportional rather than absolute values. Comparisons between cities at different stages of sustainable school-catering development must be made cautiously, given their different starting points.

The secondary data analysis revealed notable disparities in data availability between Budapest and Ghent. In many cases, one city had access to specific indicators that the other lacked, limiting comparability and weakening the cross-city analysis. To address this, I recommend allowing more flexibility in adapting SROI criteria to local contexts, enhancing the framework's relevance, accuracy, and stakeholder acceptance. However, this flexibility should be balanced with maintaining a common structure to ensure cross-country comparability. One possible solution is to create a "core & optional" model, where core indicators are uniformly applied, and optional modules can be customized to local contexts. To ensure reliable comparisons, all participants must commit to collecting the core data. For defining the optional data, I recommend that the project coordinator discusses with each participant individually. Encouraging the collection of optional data will likely pose challenges. Participants may not be willing to invest additional effort beyond the mandatory requirements. To overcome this, strong stakeholder engagement is crucial, particularly from those who manage relevant data.

Expanding on stakeholder engagement, the theoretical strength of the SROI methodology lies in its participatory approach. However, as seen in the SF4C implementation, this was only partially realized. Reaching stakeholders who held valuable data proved challenging, as many had other priorities, making data collection both time-consuming and incomplete. To improve

stakeholder engagement, I suggest that cities integrate a formal engagement strategy from the start. This could involve co-design workshops, establishing school food councils, and including educational departments as active data partners. While this level of collaboration may seem ambitious in practice, creating open and consistent communication channels between all stakeholders is essential to the framework's success. For SROI to reach its full potential, everyone involved must feel motivated and committed to working together, and the framework itself must be given greater priority than was observed in either Hungary or Belgium.

In both Hungary and Belgium, structural and financial challenges pose significant barriers to translating SROI findings into policy action. These ongoing constraints raise concerns that even if the SROI results are positive, policymakers may not be encouraged to act on them. For SROI to impact food strategy and procurement policies, it must be better linked to decision-making mechanisms. Clear visualizations and simplified reports for municipal leaders, along with budget impact assessments, could strengthen SROI's role as a planning tool. This is crucial, as interviewees noted that vague indicators can lead to misinterpretation. Without strong communication and context, SROI findings risk being misunderstood or overlooked. However, convincing policymakers to act on these insights may be one of the most difficult challenges. In practice, the majority of them will not be impressed by visuals alone. What will ultimately drive commitment is a clear demonstration that the framework brings financial value. If SROI can show positive economic returns alongside its social benefits, authorities are more likely to prioritize it, even in the case of budget constraints.

I also suggest extending the SROI analysis to smaller, rural towns. Interview insights suggest that these municipalities may find it easier to implement necessary changes due to their simpler governance structures and closer community ties. Their manageable datasets and more agile administrative processes can ensure smoother and more impactful implementation. If the analysis in Budapest demonstrates positive economic returns, it could serve as a convincing argument for smaller municipalities to adopt the framework.

Lastly, I recommend that cities less developed in sustainable school catering, like Budapest, analyze the results of leading cities such as Ghent. Ghent has implemented several successful strategies that could offer valuable insights. For example, when preparing new tenders, they consistently survey schools to gather feedback on meal satisfaction, desired changes, and perceptions. Adopting similar surveys in Hungary could enhance the process, increase stakeholder engagement, and improve implementation. Additionally, Ghent's gradual shift towards vegetarian options, starting with "Thursday Veggie Day" and evolving into daily vegetarian choices, could also be a useful model for Budapest. While Hungary may face more

resistance, Ghent's approach shows that small, incremental changes focused on taste and familiarity can lead to meaningful progress.

Overall, the expected social return of the SchoolFood4Change project in Hungary is moderate but meaningful. Although final SROI results were not yet available, early outcomes include increased awareness of sustainable school catering, reduced food waste, and the introduction of training and education for chefs and other stakeholders. However, limitations such as a small, non-representative sample and structural issues between education and catering systems constrain the measurable impact. Despite these issues, the project aligns with regional goals such as those outlined in the EU Farm to Fork strategy by promoting healthier diets, local sourcing, and social inclusion, while supporting the creation of short food supply chains, lessening long-distance transportation, reducing intermediaries, and lowering CO2 emissions. To fully realize its potential, however, stronger coordination, structural reforms, and long-term political commitment are needed.

6.1 Limitations of the research

This research had to rely on data up to Stage 4 of the SROI process, as final calculations were still pending. As a result, the full outcomes, particularly the financial valuation of social returns, could not be analyzed. While the qualitative insights helped compensate for this, a complete analysis would have added greater depth and certainty to the findings.

Another limitation of this research lies in the limited access to data for the SROI analyses in both Budapest and Ghent, which restricted the insights drawn from the secondary data analysis. Additionally, the unequal sample sizes, with data gathered from only five schools in Budapest compared to 120 in Ghent, further constrained comparability between the two cities.

Besides the secondary data analysis, the study also relied on a small sample of three interviews, two from the participating cities and one from the project coordinator. This small data set limits the representativeness and generalizability of the findings. However, it is important to note that the aim of the research was not to achieve broad generalization but to serve as an exploratory study focused primarily on Hungary's involvement in the SF4C project and its contribution to the regional objectives. This aim was successfully achieved, as the research provided valuable insights into Hungary's role in the SF4C project and its contribution to these goals.

6.2 Future research possibilities

Once the SROI calculations are finalized, a follow-up study should be conducted to analyze the monetary return ratios and interpret their implications for policy and practice. Comparing financial returns with implementation costs across different cities could highlight cost-efficiency patterns and identify best practices.

Another area for future research involves tracking changes in students' food preferences, waste behavior, and dietary habits over time. Qualitative methods (like focus groups) could be combined with quantitative tracking (like waste audits or meal ordering trends) to understand the long-term influence of food education and menu reform. Such studies could also explore the influence of parental attitudes on children's school food choices.

As highlighted in this research, a key limitation of the SROI framework is its inability to capture environmental outcomes on its own. To address this, the project developed a separate Environmental Impact Calculator, which significantly enhanced the assessment's comprehensiveness. Building on this approach, future research could explore ways to integrate SROI with other evaluative tools to form a more holistic framework. This could involve either identifying and merging existing tools that complement SROI's social and economic focus or developing new instruments, like an improved official version of the Environmental Calculator. Such additions could lead to upgraded and more versatile versions of the SROI model, enabling more accurate and multidimensional evaluations of public catering and sustainability initiatives.

It was revealed by the interviewees that small towns may be more attractive for SROI application due to simpler governance and easier coordination. Future research could conduct comparative studies between rural and urban municipalities to test this hypothesis. Exploring how community dynamics, local food networks, and infrastructure influence implementation would offer practical insights for scaling the SROI framework.

Future research could investigate how large-scale, centralized school catering systems might transition to more decentralized models that work with small-scale farmers and support short food supply chains (SFSCs). Exploring real-life examples where decentralization has been successful would help identify practical strategies, governance models, and logistical solutions that make such systems viable.

Lastly, another promising area of research would be to study cities that have successfully overcome financial constraints and stakeholder resistance, issues faced by both Budapest and Ghent. These case studies could reveal what enabled action, such as funding strategies, political support, or community engagement, offering practical lessons for cities facing similar barriers.

7. Summary

This thesis investigates the expected social return of the SchoolFood4Change (SF4C) project in Hungary and examines how it contributes to broader regional goals. The SF4C initiative seeks to tackle two of Europe's pressing challenges: the rising rates of childhood obesity and the environmental degradation caused by current agricultural practices. According to projections by the World Obesity Federation (2022), a few countries, including Hungary, are facing alarming rates of childhood obesity, with nearly one in five children expected to be affected by 2030. Simultaneously, agriculture continues to be a major contributor to greenhouse gas emissions and biodiversity loss. The SF4C initiative views schools and school meals as key players in bringing about systemic change at a large scale in society. While acknowledging their transformational potential and capacity to drive change, the focus is on empowering children and adolescents via education. It includes creating sustainable and creative food procurement methods, promoting planetary health diets, and cooking.

The European Green Deal outlines a plan to make Europe the first climate-neutral continent by 2050. A key strength of the SF4C project is its alignment with the European Green Deal and the Farm to Fork (F2F) strategy. The F2F strategy promotes shorter supply chains, regional food sourcing, and sustainability, principles also embedded in the SF4C approach. It reinforces the idea of "think locally, act globally" by actively supporting local networks and economies, which will undoubtedly benefit small-scale farmers, consumers, and the environment.

The use of short food supply chains (SFSCs) supports the objectives of sustainable agriculture by lowering transportation costs and CO₂ emissions and promoting biodiversity. Geographic proximity is the most cited attribute of SFSC, indicating the proximity between producers and customers. SFSC emphasizes direct contact between farmers and consumers, fostering trust and honesty, and it has few or no intermediaries. It is a value chain that provides social and economic advantages to supply chain participants while not irreversibly depleting natural resources. Effective management requires trust, transparency, cooperation, and shared governance among stakeholders. The SF4C project can be positioned in the spatial proximity SFSC category. It focuses on sourcing food locally to supply schools and canteens. By prioritizing regional producers, it supports local economies, reduces food miles, and ensures consumers know the food's local origin.

The theoretical framework of the thesis is grounded in the Social Return on Investment (SROI) methodology. SROI is a tool that evaluates broader value creation by looking beyond traditional financial metrics and emphasizing stakeholder involvement, transparency, and

measurable change. In this context, the thesis examines how SROI was applied in the SF4C project. To carry out this evaluation, the research adopted a mixed approach, combining semi-structured interviews with representative cities participating in the SROI project and secondary data analysis. The interviews provided in-depth qualitative insights into how the project was carried out, reflecting the perspectives of the project coordinator as well as the participating cities of Budapest (Hungary) and Ghent (Belgium). These insights covered their experiences with data collection, practical implementation, future outlooks, and the challenges and limitations they encountered. As the SROI project was still ongoing at the time of writing, final outcomes were not yet available for analysis. However, data from earlier phases of the project still yielded valuable insights that reinforced the findings from the interviews.

In the Hungarian context, several systemic barriers hinder the project's full potential. Politically, sustainable catering is a low priority. Regulatory frameworks tend to favor large-scale suppliers, creating significant hurdles for small, local producers. Economically, authorities often face tight budgets that make sustainable alternatives seem expensive. Socially, there is a lack of awareness and coordination among stakeholders resulting in inconsistent implementation. Technological and infrastructural issues further complicate matters, from outdated kitchens to inadequate dining spaces. Legal constraints and rigid procurement laws also limit flexibility in sourcing and menu planning.

Despite these obstacles, the results of the findings in Hungary show promise. Improvements have been observed in food waste reduction, stakeholder training, and general awareness around sustainable practices. Preliminary findings suggest a moderate yet meaningful social return. The results from Belgium indicate that Ghent is significantly more advanced than Budapest in terms of sustainable school food catering. Nevertheless, the insights gained remain highly valuable for less developed contexts like Budapest, as Ghent's step-by-step practices can serve as a practical case study to apply gradual improvements in local school catering systems.

To answer the exact research question: "What is the expected social return of the SchoolFood4Change project in Hungary and how does it contribute to the regional goals?", the study concludes that while SF4C in Hungary is making steps in the right direction, realizing its full potential will require stronger intersectoral cooperation, structural reforms in education and catering systems, and long-term political commitment. The project contributes significantly to regional goals by promoting local food networks, short food supply chains, healthier diets, and education, all supporting the objectives of the F2F strategy. Yet, without dedicated policy support and broader stakeholder engagement, its transformative capacity may remain limited.

Ethics statement

I, the undersigned Kovács Kevin student (Neptun-code: EE76WR), being aware of my ethical responsibility under Code of Ethics of the Corvinus University of Budapest, hereby declare that I have used a generative artificial intelligence system or service (hereinafter: GAI) for the completion of the assignment related to the subject Thesis (subject code: VF00017NABB) announced within the framework of the BA/BSc/MA/MSc/Postgraduate International Business Economics educational program as follows.

1) I have used a GAI-based system

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I declare that I have used the new GAI-generated content elements as allowed by the university GAI regulations and that I have indicated this in the submitted work (e.g. in a footnote with the remark "GAI-generated content" and the identification of the scope).

I am aware that the institution may screen the work I submit using artificial intelligence detection and, depending on the results, may initiate ethical action.

Budapest, 2025.04.23.



Signature

Remarks

I acknowledge the use of GAI tools during the writing process of this thesis for paraphrasing support and grammar refinement. However, no content was generated solely by GAI. All ideas, analyses, and written content were produced independently by me, and GAI was used strictly as a language aid to enhance clarity and expression. This use is not indicated through footnotes, as grammar and phrasing improvements were applied consistently throughout the entire thesis. I include this remark as a clarification that GAI was used across the full document in this limited capacity.

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Appendices

Appendix 1. Interview questions for the Hungarian and Belgian representatives

- 1) What are your expectations regarding the SROI results for Belgium/Hungary? What insights do you hope they will provide?
- 2) Do you expect any results to be surprising that will differ from your expectations?
- 3) Do you think the SROI framework effectively captures the real impact of school catering in Belgium/Hungary, or are there aspects that it does not capture well?
- 4) Are there specific aspects of school catering that you feel might be difficult to measure through SROI?
- 5) SROI has six stages: (1) Determining the scope and identifying important stakeholders. (2) Mapping outcomes - an impact map. (3) Evidencing the outcomes and giving them a value. (4) Impact establishment. (5) Calculation of the SROI. (6) Reporting, using and embedding.
- Which of the steps are the easiest for Belgium/Hungary? Which of the steps are the hardest?
- 6) How was the process of collecting data for the SROI analysis in Belgium/Hungary? Were there any significant challenges or obstacles?
- 7) Did you find the data collection methods suitable for capturing the realities of school catering in Belgium/Hungary? Were there any gaps or limitations?
- 8) Who are the key stakeholders in the project? Are they cooperative and engaged in providing data, or did you face difficulties in gathering necessary information?
- 9) How do you expect Ghent/Budapest to integrate the SROI insights into its school catering and sustainability strategies, and what policy changes or improvements do you hope this framework will lead to? How can Belgian/Hungarian policymakers be encouraged to act on these insights?

10) Are there any existing municipal programs or initiatives where the SROI findings could be particularly useful?

11) How do you think the SROI results could influence school catering policies, procurement practices, and funding for more sustainable school meals in Ghent/Budapest?

12) What do you think is the best way to communicate the SROI results to school administrators, caterers, and decision-makers? How do you think they will perceive the SROI findings?

13) Do you expect the results to influence any current or planned initiatives related to school food systems?

14) How do you think the SROI analysis could shape Ghent's/Budapest's school food strategy and contribute to long-term improvements in school catering across Belgium/Hungary?

15) Would you recommend using the SROI framework for future assessments in public catering? Why or why not?

16) Could this initiative position Ghent/Budapest as a leading example in sustainable school catering? If so, how? If not, why?

17) What challenges do you foresee in applying the SROI results to real-world decision-making and turning the insights into concrete policy changes in Belgium/Hungary?

18) What improvements or refinements would you suggest for future SROI assessments?

19) Do you see any risks of the data being misinterpreted or underutilized by stakeholders?

+) In your opinion, how would a SROI analysis differ if it were done at the level of a county seat, or a smaller (rural) town compared to Ghent/Budapest?

Appendix 2. Interview questions for the project coordinator

- 1) What were the main objectives of applying the SROI methodology in the SchoolFood4Change project?
- 2) How was the SROI framework tailored to assess school catering systems across different countries? What is unique about applying the SROI framework for school food systems in contrast to other areas?
- 3) What were the biggest challenges in adapting the SROI model to this context? Did you feel any limitations of using SROI?
- 4) There are two forms of SROI. The first one is evaluative, which focuses on past outcomes. The second one is forecast, which estimates the social worth of actions, assuming they achieve their desired consequences. Which form of SROI did you apply, or which one better represents your situation: forecast or evaluative SROI?
- 5) Researchers believe that SROI has several weaknesses. Please rank each of the following weaknesses of the SROI framework from 1 to 5 based on your experience using it.
(1 = felt / agree with the most; 5 = not felt / agree with the least).

Ranking	Weaknesses
	It has the challenge of assigning monetary values to "soft outcomes"
	It is hard to determine what would have happened in the absence of the intervention
	There is a poor comparability of SROI ratios
	Inaccurate assessments of the costs and benefits to society
	The presence of additional biases when a program's financing is at risk
	The reliability, validity, and importance of evaluation results may be overstated when dollar symbols are added to quantitative measurements.

6) Researchers believe that SROI has several strengths. Please rank each of the following strengths of the SROI framework from 1 to 5 based on your experience using it.

(1 = felt / agree with the most; 5 = not felt / agree with the least).

Ranking	Strengths
	It can produce a single ratio that captures both positive and negative outcomes
	Serves as a platform for meaningful engagement of multiple stakeholders
	It can represent stakeholder benefits
	Provides relevant data about the program's results and its social worth
	It is possible to compare programs even if their results are reported in various units
	It can convey the value of a program to the entire community instead of just one stakeholder group
	It encourages participation from a variety of parties

7) What were the key indicators used to measure social, economic, and environmental impacts?

8) How did you ensure that qualitative aspects (e.g., student well-being, social inclusion) were quantified in the SROI calculations? Did you use any calculator tools?

9) What were the main data sources used for the analysis, and how were they collected?

10) How would the results of the SROI analysis influence policy recommendations for school catering? What are your expectations of the results in general?

11) SROI has six stages. Determining the scope and identifying important stakeholders. Mapping outcomes, creating an impact map. The third step is evidencing the outcomes and giving them a value. The fourth step is impact establishment. The fifth step is the calculation of the SROI. The final step is reporting, using and embedding.

- Which the steps were the easiest? Which the steps were the hardest?

12) Based on your experience, can you think of how could the SROI framework be improved for future applications in school catering or other public food systems?

13) Do you see potential for integrating other sustainability assessment models alongside SROI in this project?

14) The SROI analysis necessitates some degree of judgment. “The idea of materiality guides judgement: information is considered material if it can impact the decision-making of readers or stakeholders. An item of information is considered material if leaving it out of the SROI will misrepresent the organization's actions. Documenting material decisions is crucial for transparency and demonstrating the reasons for inclusion or exclusion.”

- What do you think of the quote? Do you agree or disagree?
- Did you document any material changes? If not, why?
- How can you ensure that your data will not be misinterpreted?