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LAPPEENRANTA UNIVERSITY OF TECHNOLOGY

School of Business

Master's Degree Program in Supply Management

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**TOWARDS SUSTAINABLE PUBLIC PROCUREMENT – CASE PROCUREMENT
SERVICES OF LAPPEENRANTA: TENDERING FOOD PRODUCTS**

Master's Thesis 2016

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ABSTRACT

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The purpose of this study is to explore factors that impact on sustainable public procurement (SPP). Focus is on tendering food products at case organization, Procurement Services. Factors including practices and sustainability criteria and their influence on SPP execution are examined and analyzed at organizational level and procurement process level. Study clarifies also factors that support sustainable food procurement and its goals. Study is qualitative and utilizes action research as a part of case-study strategy. Action research is used as researcher contributed in food tendering by developing criteria suggestions for food products. Empirical part consists of qualitative interviews, observation and documentary analysis of tender documents.

Findings confirm that progress in SPP is hard to evaluate as no exact meters or targets exist. Preparation and specification are crucial stages. Participants have significant role, and importance of their education and personal attitudes are crucial. Certificates and verification of supplier's compliance become barriers at process level. It is recommended to develop clear targets and simple measures for SPP. Close collaboration and engagement into common targets among participants support SPP further. Case-company heads towards sustainable food procurement; criteria widening and used criteria offers support targets covering all pillars of sustainability.

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Tämän tutkielman tarkoitus on tutkia julkisten hankintojen kestävyyttä ja tekijöitä jotka vaikuttavat kestävyuden toteutumiseen. Tutkimus keskittyy elintarvikehankintaan kohde-organisaatiossa, joka on Lappeenrannan kaupungin Hankintapalvelut. Tutkimus on luonteeltaan laadullinen ja hyödyntää toiminnallista tutkimusmenetelmää osana tapaustutkimusta, sillä tutkija osallistui elintarvikekilpailutukseen ehdottamalla kriteereitä, jotka tukisivat elintarvikehankinnan kestävyyttä. Empiriaosuus rakentuu laadullisista haastatteluista, osallistumisesta ja tarkkailusta elintarvikekilpailutuksen valmisteluvaiheessa sekä tarjousasiakirjojen analysoinnista.

Tulokset osoittavat Hankintapalveluiden sitoutuvan kestäviin hankintoihin. Kestävyyttä on vaikea arvioida sillä tavoitteet ja mittarit puuttuvat. Valmistelu- ja määrittelyvaiheissa osallistujilla on ratkaiseva osa; tietämys ja paneutumineni eri vaihtoehtoihin sanelee hankinnan kestävyuden. Haasteita aiheuttavat toimittajien ympäristöystävällisyystodistukset ja niiden todentaminen. Tulosten pohjalta on suositeltavaa asettaa selkeät tavoitteet ja mittarit hankinnalle sekä lisätä osallistujien yhteistyötä ja sitoutumista yhteisiin tavoitteisiin kilpailutuksen alussa. Hankintapalvelut etenevät kohti kestäväää elintarvikehankintaa; kriteereitä väljennettiin ja ehdotettuja kriteereitä hyödynnettiin kilpailutuksessa, mikä tukee sille asetettuja tavoitteita.

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In Lappeenranta 14th of October 2016

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1 INTRODUCTION

Sustainable Public Procurement (SPP) is about developing the effectiveness of public procurement and applying public authority market power to achieve social, economic and environmental advantages at local and global levels. Societies all over the globe encounter major effects of climate change, excessive use of natural resources, risks to biodiversity and rising poverty. (Rao & Holt 2005) In order to tackle these issues the shift needs to be towards more sustainable production and consumption patterns. The public sector has substantial purchasing power to push the market towards supply of more sustainable services and products. Yet, this is only possible if multiple parties acting in the public sector will send a definite and coherent signal to the market. One of the main barriers public authorities confront with SPP realization is to incorporate criteria into tendering to support sustainability. (Clement et al. 2012)

Reform of Public Procurement law is to come force during the spring 2016. One of the main goals of the reform of procurement legislation is to improve opportunities to recognize environmental and social aspects in public procurement. Due to its great purchasing power public procurement (PP) is efficient tool to support social objectives. Based on procurement directives and license agreement directive of the EU, the suggested law clarifies the ways that contracting entities can promote sustainability objectives and sustainable development, while guaranteeing to achieve the best value for money for contracts. Aim is to improve environmental protection through public procurement by reporting contracting entities about their opportunities and developing the framework set by the law more wide, precise and clear. In addition, the law simplifies and improves regulations of social factors e.g. wider use of social aspect in evaluation of tenders and special conditions of contracts. Social aspects also highlight quality that can be considered through procurement process when defining a subject matter, specifying criteria requirements and setting suitability requirements for tender candidates. (Ministry of economic affairs and employment of Finland 2015)

The global economic crisis, environmental problems and increasing health problems express a need for a food system that unites food security, environmental sustainability and public health. This creates major challenges for sustainable public sector food procurement. Societies face sustainability challenges in terms of GHG emissions, pollution of water and soil, water shortages and waste through the whole supply chain. The relationship between

three pillars of sustainability; environmental, social, and economic are illuminated in the food provisioning needs of populations. Nowadays many sustainability issues are linked with dominant patterns of food consumption, processing and distribution. (Barling et al. 2013) Food production, processing, transportation, non-recyclable waste, energy and water consumption cause considerable environmental impacts. While environmental effects from food related activities are remarkable, there is substantial possibility to decrease these. (Pullman et al. 2009) In food sector there are numerous eco trends that can lead to more sustainable practices regarding foodstuff. These consist of using more sustainable resources, ecological food processing, more environmentally friendly outputs, packaging, waste disposal and recycling and industrial procedures. (Cerutti et al. 2015)

City of Lappeenranta has introduced its sustainability strategy, Green Lappeenranta, which aims to improve the influence of the operations for the environment. Especially, the aim is to reduce carbon footprint, emissions and waste and promote sustainable wellbeing. The city is also a forerunner being one of the four cities in Finland, which participates the campaign of Sitra: Towards resource efficient city 2050. Aim is to find and develop ways that support cities to become waste-free and carbon neutral by the year 2050. Main areas of resource-wise, circular economy (CE) are citizens' wellbeing, development of energy efficiency and improvement of local economy. There are five main groups that are considered in the campaign, of which one is food production and consumption. In terms of food production and consumption the city has launched three "targets for year 2050" that are:

- The food consumed in Lappeenranta is healthy and sustainable.
- Waste from the food production and consumption is fully utilized.
- The use of local food in the public food services is well established.

Procurement Services that is the contracting entity of the city of Lappeenranta supports both strategy and campaign and is willing to show that Procurement Service acts in sustainable manner. Yet, Procurement Services is a lacking definition for measurable sustainability criteria that proves sustainable procurement practices. There is need for sustainability criteria to show that contracting entity considers sustainability aspects through procurement process. Procurement Services is both commissioner and case organization of the research.

Procurement Services is tendering food products that are part of its long-term contracts. Food is appealing topic in many ways. There has been public comment on the local newspaper, which state that Procurement Services should prefer local suppliers through by modifying criteria (Heikkilä 2016, 9). The amount of publicly procured, locally produced food by the contracting entity is around three percent in the South Karelia region, and approximate amount of locally procured food is 15 percent in Finland (Viitakari et al. 2014, 27). So, in South Karelia amount of procured, locally produced food is notably smaller compared to other cities in Finland e.g. Seinäjoki. There is potential to promote and improve procurement of locally produced food in the region by contracting authorities. There is need to clarify reasons for this by opening the procurement process and tendering of food products. Thus, it is reasonable to explore procurement practices of the contracting entity that aims to act in sustainable manner and support the sustainability goals through public procurement.

Study is qualitative by nature and utilizes action research as a part of case-study strategy. The purpose is to understand phenomena and specific problem, in this case factors that affect on SPP implementation and sustainability criteria in tendering. Action research is applied as researcher contributed to tendering food products through development of criteria suggestions for different food product categories. Empirical part consists of qualitative interviews with three professionals from the public sector and food sector, observation at preparation stage and documentary analysis of tender documents including call for tenders, procurement guidelines and contract award notices. Methodology will be described in more detail later on with the case in chapter five.

1.1 Research objectives and questions

This study is to discover factors that influence on implementation of sustainable public procurement (SPP). The aim is to explore factors including sustainability criteria and practices, which affect on sustainability of procurement process and evaluate their impact on SPP implementation. Study clarifies procurement process stages focusing on criteria setting, which has been recognized as a main challenge to measure SPP by the case organization. Purpose is to address factors that impact at organizational level and procurement process level from the contracting entity's perspective. Focus is on tendering food products and characteristics of sustainable food procurement. Objective is to provide

criteria suggestions for food tendering and estimate their impact on the goals of sustainable food procurement regarding environmental, social and economic sustainability

Theory part of study views nature of SPP and presents the pillars of sustainability, economic, environmental and social sustainability, and their relation to public procurement (PP). This is to clear the significant power that PP has on sustainable development and opportunities and barriers it faces. Procurement process stages are reviewed in order to identify the role of each stage and their sustainability aspects. Sustainable food procurement and current criteria set by the EU for sustainable food procurement are then discussed, which aims to clarify factors that impact on sustainable food procurement and its targets.

Empirical part of the study explores factors that impact on SPP implementation at organizational level and procurement process level. Empirical research concentrates on tendering food products and specific characteristics of sustainable food procurement. Initial discussion with the case organization's contact person revealed that the main barrier is to include sustainability criteria into tendering. Thus, special focus is on early procurement stages. Research problems are divided into following research questions that aim to clarify:

How to evaluate implementation of SPP?

- Determine factors that influence on SPP implementation at organizational level

How do sustainability criteria requirements and practices impact on SPP implementation at procurement process level?

- Factors that impact on SPP at different procurement process stages

How to estimate sustainability of food procurement?

- Define specific characteristics of food tendering
- Factors that impact on goals of sustainable food procurement

1.2 Research limitations

Research focuses on SPP implementation and tendering of food products. Theory part is limited into areas that help to perceive the nature of SPP, factors that impact on SPP implementation, procurement process stages and sustainable food procurement. In this study SPP covers all three pillars of sustainability, environmental, economic and social sustainability. So, green public procurement (GPP) and social sustainability will be discussed as a part of SPP within the research. Next figure will present the actors of the study.

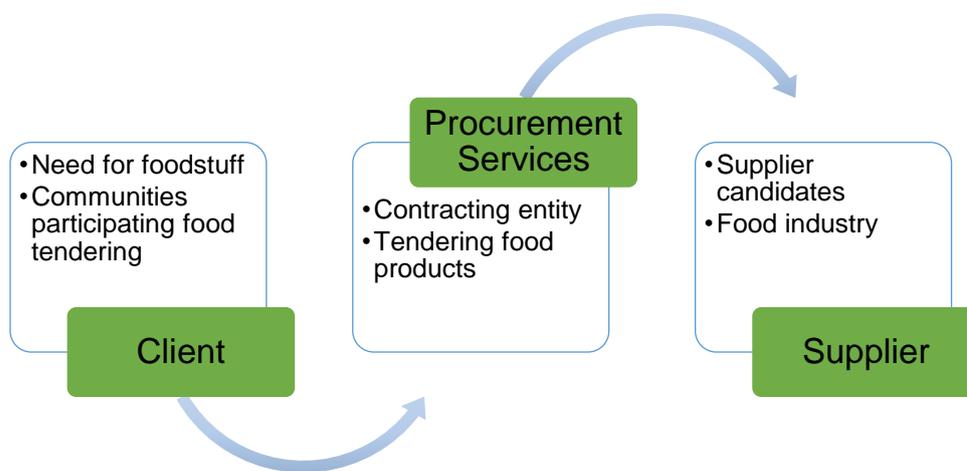


Figure 1. Actors of the study

Empirical part is limited to view procurement process of the case organization and factors that impact at organizational level and process level. Simultaneously focus is on practices and criteria that influence on sustainable food procurement and its goals in the South-Karelia region. Empirical part is built on documentary analysis of tender documents, researcher's own observation, and interviews with two professionals involved in procurement process and one external expert in the field of SPP, which gave deep view into tendering. Study considers tendering from contracting entity and client's perspective, limiting supplier's point of views outside the study scope, which can be seen as further area of research.

Procurement of food services and criteria setting regarding catering services are out of the scope. So, further investigation on transportation and waste management are limited outside the study, because they are not applicable criteria in terms of food products due to principle

of proportionality and their indirect relation to subject matter of a contract, although they have environmental impacts regarding sustainability. Considered food product categories in tendering are industrial products, fresh fish, bakery products, frozen products and fresh products. Meat and milk products are not included in current tendering, so they are limited outside scope, even though both have environmental impacts. Empirical part focuses on contracting entity and client's point of views limiting supplier's perspective out of the research scope.

1.3 Structure of thesis

The first chapter of the study covers introduction that will clear research objectives, limitations, structure and the main concepts used. Theoretical part begins in chapter two that presents sustainable public procurement. SPP will cover three pillars of sustainability, economic, social and environmental in this research. Thus, green public procurement (GPP) and social sustainability are discussed as a part of SPP. These are followed by overview of SPP implementation, basic principles and award procedures. Chapter three deals with public procurement process stages and describes the main points of each stage. Chapter four is the final theory part and deals with sustainable food procurement. Section views different sustainability aspects regarding food, then life cycle approaches and supply chain of food, and finally discusses about GPP criteria for food products. First figure will display the structure of the research.

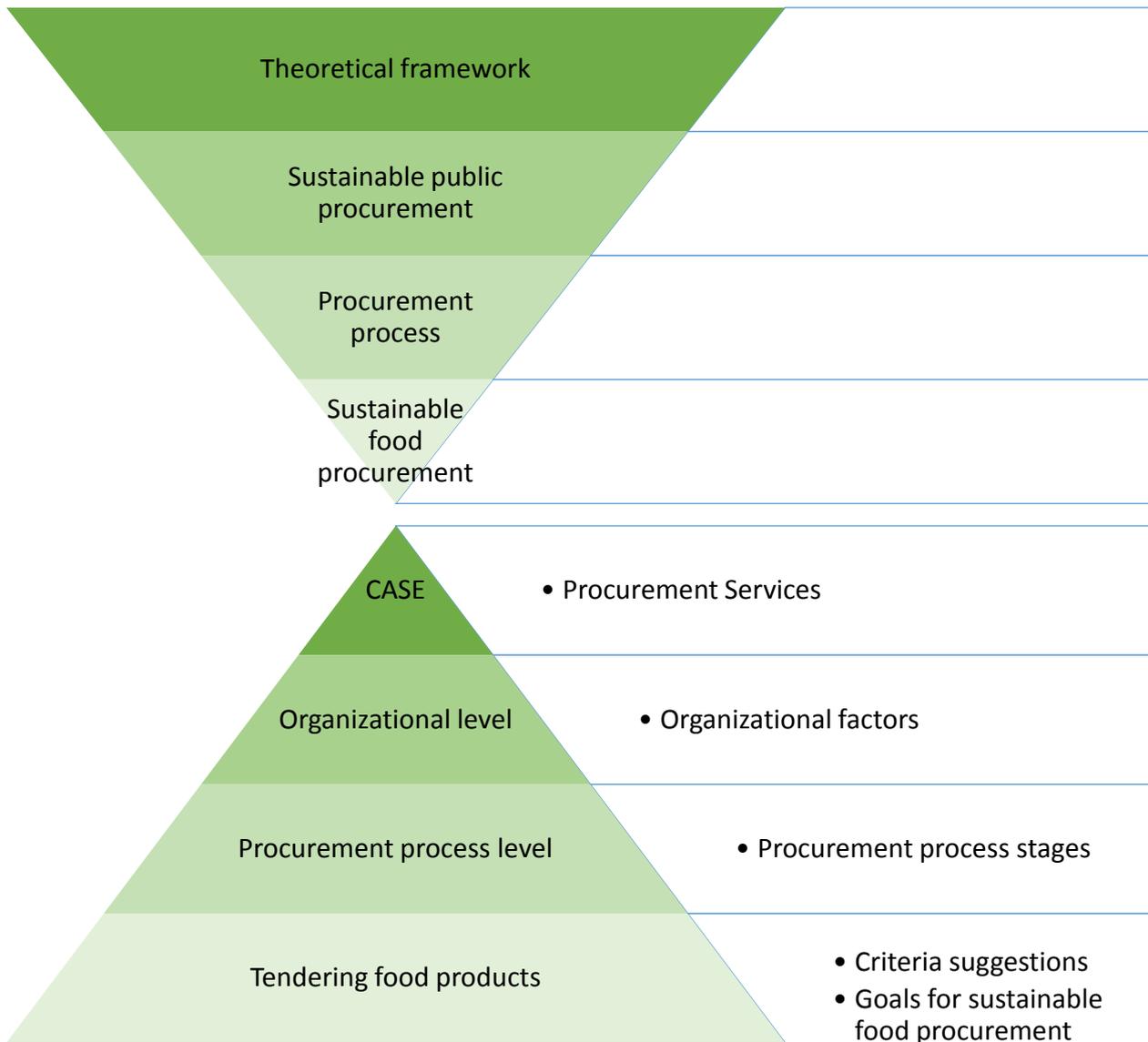


Figure 2. Structure of research

Empirical part of the study begins at chapter five that presents the case, research methodology and research results. First results view factors at organizational level, then at procurement process level and followed by tendering food products. After this results are discussed and insights provided. In addition, reliability and validity of the study are also evaluated. The final chapter six is conclusions including recommendations and suggestion for the future research topics.

1.4 Terms and definitions

Sustainable Public Procurement (SPP)

SPP means that public authorities aim to reach the right balance between the three pillars of sustainable development, environmental, social and economic, when purchasing goods, services or works at all stages of procurement. (European Commission 2015) At this study the concept of SPP is used as an overarching term to cover green public procurement (GPP), social sustainability and economic sustainability, since all sustainability aspects are considered in the research, and due to its wide meaning in order to avoid confusion of terms.

Green Public Procurement (GPP)

Choosing of environmentally friendly goods, services and works public authorities can make great contribution to sustainable production and consumption. (European Commission, 2016)

Socially responsible public procurement (SRPP)

Promotion of employment opportunities, decent work, engagement of SMEs and accessibility for all, and compliance with ethical and fair trade issues.

Tendering

Via tendering process goods, services or works from external source are procured. It includes acts of planning, selecting, evaluating and buying goods. (van Weele, 2013)

Life-cycle of food and drink products

Sequential and interlinked stages of food and drink production and consumption system, ranging from practices related to input supply to agriculture, agricultural production, processing, packaging, transport and logistics, retail, consumption and end-of-life (European Food SCP Round Table 2010, 6.)

Procurement entity, contracting entity

This study uses the terms procurement entity and contracting entity as synonyms to avoid repetition. In this case Procurement Services acts as procurement entity.

Selection criteria

Minimum and discretionary requirements for supplier.

Technical specification

Minimum requirements of a subject matter. At this case the terms technical specification and minimum criteria requirements are used as synonyms.

Award criteria, comparison criteria

Contracting authority evaluates the quality of tenders and estimates the costs, and then awards contract that is awarded based on either most economically advantageous tender (MEAT) or the lowest price. Award criteria and comparison criteria are evaluated as award criterion is based on MEAT.

2 SUSTAINABLE PUBLIC PROCUREMENT

Sustainable public procurement (SPP) covers economic, social and environmental sustainability and it is acknowledged throughout the European Union (EU). This is proved by numerous policy changes and operational plans across EU member states. The European Commission introduced its Europe 2020 strategy for sustainable, smart and inclusive growth that recognizes the need to promote greener, more competitive and resource efficient economy, which supports employment, social and regional coherence. In this strategy, public procurement (PP) is seen as a significant tool, since contracting authorities can prefer sustainability criteria while considering value-for-money principle. The New Public Procurement Directives state novel objectives that are to improve efficiency of procedures and allow wider use of strategic public procurement to improve environmental and social guidelines. (Dragos et al. 2013) Also, initiative of United Nations Environmental Program (UNEP 2014) is to promote SPP aiming to combine production side to the consumption side through PP, and advance more sustainable business models (SBM).

The idea of circular economy (CE) is one of the newest suggestions to underline sustainability, and simultaneously to stress economic growth and limiting use of raw material and energy. Government and organizations are great actors in emphasizing numerous CE elements and changes by reshaping their processes and products. (Murray et al. 2015) CE is to address both environmental and socio-economic issues in order to transform waste into resources and linking production and consumption practices. CE underlines the bridge between public procurement and supply practices and suggests moving from traditional PP process that concentrates on product business model, to SPP process that is service-oriented model focused on the most value for money including social and environmental specifications. This requires closer collaboration between suppliers and procurers. Witjes & Lozano's (2016) study suggests a framework based on collaboration to contain both non-technical and technical specifications of product/service combination that advance efficient resource use through recovery. Framework is built on collaboration that is essential linkage between SPP process and improvement of sustainable business models. Knowledge gained through collaboration provides a base for procurers and suppliers in developing their sustainability practices, supporting resource efficiency and closing loops, while assuring economic advantages for both parties (Webster 2013).

PP can be seen as an instrument that applies inducements to modify the content and structure of supply. Public sector procurement authorities have to stabilize environmental, social and economic aspects of procurement to place sufficient incentives to the supply market. Politicians should evolve guidance on how to unite environmental, social and economic effects of sustainable procurement. (Harland et al. 2007) A strategic approach to sustainable procurement helps to achieve environmental and social goals through PP and is very important to guarantee competitiveness of companies. Businesses can benefit e.g. through cost savings, innovativeness or improved risk management. Implementation of sustainability targets demands the engagement of all parties, so there have to be acknowledged incentives for companies to contribute policy aims to foresee demanded environmental and social circumstances. Efficient inducement through PP entities can accelerate new markets and opportunities to develop and growth. (Amann et al. 2014)

Next section will present Green Public Procurement (GPP) that is regarded as part of wider concept of SPP in this study. Many guidelines that promote environmental friendliness and provide sustainability criteria operate under GPP, also criteria suggestion for sustainable food procurement. Thus, principles of GPP are considered significant in this case.

2.1 Green Public Procurement

Green Public Procurement (GPP) indicates that public authorities look for goods, services and works that are produced with less environmental impact during their life-cycle compared to products with the similar main purpose. In the EU many public authorities execute GPP as a part of wider approach to sustainability in procurement acknowledging also social and economic aspects. GPP is considered as an effective policy instrument to minimize environmental impacts of goods through their life cycle, improving efficiency and innovation in the energy and material use. (European Commission 2015, 2008)

There is rising awareness among public authorities to recognize the climate impacts of the products and services they purchase. Local authorities are significant procurers capable of showing an example by purchasing sustainable products alleviating greenhouse gas (GHG) emissions. In Finland there is a Government Resolution that provides frames and sets goals for sustainable public procurement. (Mattinen & Nissinen 2011, 7) Through PP municipalities can influence the environment effectively, especially by setting environmental requests on

purchased goods. These requirements can e.g. point distribution models and transportation technology. In that sense, public procurement shows example for citizens by performing sustainably and reducing its own negative impacts, not only demanding this from the individuals. This can lead towards more environmentally friendly procurement by private sector as well. Schemes support municipalities to choose bidders that offer e.g. the best environmental execution. (Björklund & Gustafsson 2015)

According to Amann et al. (2014) the inclusion of policy aims in the procurement process explains why 50 per cent of suppliers consider GPP criteria in their products, services and production processes. Other half can refer to enterprises that have already advanced in terms of GPP being aware of current environmental policies and their use. Such enterprises know how to use environmental labels and certificates, and most have already adapted environmental management systems like ISO 14001, a universal standard to stimulate companies to engage in environmental practices world widely. This is also referred as “supplier readiness” meaning that suppliers are progressively making themselves ready for GPP demands. Most of the suppliers have combined environmental considerations in their tenders, executing labels and certificates regarding environmental protection. It is important to consider size of supplier and contract award when regarding preparedness of small and medium size enterprises (SMEs). It is vital to improve environmental practices of whole supply chain by incorporating SMEs in the process. Since SMEs have different resources compared to big enterprises e.g. financial standing, environmental performance measurement and employee structure, public call for tenders have to consider such factors in order to provide equal possibilities for all supplier candidates.

Development of techniques and methods to measure environmental impacts is highly developed and being quantifiable, which explains why completion to measure economic and social impact has been less integrated. Reviews of SPP and GPP reveal that in the nine EU countries the use of environmental life-cycle assessment (LCA) is published whenever possible in procurement strategy but social criteria were not so well recognized. As mentioned many EU public authorities are prioritizing GPP but seeing it in the greater context of SPP, and there has been a renewed focus on SPP as a part of green growth strategies. These discussions propose that by procuring environmentally friendly and socially acceptable products and services, governments can make great influence on green economy transformation as a part of sustainable development goals. Even though there are

many different definitions and distinguishes for sustainable and green procurement there is still lacking clarity between the terms. Often the concepts sustainable procurement and green procurement are applied interchangeably. (Smith, Andersson et al. 2015)

In this study sustainable public procurement (SPP) covers GPP referring to environmental sustainability and also economic and social sustainability that will be discussed in the next chapter.

2.2 Social sustainability

There are multiple societal goals for public procurement, which are not defined in the targets or principles of public procurement law. These goals are accompanied with requirements and guides of how to pursue procurement so that the societal aims would be reached with use of public funds. There is no legal binding for guidelines, so obeying of such guidelines depends on own activity of contracting entity. (Siikavirta 2015, 72) In terms of socially responsible public procurement (SRPP) public sector should exploit the inclusion of social p tools through PP, not just by setting procurement contracts but also by transforming practices and framework of markets in a strategic manner. Including social requirements into tender documents e.g. supporting employment possibilities, decent work, accessibility, promoting social inclusion and engaging SMEs, can lead to more socially sustainable products and services. (Knopf et al. 2010) Some suppliers may face challenges when entering in public procurement markets. One way to promote SPP is to develop business support programs to improve the capacity of small and marginal suppliers and offer help with the public procurement process. Another way is to emphasize supplier diversity on a voluntary basis by offering equal chances to several suppliers as subcontractors and by advancing equality and diversity. (European Commission, 2010)

According to Walker and Brammer (2009) common social sustainability aspects relate to procurement from local and small suppliers, matters concerning health, safety and labor practices of suppliers and management of incoming supplies. Less applied social concerns cover procuring from minority-owned business and women. Oppositely to policy highlighting, public sector is more concentrated on economic and social, instead of environmental, features of SP. Public sector organizations are orientated to support local communities and economies by purchasing from local and small suppliers. By setting public contracts in a

strategic manner, objectives like social cohesion, reducing long-term unemployment and having of suitable standards of living can be promoted.

2.3 Implementing sustainable public procurement

There is major and quantifiable effect of public authorities to engage suppliers in sustainability with the use of PP, which proves the significance of PP policies in encouraging carry out of environmentally and socially responsible public procurement (SRPP). Preuss's (2009) study underlines the value of collaboration between public, private and third-sector organizations to reach sustainable procurement practices. This suggests that including environmental and social policy goals in public call for tenders directs suppliers to consider requested environmental or social criteria within supply- and production processes and supplied end products or services to the public sector, hence promoting sustainable supply chain management (SSCM). First move to implement this could be through advisory documents like circulars, decrees or guides that are committing public authorities. Adopting legally binding instruments for public sector authorities, such as training for public procurers or life cycle costing (LCC), gives efficient incentives to private companies to consider sustainability criteria in their practices. It is evident that GPP is applied in growing numbers, and to get SRPP on a same rise, public authorities should show the way through PP. Increase in sustainability of supply chains will be gained if inclusion of policy aims in tender documents results to the procurement of more environmentally beneficial and socially responsible goods and services (Amann et al. 2014).

Walker and Brammer (2009) investigate the nature of sustainability practices in public sector and factors that impact to greater engagement in sustainable procurement (SP). They suggests informational aspects as one factor, so in order to apply SP practices effectively it is crucial that organization knows the idea of SP and government policies and have tools to execute SP. Other factor highlights financial aspects, since green and socially sustainable production methods are commonly recognized more expensive compared to other methods. Factors that are seen as facilitators of SP practice propose that organizational and structural features of procurement have an important role when developing SP practices. Especially, commitment of top manager, including SP goal into procurement processes and procedures, and government policy are seen as the greatest supporters of SP practice. In terms of barriers financial capability is perceived as most important factor for SP. Sustainable

procurement is seen as costly, budget being too strict to incorporate SP and also other financial issues. In addition, awareness, quality criteria, availability and fear of change are seen barriers for SP. Then, Worthington et al. (2008) determine that one factor concerns organizational attitudes and incentives suggesting that organizational culture and supportive climate by senior level managers influence on degree of SP implementation. Other factor emphasizes availability of sustainable goods and services for the capability of public organizations to put SP into practice (Norton 1995).

According to Lawrence (1997) there are many difficulties that should be acknowledged if sustainability is to be converted into practices. A procedure outlining sustainability and its borders must be transformed into requests, ambitions and values. These should be placed into action by schemes and frames incorporating appropriate tools and measures. Then Graedel (2003) states that few sustainability guides are accessible for service businesses wanting to green their actions. He continues that as long as common idea is that what gets measured gets managed, and if there are no proper meters and methods established for measuring sustainability, the environmental implications and progress cannot be assessed. According to Adams et al. (2014) performance measures applied by companies regard mainly cost efficiency and quality measures, and the least utilized regarded learning and growth measures and to meet legislative requirements and manage databases. Sustainability, environmental or social responsibility measures are the least applied performance measures, and they are generally used as measures of employee diversity and non-financial economic aspects.

There are different possibilities to engage in sustainable procurement practices. These include developing efficiency, transparency and compliance, economical savings, meeting organization's aims and targets, enhancing the work environment, and evolving the modernization and international competitiveness of local business, reducing the use of natural resources and improving air and water quality. Also, sustainable procurement can be executed through an employee's health and safety standards and improving organization's image. There are major barriers embracing and execution of SPP, which changes across nations and industries. Shared issues are economic constraints in different forms, for instance cost, lacking budget and resources, create the greatest barriers in adoption of sustainable procurement acts. Other barriers involve lacking knowledge, decentralized procuring configuration, tight time limits, different priorities, and attitude e.g.

dedication of an organization. Especially, there is the lack of push to increase awareness about importance of sustainable development and how sustainable procurement could support sustainable development. (McMurray etc, 2014)

2.4 Basic principles of public procurement

This chapter defines the basic principles of public procurement in order to understand characteristics of public procurement (PP) process. Public procurement has to be made professionally, skillfully and in economically rational manner. This requires that purchases are carried out systematically and appropriately, observing the markets and policies. Making public procurement can take time, since public procurement mainly requires tendering that can take even several months. Rush caused by contracting entity is not excuse to skip tendering. Public procurement procedure should neither be launched without a cause nor just to investigate market. The aim is that procurement procedure will lead to a contract award. (Kuntaliitto 2016)

The fundamental principles of public procurement are non-discrimination, equal treatment, transparency and proportionality. Non-discrimination means that it is not allowed to discriminate suppliers based on their nationality. Contracting authority is prohibited to use such requirements in the contract documents, which only domestic companies are aware of or can execute. The principle of equal treatment stands for equal treatment of all tenderers, through all procurement stages, guaranteeing non-discriminatory treatment for all participants. The principle of transparency signifies that the selection process of tender must be transparent and follow prescribed procedure. Then principle of proportionality means that the subject matter of contract must have clear link with the requirements set in the specifications and for suppliers. The prerequisites mentioned have to be appropriate and obligatory to reach the goal of the public procurement. (Weele 2014, 379)

Public procurement is about meeting supply and demand in order to provide goods, services and works which public sector is in charge for delivering. Two essential principles are value for money and acting fairly. Contracting entities have a responsibility to achieve the best value for taxpayers' money for everything they procure. Best value for money does not always signify the lowest-priced bid. It implies discovering a solution that fulfills the set requirements including environmental ones in the most economical way. Best value measures not only the costs of goods, but as well acknowledges factors like quality,

competence, efficiency and suitability for use. Environmental friendliness can be a one such factor and so present an equal point among others for the contract award. Acting fairly indicates applying the rules of the internal market, which creates the base for public procurement directives and national legislation based on these directives. (European Union 2016, 16)

The aim of the procurement law is to improve the use of public funds, promote the procurement of high-quality purchases and guarantee equal treatment for companies and other organizations to offer goods, services and construction works in public tendering. The procurement entity must utilize the current competition conditions, treat all participants of procurement procedure equally without discrimination and also act in transparent manner considering requirements of proportionality. Procurement law refers to environmental aspects in different contexts. In the law 2§ advises to acknowledge environmental aspects as a part of procurement strategy, 45§ of the law sets environmental criteria as a part of technical specifications that define the subject matter, 54§ of the law enables to exclude tenderer who has committed the environmental crime out of the procurement procedure, and 59§ of the law permits to ask clarification about the environmental management measures from the tenderer. In addition, environmental aspects can be considered in the award criteria in the 62§ and 72§ of the law. (Finlex 2016)

Procurement law refers to social criteria in 14§ and 49§. According to 14§ procurement entity can limit participation in tendering only for working centers or corresponding units or reserve procurement implementation in connection with working programs if most of workers are disabled persons and otherwise unable to pursue professional activity due to their disability. In the 49§ contracting entity can set special terms for the implementation of contract regarding both environmental and social aspects, such as professional training at work places, following principles of International Labor Organization (ILO), working conditions, terms of employment and or hiring disabled persons. Precondition is that the terms are non-discriminatory and they are presented in a contract notice or call for a tender. (Finlex 2016)

2.5 Choosing award procedure

Public procurement procedures concern the procedures that public organizations have to follow when deciding of purchases. Procurement law defines the used award procedures in

the 5 § in sections 10–16. There are six different procedures that are open procedure, restricted procedure, competitive dialogue, negotiated procedure with prior publication of a contract notice, negotiated procedure without prior publication of a contract notice and design contest. Primarily, public procurement is to use either open procedure or restricted procedure. In open procedure contracting entity publishes a contract notice about purchase and all the interested suppliers can participate by making a tender (Radziszewska-Zielina 2011). Addition to contract notice, contracting entity can send call for tender to all suppliers that it considers suitable. In restricted procedure contracting entity publishes a contract notice and all willing suppliers may request to participate. Only selected suppliers by the contracting authority can make an offer. (The Regulation of Public Procurement 348/2007)

Framework agreement is definition of the contract that is made between one or more contracting entity and one or more supplier, which confirms terms of the contract award that is made between the parties within defined time limits. Contract terms can regard e.g. prices and amounts. Suppliers for the framework agreement will be selected based on either open procedure or restricted procedure. Contracting entity will apply minimum requirements and award criteria to verify supplier's capability and product's suitability when selecting suppliers and evaluating tenders. (Pekkala & Pohjonen 2015, 270.)

This chapter has rapt the idea of sustainable public procurement and its main features. Next chapter will view more closely different procurement process stages and their main objectives regarding SPP.

3 PROCUREMENT PROCESS STAGES

Procurement process implies different stages of public tendering that follow clearly defined procedures and obey legal principles. The aim of public procurement process is to create a required framework for conducting the procurement process in the area of public services. The public procurement process is a series of stages and after pursuing them, the product, service or work is gained as an outcome of the awarding of the public procurement contract. (Association of Finnish Local and Regional Authorities 2016) There are different ways of determining procurement process stages. According to Armeanu (2011) process constitutes in total of 12 stages including notice of intent, awarding method, the elaboration of the awarding method, call for competition, presentation of the application and tender, the awarding procedure, the awarding of the public procurement agreement, signing the agreement, completion of the awarding procedure, the agreement performance guarantee, execution of the agreement and completion of the agreement

According to Weele (2014, 377) public tendering covers supply market research, planning a sourcing strategy based on complete specification for the delivery of services, goods or construction, choosing the correct procurement procedure, organizing the tendering documents that include the technical requirements, supplier selection and award criteria, then contractual settings, and also assessing supplier data and supplier offers, contracting, closing the final contract, and monitoring of the tender procedure. Procurement process has key role as it combines specifications to supplier markets (Kiiver & Kodym 2014). When establishing tender, procurer specifies the wanted criteria requirements, and suppliers make suitable business model to meet the specified criteria requirements, after which the most suitable supplier candidate will be selected. Next figure on the following page will present procurement process stages applied in this study and their main objective in more detail:

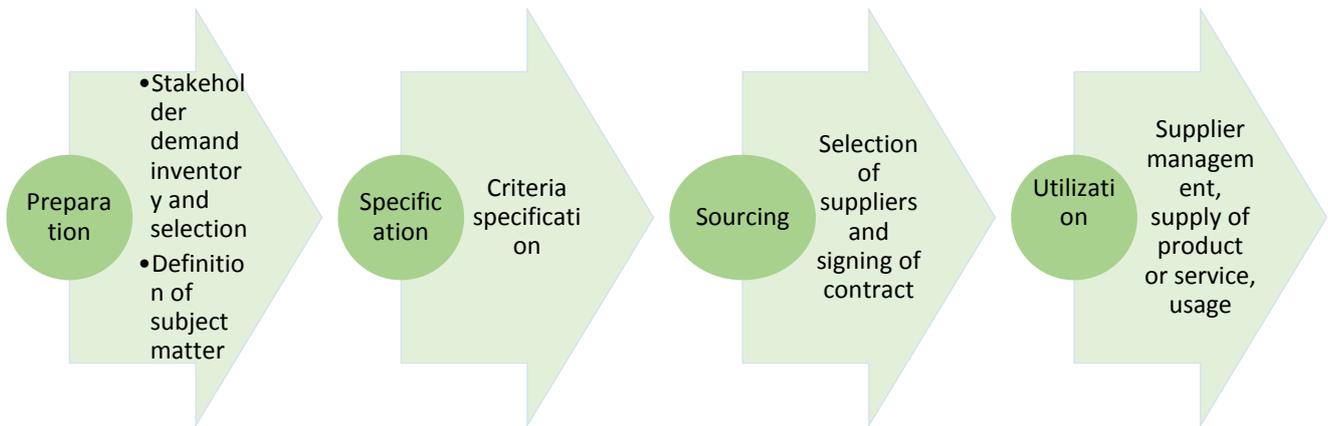


Figure 3. Different stages of PP process (modified: UNEP, 2014)

At this study procurement process stages are defined based on UNEP's (2014) definition that includes four stages: Planning, Specification, Sourcing and Utilization. Process model of UNEP is applied since it highlights criteria specification that is under special attention at this research. Final stage, utilization, focuses on supplier management due to its suitability in this case. Supplier relationships has greater role within the study, because utilization and waste management regard catering services and cannot be applied as criteria for food products in tendering. Also, foodstuffs as such are rather short lasting products.

3.1 Preparation stage

Contracting entity has a great discretion to decide what to procure, in what terms and what features of the purchase are emphasized. This has to be stated in tender documents that are contract notice and call for a tender. Tender documents are drawn in sense which will explicitly describe the content of acquisition, scope, central terms of procurement, and stages and contents of procurement procedure. Based on tender documents companies have to be able to estimate their interest, suitability and opportunities as a potential supplier candidate. Tender documents have to be in written to guarantee equitable and non-discriminatory access to information and treatment for candidates and bidders. Call for a tender has to be so clear, so that the given offers based on call for a tender are on a uniform and comparable. In open procedure basic principle is that call for a tender states all requirements related to the subject matter and execution of contract, requirements related to tenderer and both award criteria and selection criteria of tender. Call for a tender defines

a subject matter, inter alia using technical specifications and other quality requirements. (Association of Finnish Local and Regional Authorities 2016)

Before establishing a procedure for the award of a contract, contracting authorities can search or receive assistance by technical dialogue, which can be applied when preparing specifications, although, such assistance does not have influence of impeding competition. (Directive 2004/18) Thus before applying environmental criteria into tendering, it is advisable to gain some information of the market e.g. cost, availability and useful implications of greener options. Basic online market investigation can support to give some essential information. In order to get more exact profile from the market, it is useful to engage in discussion with possible suppliers before tendering. This is important especially when aim is to include high environmental obligations or gain relatively new, innovative solutions to the market. (European Union 2016 2011, 18)

The subject matter of contract refers to goods, services or works, which the public authority is planning to procure. Procurement laws determine how to perform public procurement without defining what to buy, letting authorities freely choose what they procure. Definition of subject matter can include information about the procurement quantities or in case of framework agreement, for instance estimation of volumes of last period. Contracting authorities must convert subject matter into measurable technical specifications that product or service has to conform. These requisites are obligatory, so the offer has to obey them, or it will be declined.

3.2 Specification stage

First definitions of subject matter are analyzed and developed more properly at the specification stage that will lead to exact definition of the product or service. The public procurement has significant potential to drive corporate sustainability approach due to its position in the value chain and purchasing power. Governments have acknowledged this and developed national schemes to promote and improve SPP. In these schemes expert groups with the obligation to develop procurement criteria have a vital role, as does the methodology applied to develop the criteria. (Bratt et al. 2013) Criteria requirements of procurement can be divided into four main groups that are selection criteria, technical specifications, award criteria and comparison criteria. At this study main focus is on technical

specifications being the minimum requirements for a product, award criteria and comparison criteria of tender being evaluated and weighted, since aim is to provide sustainability criteria regarding products. Including sustainability criteria into business models, suppliers are more secured to meet the sustainability specifications, requires close cooperation between supplier and procurer already at preparation stage (Lay et al. 2009).

Long-term cooperation during SPP process needs to move from technical specifications detailed by procurer to more mutual discussion on, and description of, the suggested requirements and specifications between the procurer and supplier. Also, socio-cultural details, like attitudes and beliefs of parties involved in the procurement process, need to be incorporated in SPP process, which will train and employ personnel particularly for the process of co-improvement. (Borgatti 2003) The successful result of the process depends on procurer and supplier cooperating to set up requirements and specifications, and shared possession of the product-service system. Cooperation begins in the planning stage, instead of sourcing stage when managing the contract. This may guide to improved cooperation, further partnership and conflict solutions between procurer and supplier, shaping of specifications, realizing of opportunities and argues in delivery of subject matter, and closing loops that minimize the amount of materials and waste. (Witjes & Lozano 2016)

3.2.1 Technical specifications

After defining the subject matter of the contract it has to be specified in measurable technical specifications (TS) that are attached to contract notice or call for a tender. Technical specifications comprise minimum compliance requirements that all tenders must fulfill based on pass/fail criteria, thus no scores are given for award purposes. TS must be connected to the subject matter of the contract and must relate only specific characteristics of procured product and not on general organizational standards. Technical specifications have two main objectives. First, they help to describe the subject matter to the market, so that enterprises can decide whether they are interested in invitation to tender. In that sense technical specifications help to define the level of competition. Secondly, technical specifications include measurable requirements, the basis on which tenders can be evaluated. If minimum requirements fail to be clear and flawless, they will lead to unsuitable

tenders. Tenders that are not obeying technical specifications have to be excluded. (European Commission 2016, 5, 2011, 33)

Technical specifications can be presented by referring to standards, planning, technical approvals or calculations in the order of importance. When referring to standards or other technical definition, also other products, services or materials that are not according to referred standard but fulfill the similar set of requirements that are related to the subject matter, must be accepted. Therefore reference has to be accompanied with the phrase “or equivalent”. In technical specifications it is not allowed to refer to specific producer or products from specific origin. Thus it is not allowed to refer to specific brand, patent, product type, origin or specific process in a way that prefer or discriminates certain suppliers or products. (Association of Finnish Local and Regional Authorities 2016) New procurement directives suggest firstly referring to requirements instead of standards, which is to prefer more innovative solutions instead of traditional standardized option (Pekkala & Pohjonen 2015).

3.2.2 Social and environmental aspects

There are both environmental criteria and social criteria that can be applied in specification in order to promote sustainability. The Procurement Directives in Europe determine openly how and where environmental criteria can be presented in tender documents. Most Member States also describe criteria in their national laws. To contain environmental requirements in tendering, this has to be in a subject matter in order the process to be totally transparent. Technical specifications regarding environmental friendliness can be explained e.g. environmental technical standards and eco-label criteria, material, production and process methods and use of variants. (Clement et al. 2012) The European Commission presents few main rules how to use technical specifications to support achieving environmental goals. For instance, procurer can determine the material of goods, require environmentally friendly production process or demand the product to fulfill requirements of the specific environmental label wholly or partly. In terms of food production process of environmentally friendly food can involve to meet the demands concerning organic farming, which are introduced in the EU regulation (2092/91). For drafting of technical specifications contracting entity can have technical dialogue with potential tenderers or technical professionals. In

addition, availability of organic products is significant nowadays, thus requiring of organically produced food product is no longer discriminatory. (Pekkala 2007, 274)

Environmental criteria can be detailed as mandatory technical specifications, award criteria or selection criteria. Environmental performance requirements like words characteristics that are dealt with e.g. environmental management system or quality system, can be defined in selection criteria as qualifications of suppliers. Environmental criteria can be presented also in the contract clauses e.g. requiring recycling during the contract period. (Nissinen, Parikka-Alho and Rita 2009) From environmental perspective the most important stages of procurement are means test, preparing a call for tenders and comparison of tenders. Still, purchasing of eco-friendly products should be supported during the other stages of procurement process as well. (Nissinen 2004, 31)

Contracting entity may have a specific environmental strategy that entails principles and aims followed in PP. Successful procurement requires that procurers are aware of environmentally friendly products and services and their availability. If environmental criteria for a product are set too high, it is possible that the contracting entity will receive only a few tenders that meet the set criteria or the price of tenders exceeds the appropriation meant for procurement. Thus, it is advisable to utilize technical specifications and accept also alternative solutions. (Pekkala 2007, 272)

Procurement law provides possibility to utilize social criteria that are defined in technical specification when describing subject matter. Social requirements can be determined as minimum requirement and award criteria that relate to the subject matter. Technical minimum requirements can e.g. deny the use products that are produced with child labor, which can be verified with some sovereign label. Award criteria denies using such requirements that would give extra points for award purposes, like that tender brings more tax incomes for the region and local citizens will be employed. Also extra points are not given because supplier utilizes local services or purchases local materials. Criteria requirements must not be discriminatory. Such conditions that would prefer different regional or lo local suppliers cannot be set e.g. placing small and local suppliers in better position when giving points or favoring them in contract conditions. (Pekkala & Pohjonen 2015, 382)

In terms of environmental and social labels procurement entity can require specific label e.g. Fair Trade label, in order to verify accordance with environmental and social features. Procurement entity requiring such label, have to approve all the corresponding labels that meet the similar requirements. Referring to labels can be problematic, if especially small suppliers do not apply labels so widely due to label costs. (Pekkala & Pohjonen 2015, 74) According to Boström and Klintman (2008, 28) green labeling is certain type of eco-standard that aims to solve environmental issues including also economic and social features. Green labeling covers standardized principles and prescriptive criteria and generally includes e.g. stewardship certificates. Such labeling is market based and towards consumers. Producers who are willing to apply a label on their products have to meet the standards and usually pay a license charge. Commonly, labeling criteria are set by third party and most of the green labeling schemes rely on separate third party certification. Compliance of certified producers is audited by external auditor that verifies that required standards have are met. Principles and criteria can vary overtime, and many labeling programs want to fix and develop labeling standards time to time as new market opportunities and new knowledge appears. Green labels are symbols which are shown for procurers and consumers, and which signify favorable consumer preferences regarding e.g. quality, environmental and health. Green labeling needs a demand from procurers and end-customers.

3.3 Sourcing stage

Contracting authority will select contract supplier, award the contract, assess the quality of tenders and weight costs at sourcing stage. According to European Commission (2016) selection criteria (SC) concerns a tenderer that refers to the corporation applying for the contract, and not the procured product. Selection criteria may refer to suitability to run professional practices, economic status and professional and technical capability. Selection criteria define the requirements that the contracting authority will apply to choose all preselected suppliers. It is about estimating which of the suppliers will succeed in principle for a successful completion of the task, how supplier will implement the project and what is the price. Selection criteria focuses on quality of the supplier instead of quality of delivered goods that is defined in more detail in award criteria. Supplier selection needs to obey with the principles of equality, non-discrimination, transparency and proportionality, which are determined in European procurement directives. (Weele 2014, 388)

Selection criteria that public authority can detail in tenders are exclusion criteria, technical ability criteria and financial standing. Only in the first two environmental aspects can be included. As long as environmental selection criteria are considered, these can only be applied if certain environmental experience is required to meet the contract. This can only relate to specific goods and contracts, which have great enough environmental influence through their distribution. Contracting authority is responsible for defining to which contracts it is applied. (Clement et al. 2012) When evaluating competence to perform a contract, contracting authorities may consider certain experience and capability regarding environmental aspects that are applicable to a subject matter of the agreement. They can also reject suppliers who have broken environmental law, and ask for specifications for works and services that related to environmental management measures when performing contract. (European Union 2016)

Contracting entity estimates the quality of tenders that fulfilled the technical specifications (minimum requirements) in order to select the most suitable one. There are two alternatives of awarding contract, which are based on either the lowest price or the most economically advantageous tender (MEAT). Going for the lowest price, the ultimate decision is only based on price of the offers. Naturally, all received offers will be verified to comply with all technical and quality requirements. If supplier will not meet the criteria, they will be excluded from the competition. In this case decision process is simple, since there is no need to discuss about e.g. quality, services or delivery times. Using the lowest price is convenient when contracting simple commodities, price being only significant factor, for instance when procuring gas or electricity. As the goods become more modified, preferable way to act is to use the criteria based on MEAT. Not all criteria has to be objective. In case using subjective criteria e.g. aesthetics character, the assessment method including weighting factors has to be described clearly and kept same during tender process, or otherwise contracting entity may be defenseless if case is taken into court. Thus, the most of the jurisprudence on public procurement is linked to weight factors and criteria that have been applied, their legality and variations that have taken place during the process. (Weele 2014, 389-390)

Applying MEAT means that other factors than price will have a leading position. Factors may entail quality, technical merit, cost-effectiveness, customer service, total cost of ownership, delivery date or environmental of functional characters. Contracting entity can also utilize other criteria, as long as they relate to the subject matter of contract and are introduced

broadly beforehand. The sourcing stage is good idea to establish environmental award criteria when being unsure about the cost or availability of the more environmentally friendly goods. Placing environmental award criteria means that “greener” products or services are preferable, but will not be chosen if they are radically more expensive compared to “normal” ones. The given weight for environmental criteria in the evaluation will affect how much extra one is prepared to spend. Even if environmental minimum standards are placed already in the specifications they can be included in award criteria, which supports rewarding even more environmentally friendly performance. Consideration of economic offer should not be narrowed only to the purchase price but to cover also life cycle costs of the product or service, including also costs of use, maintenance and final disposal. If there are no environmental criteria found from the previous stages, it is impossible to incorporate them at this point. So when using the lowest price as an award criteria, one should present environmental criteria already in technical specifications being the minimum requirements for the product or service. (Clement et al. 2012)

3.4 Utilization stage

After the contract has been made the product or service is delivered at utilization stage. Contract performance clauses (CPC) are used to prescribe how a contract must be performed. They must be connected to the subject matter of the contract and must not handle common business practices but only those detailed to the procured product. No points are given for CPSs for award purposes. After contract has been awarded, compliance with the clauses should be monitored during the implementation of contract. It can be connected with punishments or additional benefits in order to guarantee compliance. (European Commission 2016, 5)

This chapter has outlined procurement process stages and their main objectives. Next chapter will introduce the characteristics of sustainable food procurement.

4 SUSTAINABLE FOOD PROCUREMENT

Food procurement and catering services involving schools, hospitals, care homes, state companies and prisons et al., present a remarkable part of procurement budgets in the public sector. The predominant economic paradigm has headed for rising focus on market-based green growth strategies to harness sustainability targets and allow policymakers and experts to move towards creating more sustainable food systems and better public health nutriment. There is need to refine what is meant by sustainable public sector food procurement and green public sector food procurement. It is argued whether an ecological shift is needed in order to better understand how health of eco-system is connected with human health, to facilitate practitioners and policy makers to create more sustainable food systems and better public health nutrition. (Smith, Andersson et al. 2015) A procedure of determining sustainability in its context and recognizing its boundaries, have to be changed into needs, objectives and principles. These should be placed into actions using strategies and frameworks covering applicable instruments, processes and procedures. (Rimington et al. 2006.)

According to European Commission (2006) the food and drinks sector is in charge for 20 and 30 percent of the greatest environmental impacts in Europe. The biggest environmental impacts in the area concern the use of harmful chemicals in the food production and manufacturing, and food transportation. Many public entities seek to growth the amount of organic food offered at schools and office cafeterias, and also decrease the level of excessive-impact meat products. Packaging waste and unsustainable usage of marine resources are also significant matters. Rimington et al., (2006) study discusses about principles for sustainable food procurement and the key performance indicators in order to measure their development. Study presents five main principles accepted by public catering services to support sustainable procurement practices, which next figure on the following page will present:

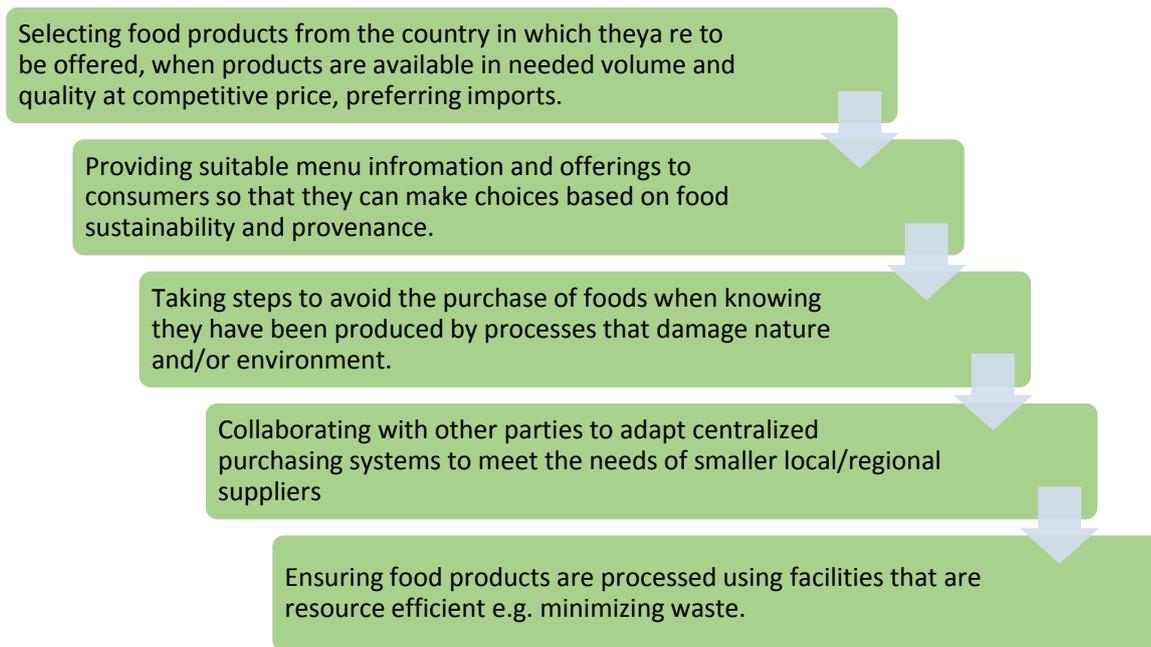


Figure 4. Principles for sustainable food procurement practices

It is recognized to pursue these principles however there are operational constraints that impact on possibility to execute them in short period. There are other principles that food companies are still hesitating to implement, which includes e.g. guaranteeing that offered food contains minimum amount of additives, including sugar and salt, and offering more information about the additive content. Reason not to implement such principles even considered applicable, is their relatively minor importance at the time. According to DEFRA (2002) sustainable food comprises the following.

Table 1. Sustainable food.

Promoting good health through a balanced diet and safe food
Accessible, socially inclusive, affordable and reflecting local communities, culture and seasonality
Supporting the local economy by buying food as close as possible
Sustainable farming including high environmental standards and reduced energy consumption
Promoting animal welfare, valuing nature and biodiversity
Fair prices, fair trade and ethical employment

Based on listing DEFRA has launched five main targets for sustainable food that are: to advance production and process standards, raise tenders from local and small producers, advance consumption of nutritious and healthy food, decrease harmful environmental impacts of production and supply, and improve the capacity of local and small suppliers to meet demand. According to Rimmington et al. (2006) such aims follow sustainability criteria, but do not cover social dimensions or fair trade. Also they do not recognize procurement of organic food by public caterings. Aims are aspiring instead of being exact performance object. In general there is coherence about what comprises sustainable food. Still, some of criteria can contradict in practice. For instance, is local normally produced food better compared to organically produced food that is imported overseas requiring thousands of air miles, or is fair trade preferable although distributed further?

Lehtinen (2012) investigates sustainability and local food procurement in the public catering in Finland. Study applies sustainability criteria to assess the sustainability of potato supply chain from local producer, which includes environmental, social, economic and relationship factors. Next figure will show the defined criteria:



Figure 5. The framework of sustainability in food chain (modified: Lehtinen 2012)

Lehtinen's study (2012) discusses that public tendering allows food procurers to determine criteria that gives them to underline factors regarding environmental and sustainable production in procurement. Study reveals that although sustainability was stated in tender

documents, what comprises sustainability was not measured or explained. Overall, sustainability is related to environmental issues, waste management and local food in Finnish food chains. Sustainable public food sector should consider wider scale of issues further along the supply chains than was before when focus was only on economic issues. In addition, term and criteria for sustainable supply chain are not fully formed in the public sector. To better evaluate the sustainability of suppliers, procurers are obliged to reach further down supply chain than before. Sustainable procurement actions would contribute to creating relationships based more on collaboration between local suppliers and caterers in long term.

Sustainable procurement faces great challenges because of the great economic pressure in the public sector. Price is seen to be the most relevant factor affecting on decisions making in public food sector, thus financial burdens being the greatest barrier to implement SPP. Local food supplier have to compete against multinational food enterprises. Overall, price of local food is higher due to small production scale and excessive delivery costs. Local food suppliers must contribute additional value for public caterers to keep up in the competition. Also, cost effectiveness is essential and local farmers should have efficient farming practices and automated processes in order to win the tendering. (Gail Smith 2008) However, it is possible that cost effectiveness goes hand in hand with sustainability. Still, local food chains are not automatically sustainable per se, but numerous facts promote that local food is more sustainable compared to other options, e.g. short delivery times, small work-in-progress inventories, traceability, lower quality and hygiene risks, flexibility and suppliers' visibility (SUSTAIN 2009). Shorter supply chains also improve transparency to proof social and environmental effects of locally procured food. (Lehtinen 2012) The influence that public food procurement can have to sustainability covers all three levels of environmental, economic and social improvement. (Barling et al. 2013) Next three pillars of sustainability regarding food procurement are discussed.

4.1 Sustainability aspects of food

In economic sense large purchasers can have a great economic advantages to local and regional areas through the market that the buyers provide. Founding new local public procurement markets can influence to expanding the civic led economy that helps sustainable consumption practices and advanced food production. (Morgan and Morley

2002) According to Smith, Andersson et al. (2015) EU reform could enhance market access for SMEs and small food producers, through better possibilities for public sector food procurement contracts.

From environmental perspective procuring food products based clear environmental criteria will support communities to decrease their ecological footprint and answer to the issues that food supply actions cause to ecosystems and natural resources. For instance, procuring food with low impact production methods with lesser carbon inputs and greenhouse gas (GHG) emissions, wild fish trapped from sustainable fisheries and improved animal welfare standards. New production and consumption methods lessen the costs of such environmental issues and enhance the quality of natural resources, encompassing water, air and soil, which comprise the ecosystem parts upon which our capability to carry on cultivating food and conserve sustainable local communities rest on. (Barling et al. 2013, 11.)

In addition to physiologic necessity food has also many societal linkages that present different areas of sustainable development. (Risku-Norja et al. 2010) Social improvements in terms of healthier school pupils, better recovery among patients, more focused students and healthier workers are straight results of food produced, prepared and consumed in public cafeterias. The inclusion of local food in menu precept can improve local cultural traditions and actions in the public area and familiarize consumers' with seasonality of traditional foods. Also, menus can show example of good sustainable dietary model for the citizens to follow in their private consumption patterns. The decrease of eating linked illness costs and related distress as results from having better diet contribute to added social and economic benefits. The procurement of fair trade products puts an emphasis to increase public awareness on values of better equity and fairness in the distribution of revenues along supply chains and across diverse communities where considering at the distance can tie urban producers with developing world producers. (Barling et al. 2013, 12)

Next chapter will shortly discuss about Life cycle approaches. Considering sustainability impacts during the whole life cycle of product or services is suggested in the new procurement directives set by the European Commission for procurement entities to apply, which makes life cycle approach relevant in this study.

4.2 Life Cycle Approaches

The concept of life cycle thinking means that in order to include all environmental impacts of a product or a service, the whole life cycle should be considered. The life cycle approach can concentrate e.g. material or energy flows and also on economic factors. In terms of environmental management, one most practicable tool for businesses is life cycle analysis (LCA) of their products and production processes. Similarly, the term life cycle assessment also stands for LCA that is a study of environmental impacts caused by a specific product or procedure. LCA considers the whole product life cycle from raw material acquirement, manufacture, usage, and end-of-life. (Goglio et al. 2015) This is regularly explained as a cradle-to-grave and cradle-to-cradle analysis. The dissimilarity between these is that cradle-to-cradle comprises recycling of material when product is disposed. Thus waste management has a significant role in the analysis. LCA is to capture the environmental impact caused both directly by manufacturing and indirectly by raw material extraction, energy usage, distribution, end user and discarding. (Antweiler 2014,103)

An essential part for producers regarding environmental impact of their product is to determine environmental externalities of the product, such as pollution, and energy and resource use. LCA helps manufacturers to assess environmental footprint of both products and production processes. LCA supports to gain informed choices regarding rival manufacturing techniques or product designs considering exact environmental costs during the whole life cycle of product from cradle to grave or preferably from cradle to cradle. (Biswas et al. 2008) According to Mattinen & Nissinen (2011, 9) LCA commonly has four critical phases that are goal and scope definition, life cycle inventory, impact assessment, and interpretation of the results. Similarly, Antweiler (2014, 104) defines the first three stages of LCA being goal definition and scoping, inventory analysis, impact assessment and the last stage as improvement assessment.

One new concept in the European Commission's proposal for new procurement directives is life-cycle costing (LCC). The goal is to encourage purchasers to consider also other factors than just price in terms of sustainable public procurement. Based on assumption that the purchasing price does not alone reflect monetary and non-financial progresses that are provided by environmentally and socially desirable assets as they build up during their activities and use phases, LCC is a tool that estimates the costs of an asset through

its life cycle. Regarding SPP, LCC usage is crucial component when shifting pattern of public procurement beyond limitation of the only purchase price of good or service. Although various procuring entities apply LCC as a tool when making decisions, its use is still disorganized and calculation methods are usually modified according to tender. (Dragos et al. 2013)

4.3 Food supply chain

Food supply chains are very dissimilar and complex. This chapter will discuss food supply chain in order to clarify stages that have the most environmental impact based on LCA. Next figure will present applied model of the food supply chain:



Figure 6. Supply chain of food

Primary production causes the biggest environmental impact compared to other stages in food chain. It is accountable for about 50 percent of greenhouse gas (GHG) emission and 90 percent of eutrophication. Then processing stage generates food waste and consumes resources like energy, water and detergents. (Sonnino & McWilliam 2011) Packaging has a low total environmental load compared to production and processing stages of food products. Some exceptions are bottled milk and water, where packaging forms a great impact. Food packaging is an intricate matter. There have been multiple improvements in packaging design during past years targeted to extend product life and enhancing total integrity of products. Food packaging is emphasized as fundamental factor to environmental impacts and as a main environmental hotspot in many food categories. The environmental impacts of packaging are linked to the embedded effects in materials from their manufacture, needless transport emissions from too weighty or bulky packaging and environmental impacts related to end of life waste management. (European Commission 2016, 8, 32)

Transportation has commonly a low impact when compared to previous stages, production and processing, though type of transportation, for instance road, air, train or ship, is crucial feature. (Renting et al. 2003) Transportation of municipal goods e.g. food has traditionally been coordinated around the origin, like retail chains or suppliers, instead of destination. Thus procurement of goods by local public authorities can contribute environmentally, economically and socially unsuccessful urban goods distribution. (Björklund and Gustafsson 2014) In this case transportation is not applicable as criteria since tendering of food products does not include catering services into which transportation relates.

According to Antila 2008, transportation and packaging cause much less emissions than it is generally considered. Even it is thought that both cause the most of the food emissions, in reality they generate only minor part of all environmental impacts. The amount of emissions was surprisingly small, although in terms of transportation one reason is that food supplies in question were produced in Finland, thus transport distances were not so long. When food is imported farther, instead of long transport distances more influence is caused by what food is produced, in what kind of circumstances and what kind of energy sources are used. Environmental impact of food may remain low even after long transport distances, if the energy used in food production is produced from emission-free or low emission energy sources. Particularly, if transportation will follow also low emissions rates.

4.4 Sustainability criteria

The aim of sustainability criteria based on GPP is to facilitate public authorities to procure goods with less environmental impacts. The development of EU GPP criteria for Food and Catering Services is to support public authorities to guarantee that the procured food and catering services are performed in such manner that reduces their related environmental impacts. Criteria are voluntary to use, and it is created in a way that they can be enclosed into tender documents of public authorities, if considered suitable. GPP criteria can be regarded as either selection criteria for tenderer, technical specifications as minimum requirements, award criteria evaluated and scored or contract performance clauses that define how contract is to be executed. (European Commission 2016, 4) According to Risku-Norja et al. 2010 the most essential criteria in tendering of food supplies in Finnish municipalities are supply security, price and healthiness. Instead transport distance and regional economy influence way less on contracting decision.

4.4.1 Organic production

In many countries, especially in richer ones, organic labeled food and organic farming are growing into great business (Boström & Klintman 2008, 47). Previous LCA studies on organic food products shows that the overall consensus is that organic products have minor impact on climate change and less use of pesticides compared to conventional products e.g. eggs. Nevertheless, organic products have higher eutrophication and acidification potentials than conventional products, especially for livestock because of manure emissions and greater land use. The reason why organic production can have greater environmental and economic influences than conventional one is that organic production requires more resources e.g. more feed for animals because they live longer and more land to cultivate crops due to smaller yields. The outcomes from environmental analyses determine that there is still lacking evidence to propose that organic products have general a lower environmental impact compared to conventional products, so evidence is questionable. Generally, studies reveal both pros and cons regarding organic and conventional agriculture (Chiputwa et al. 2015)

When considering healthiness factors great number of studies confirm statistical results that organic crops, so vegetables, fruits and cereals, include less pesticides and less heavy metals and more antioxidants versus conventional crops. Additionally, organic production has greater standards in terms of animal welfare (Harper & Makatouni 2002). For animal wellbeing demands are set on what breeds are used, what feed is provided for animals and comfortable living conditions with outdoor access. Animals have to be healthy and their necessities have to be considered, guaranteeing freedom of pain, which involves transportation rules and slaughter procedures. (European Commission 2016, 19)

4.4.2 Integrated production

Scientific evidence proposes that integrated production could be a solution to attain lower environmental impacts from farming at no or minor extra cost, by way it characterizes a compromise between organic and conventional production systems. It offers greater environmental benefits than conventional agriculture due to limited use of synthetic fertilizers and pesticides. (Engelbrecht et al. 2015) Still, currently there is EU broad certification scheme that defines minimum demands to confirm compliance. National labels exist only in some Member States, mainly in Spain, Italy and France, and the minimum requests set for labels differ. Environmental research has suggested that integrated production can be one solution, because it combines both organic and conventional methods. Nevertheless, only a limited number of studies based on LCA are available about integrated production. Thus, it remains unclear what production method is the best one, depending on the food type and even the cultivator. (European Commission 2016, 26)

4.4.3 Seasonal produce

There is scientific prove that seasonal produce have lower environmental impact than foodstuffs cultivated in artificial environments that are intensely reliant on fossil fuels. Seasonal produce tends to be also cheap due to its high supply. (European Commission 2016, 25)

4.4.4 Marine and aquaculture food products

The key environmental impacts in terms of fish product consumption originate from fuel use when catching fish and the soy feed used in fish farming. Second hotspot regarding fish consumption and seafood products is biodiversity. More sustainable way is to procure fish from stocks that are not overfished by selecting consciously procured fish species. (Shephard et al. 2016) The Marine Conservation Society offers a guide on what fish stocks can be acceptably fished or farmed for wild caught fish and aquaculture correspondingly. A sustainable procurement does not include purchasing of threatened or endangered species and fish from damaging farming systems or fisheries. (European Commission 2016, 22)

4.4.5 Animal welfare

Issues regarding animal welfare are having increasing attention in the food supply chain. Farming containing aquaculture, processing, transport and distribution methods have developed to meet the rising ethical concerns of people in terms of animal welfare. Respectable animal welfare supports minimizing disease, which benefits both human health and food quality. (Food Round Table 2010, 9)

4.4.6 Fair trade

Fair trade is a wide concept that crosses borders of labeling. It is a practice of sustainable development comprising all three pillars environmental, social and economic sustainability. Producers working under fair trade conditions are secured to have premium for their foods, which contributes to improving both social and environmental features of their living and production settings. (Food RoundTable 2010, 7.) Products deriving from developing countries can have weaker social and labor values that the EU minimum established level. Therefore from the ethical viewpoint it is suggested that product originating from developing countries should have a social or sustainable label to guarantee at least minimum social standard is attained. Such labels commonly include also minimum environmental concerns, like restricting use of hazardous pesticides or avoiding unsustainable deforestation. In addition, as part of certification schemes agriculturalists are frequently trained good farming practice which outcomes in lower environmental impacts, compared to agriculturalists that do not belong in such schemes. (Parvathi & Waibel 2013)

The most commonly imported food products to the EU from developing countries having sustainable or ethical labels include sugar, coffee, tea, bananas and chocolate. There are number of sustainability programs, initiatives and schemes available e.g. for coffee area that have larger commitment among agriculturalists and which also have a positive influence on the environment. Regarding market availability Fair Trade label is offered across the EU countries even though their market share is unknown. (European Commission 2016, 30)

5 CASE

This chapter will introduce execution and results of the research. First methodology will be described. Then results will be presented beginning with factors that impact on SPP implementation at organizational level, then at procurement process level and finally specific characteristics of tendering food products. After this results and insights will be reflected, and reliability and validity of the study will be assessed.

Procurement categories within different sectors in the city of Lappeenranta are tendered according to procurement legislation and procurement guide of the city. Procurement Services that is part of city's group administration is mainly responsible for procurement and their tendering. Procurement requiring special knowledge can be assigned for the sector in question, such as consulting services or contracts for technical department. Procurement Services is a municipal contracting entity tendering both regional joint procurement and separate supplies and managing the award of contract. Regional acting of Procurement Services is based on signed contract among participants joined in collaboration, which are: Lappeenranta, Imatra, Lemi, Parikkala, Rautjärvi, Ruokolahti, Savitaipale, Taipalsaari, Education and Training of South-Karelia, Social and Health district of South-Karelia (Eksote), Polytechnics of Saimaa, Saimaan Talous and Tieto Ltd and Saimaan Tukipalvelut Ltd that manages food services for Lappeenranta, Imatra and Eksote. (Lappeenranta 2016) Next chapter will present research methodology and then findings at different levels, first organizational level, procurement process level and finally tendering food products.

5.1 Research methodology

This study utilizes a qualitative approach that was selected for the research because the aim is to view research area comprehensively. Research is exploratory by nature applying action research as a part of case-study strategy since the objective is to gain new insights about phenomena and deepen understanding of a specific problem, in this case factors that affect on implementation of sustainable procurement process (SPP) and assessment of the sustainability criteria in tendering. Action research is applied since researcher participated in tendering by developing criteria suggestions for different food product categories. Research methodology can be found in the following table.

Table 2. Research methodology

Approach	Strategy	Data collection	Data analysis
<ul style="list-style-type: none"> •Qualitative •Inductive •Exploratory 	<ul style="list-style-type: none"> •Action research as a part of case study •Normative •Procurement Services 	<ul style="list-style-type: none"> •Topic related literature •Previous tenders •Criteria suggestions •Qualitative interviews •Observation 	<ul style="list-style-type: none"> •Analyzing previous studies •Evaluation of tender documents •Applying criteria requirements •Analyzing qualitative interviews

Case study is a research strategy that aims to gain deep understanding of particular research area and the processes performed within real-life context, applying numerous sources of evidence. (Saunders, et al. 2009) This research deals with the case organization, Procurement Service, which is the commissioner of thesis. Study investigates sustainability of the public procurement process and factors that impact on SPP implementation at different procurement process stages. Focus is on tendering food products and specific characteristics regarding sustainable food procurement and its goals, which are viewed as a part of SPP implementation.

Theory part concerns sustainable public procurements and implementation of SPP, presenting three pillars of sustainability that are economic, environmental and social sustainability. Then public procurement (PP) process stages and tendering of foodstuff are discussed. Literature consists of journal articles, researches, governmental publications, and books that in electronic and written form. Both Finnish and English sources are utilized since literature about PP in Finland is mainly published in Finnish.

Empirical part consists of qualitative interviews, observation and documentary analysis. Data collection techniques include:

- Qualitative interviews
- Participating SPP training
- Observation at demand inventory/value discussion of food tendering

- Tender documents
- Organizational documents
- Web-pages of the case organization

In total, qualitative interviews were executed with three respondents of which two are closely related to case organization and tendering of foodstuff and third respondent is professional in the field of SPP. Next the respondents are listed:

- Procurement professional, Procurement Services of Lappeenranta
- Expert of Food Services, Catering Services Ltd.
- Senior Consultant, Consulting Ltd.

In this case qualitative interviews are non-standardized, informal conversations and categorized as semi-structured interviews as the researcher had the list of themes and questions that were covered during interviews. However, during the interview discussions order of questions varied and conversation arose new questions, thus interviews became more unstructured by nature. All interviews were recorded and notes were taken during the interviews in order to guarantee careful data analyzing. Afterwards interviews were transcribed then data was summarized and categorized.

With the first interviewee there were total of four discussions that took place between January and April 2016, and approximate duration of each interview sessions was one hour. Discussed topics concerned SPP, including general organizational objectives and barriers related to topic. In the first meeting Procurement Chief considered that the main barrier is to measure and evaluate the sustainability of public procurement. In that way, research topic about the factors affecting on implementation of SPP got started. Then, second interview with Expert of Food Services at Catering Services took place in March 11th and lasted one hour and fifteen minutes. Discussion themes concentrated on sustainable foodstuff and criteria affecting on sustainability.

First observation took place December 17th as the researcher participated in seminar about SPP that was arranged by Procurement Services and held by Motiva's Isa-Maria Bergman, Leading Expert of procurement. Participants consisted of public procurement professionals

working in different fields of procurement in South-Karelia region. Then, second observation researcher participated made reflection based on discussions was a demand inventory including value discussion. This was arranged before tendering and before establishing a call for a tender for different food product categories. At inventory all clients joining the joint procurement of food products and two contact persons from contracting entity were present. Meeting was held in March 11th and duration was approximately three hours. In the meeting each product category, their description in call for tender and possible criteria requirements were discussed based product lists used in previous tendering. Focus of the discussion was on specific details of the products e.g. amount, contents, nutrition levels, composition of foodstuff and saltiness. No word about organic or fair trade products was mentioned. Clients also wondered and asked from the researcher what would be the most sustainable packaging type. They also doubt if they would get local suppliers to give a tender.

Documentary analysis included both tender documents and organizational documents. Tender documents regarding foodstuff were analyzed in order to gain insights about previous tendering criteria, and based on that provide new criteria suggestions for current tendering in order to promote sustainable food procurement. Criteria proposals were developed as result of literature research based on available guidance for businesses on sustainability and performance indicators. Tendering of foodstuff comprises five categories: fresh fish, bakery products, industrial food products, frozen products and fresh food. Criteria suggestions, including both technical requirements and award criteria, were made separately for each category before publishing call for tenders, so that criteria could be included in call for tenders if considered suitable. Also commercial terms and conditions were viewed from call for tenders to have clear picture of tendering. In addition organizational documents were investigated to gain better understanding of the practices performed at the case organization, Procurement Services of city of Lappeenranta. Documents cover general organizational guidelines that follow basic principles of public procurement.

5.2 Organizational level

Next chapter will review general organizational factors that impact on SPP implementation at case organization. Results are based on interview with the contact person at Procurement Services. Next figure will present factors that impact at organizational level.



Figure 7. Organizational factors affecting SPP implementation

City of Lappeenranta wants to be a green city and seen as “Green Lappeenranta.” According to interviewee Procurement Services is part of Green Lappeenranta strategy and supports the strategy by considering sustainability aspects in all procurement practices. Depending of the procurement category Procurement Services reflects sustainability as minimum requirements or award criteria. The city has now internalized the importance of green strategy and knows that it is also the matter of brand image. So, common will is to engage all different sectors into green strategy. According to interviewee Procurement Services has not defined neither exact targets for SPP nor precise meters that would measure sustainability and percentage of sustainable procurement in relation to total procurement. Procurement Services considers that 100 percent of all procurement should be made sustainably. However, SPP targets can be seen as a part of higher-level objectives of Green Lappeenranta Strategy. Procurement Services has meters that consider more resources, economic and input related aspects rather than meters of sustainable development, which are still lacking.

“It would be more like media and marketing phenomenon if clearly defined targets for sustainable public procurement exist.”

“This is minor shortage.”

Budget is starting point for procurement. Nowadays budget remains the same from year to year or reduces, sign of increase has not been in prospect for a long time. If some procurement unit wants to have something this is considered through budget. For instance, electricity cars are more expensive than similar sized gasoline cars, which dictate what to do with money. Otherwise it is out from some other functions, and all functions start to be so necessary that it is hard to cut from anywhere. When considering city organization, all sectors have their own set budget that they have divided into particular departments that have own specific functions requiring specific human resources in addition to running costs. If budget was wider, one could procure more ecological option and tender e.g. electricity car. Interviewee explains that with food if one would like to have organic products more, which would require e.g. increasing taxpayers' tax rate. At these points budget influences particularly. However, if it is about small margin of products then it can be approved due to its goodness e.g. with food products, some products are organic and some are not. So how budget can bear defines the way to proceed considering all possibilities.

“Budget influences absolutely”

“There is just is no money, if there was it would be way easier.”

Interviewee clarifies that there is a procurement guide for South-Karelia region. It provides instructions and guidance for municipalities about public procurement and its implementation. Guideline states that one is to follow principles of sustainable and responsible procurement and defines the common values considered in procurement stages. Values comprise impartiality and non-discrimination, overall economic efficiency, energy efficiency and environmentally friendliness and social criteria, which follow procurement law. General requirements state that procurement is to reflect sustainable development, environmental effects and environmental load of products and their packaging material and recycling possibilities of product or service during its whole life cycle when possible. One is to guarantee that quality requirements are not set higher than it is needed.

Tender documents must include all necessary information about quality to give right description and details of the procurement for participants in tendering so that they know what successful implementation of procurement requires. Quality requirements set in tender documents can concern e.g. quality system or control, environmental effects, energy saving, sustainable development and social criteria. (Procurement guide 2016.)

According to interviewee training about sustainable and responsible procurement is arranged based on need. Last training about SPP was organized by Motiva's Isa-Maria Bergman, Leading Expert of Procurement, and held in 17th December 2015. Participants consisted of procurement professionals working in different fields of procurement department at South-Karelia region. Also researcher of this study participated in the training personally. Procurement Services is part of Motiva's "Eco Network" that aims to share knowledge regarding SPP and document models that other parties e.g. municipal federations can exploit in tendering, like tendering model for appliances.

"No need to roll in the same pain."

5.3 Procurement process level

Next chapter will review factors that impact on SPP implementation at procurement process level regarding specific characteristics of food tendering. Following figure on the next page will show factors that impact at different procurement process stages.

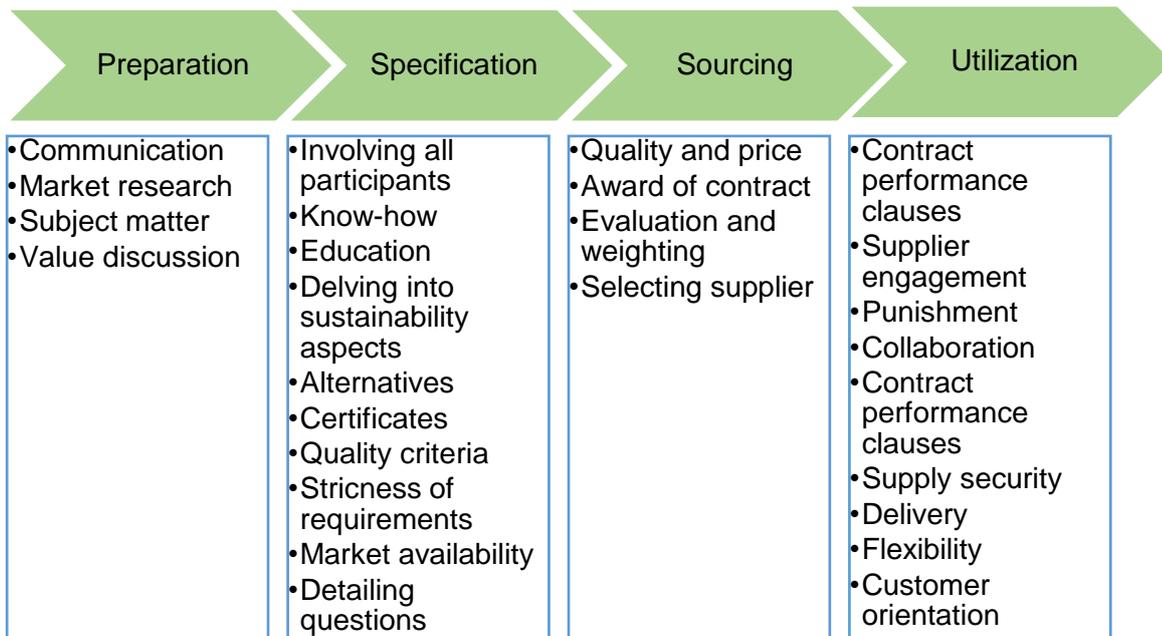


Figure 8. Factors at procurement process level

Aim is to clarify practices that are taken during process stages and evaluate their importance regarding sustainability. Factors at specification stage are investigated in order to find barriers related to criteria setting. Focus is on factors that impact on implementation of sustainable food procurement. Findings are based on interviews with the contact person at Procurement Services and expert at Catering Services Ltd, and researcher's own observation at demand inventory including clients of food tendering.

5.3.1 Preparation

According to interviewee there is communication through tendering. Before tendering there are first dialogues with potential suppliers that have similar products in order to gain their opinion about the acquisition. This will help to make description of subject matter. Dialogue can be organized before drafting and establishing a call for tender. Other way to gain information before establishing call for a tender is request for information through HILMA. This is a market research to clarify contracting entity's need for suppliers who can tell solutions that they can offer and their price. Interviewee specifies that this not a call for tender but information request instead, which is mentioned clearly. Tendering can also include dialogues with suppliers about sustainability aspects that are considered by

providing freedom for supplier to give proposals in terms sustainability and solutions that they consider as sustainable options and to meet the requirements of sustainable development in this specific procurement. Procurement Services will send inquiries regarding sustainability to suppliers that are known to have such aspects in consideration within their operations. Interviewee continues that there are not so many cases where these can be considered. With many procurement categories there are only few big suppliers whose best practices can be used as model for other suppliers to get them to improve their operations as well. However, with PP one must not favor any supplier and acknowledge there are many suppliers in the markets. Otherwise Procurement Services must have strong justifications for their decision.

According to interviewee describing a subject matter is very important because it is the starting point for tendering. Contracting entity asks for specific description of subject matter to know what acquisition is all about and into which category to place it. Client ordering procurement defines description of subject matter and what they want. Client defines the exact description of subject matter, strictness of criteria requirements and whether there is flexibility left for supplier to implement procurement. At preparation stage one is to consider aspects of sustainable development. Interviewee continues that when defining a subject matter one has to consider the use that it will be. For instance, if product has been a van earlier, is there still need for such van anymore. Thus, definition is the most important factor when some alternatives are excluded as they do not meet the needs of a subject matter.

“Does it need a crane and if so, then electric car is out of the question because it does not exist with crane.”

Interviewee explains that there is not one specific operating model for separate procurement categories. Acquisitions are so dissimilar demanding different approaches, which makes it difficult to have only one model that would suit all categories. However, interviewee continues that there would be a need for such “steps” that define procurement process stages in which sustainability aspects should be considered e.g. planning, and the point where and how sustainability aspects should be prepared for tendering.

“It is only noted that one is to consider sustainable development in the planning stage. Well, then person in charge has to have an idea about sustainability and what it means in specific tendering e.g. tiers or technology, and what it requires.”

“It can be rather challenging then....”

Regarding food interviewee explains that food services is strongly related to food procurement. With meal production approximately half of the expenses on a plate come from foodstuff and other half from wages. So, food products and ingredients are very big and significant cost. Catering Services Ltd purchases all food products through public tendering including seven food product categories in total, which makes foodstuff procurement very important. Interviewee considers that this is probably one reason why so many communes in South-Karelia region participate in joint procurement regarding foodstuff. There are so many tricky details in tendering, so it is vital to consider and pay attention to procurement beforehand e.g. practical work and quality and safety of products. Interviewee explains that preparation of food tendering begins with value discussion and what clients want to have e.g. usage of organic products or local food. This will influence on set quality criteria.

“Foodstuff is really significant matter.”

5.3.2 Specification

Interviewee explains that involving all participants joining tendering at early stage, aims to have expertise of wide user base. Know-how and entering into sustainability aspects are important factors. Interviewee emphasizes that one really has to look into sustainability aspects and understand them, in order to know what to demand and what the alternatives are to obtain effectiveness in terms of sustainable procurement. An interviewee comment that now sees some positive aspects regarding education. Since Procurement Services is not the expert of all products and services, but instead a client having a subject matter. For instance, hostess knows about foodstuff so one has to utilize knowledge gained through one's education, like what criteria to apply, what is good and what can be required, and then bring them up. Interviewee says that with foodstuff, experts acknowledge everything regarding food quality but when it comes to green aspects, not necessarily.

“Now I see the light this case, since Procurement Services is not the expert of all categories but instead a client having a product.”

“One must really dig into the matter. Then one must have the understanding.”

“If the green know-how were there, it would have come out straight away e.g. that with specific food products one could require these criteria. So, it is still coming.”

There should be “green concerns” included in education with different product categories e.g. cars, constructions and IT. Interviewee continues that with foodstuff nutrient content and quality is the main important, naturally. This just accumulates in tendering. like what to require during contract period. As products are tendered similarly as in previous tenders, after which one does not need to consider such things anymore. Such aspects should be considered and carefully planned already before tendering in order to have knowledge about the matter. Questioning if things could be done somehow differently e.g. with other appliance or machine.

“This pops at the procurement stage for one to consider, also with the other products not just with foodstuff”,

Next step is to consider criteria that can be used e.g. CO2 levels. However, interviewee explains that if client has been satisfied with previous “Ford Transit”, one wants to have similar one without thinking anything else. Client must have education and share knowledge to have wider perspective on scale and know that there are other alternatives as well, e.g. electric car instead of the basic model that one has been happy with before. Interviewee says that when creating call for a tender it is important to acknowledge factors that provide an opportunity for other alternatives than just traditional technology.

Interviewee is unsure whether there is SPP guideline or list of either certificates or requirements available that could be defined for specific product groups regarding sustainability. Interviewee wonders that for small procurement entities managing criteria setting can be rather difficult in Finland. There would be a need such exact and clear table that would define exact requirements and certificates, which go hand in hand with specific procurement category. This would make a great tool to utilize. However, this would be rather

broad. Still, even the basics would be good to have. With foodstuff having four product groups in tendering, many have different criteria requirements even though meat and milk products having their own requirements were not included in tendering.

“There would be a need such exact and clear table that would define exactly what requirements and certificates go hand in hand with specific procurement category.”

“This would be a great tool to utilize.”

“Of course such listing embracing the whole world would become too heavy as such.”

With certificates it is so that some suppliers are able to have those and some suppliers cannot afford those. How to resolve that what certificates are equivalent, is vexed question for Procurement Services. Interviewee states that Procurement Services has to approve also “equivalent” own certificates, but how to find out that supplier’s own certificate corresponds to official one. Then procurement entity becomes uncertain how to deal with this, should one forget whole requirement because it is not able to verify this. Supplier with the official certificate may claim that supplier’s own certificate is not corresponding and should not have been accepted after all, which can lead to dispute and litigation.

“Procurement entity starts to fear that what it is able to do with this, should one forget the whole requirement because one is not able to verify this.”

In food tendering tricky thing with the criteria is that contracting authorities have not invented criteria but they follow general nutrition criteria that are to support procurement. Aim of the criteria is to meet nutrition recommendations and be strict enough to put pressure on food industry. Suppliers at food industry often inform that they would produce products with stricter requirements if there was only demand for such products. Thus aim is to increase demand for such products. Requirements for products should be set in a way that is not too loose so that all products would meet those, instead a bit higher but not too strict. However, interviewee continues that it is interesting that food industry claims that there are not such products available, although in reality products with stricter requirements exist. Food industry is aware of that, but a product meeting high criteria is also more expensive. Due to

price competition, suppliers are afraid that if they offer products meeting high criteria, they may not be successful in tendering. Interviewee ponders that it is not advantageous for contracting authorities not to receive tenders, but what is the point of setting strict requirements, if they are cancelled and modified according lower criteria anyway. So checking whether products with strict criteria are really available or not, can be rather difficult.

“It is about balancing.”

“No need to meet criteria anyway, offer what you have.”

Due to legislation of public procurement contracting authorities cannot set requirements e.g. Finnish meat or local products. Instead they are to define quality criteria to describe their will and hope that local producers would tender. Also, favoring certain products is forbidden and procurers cannot perform in discriminating manner. Interviewee clarifies that e.g. with strawberry jam, if procurer knows that only local producer Kaskeinmarja provides strawberry jam packed in 1,25 kilo bucket with specific berry content and certain etiquette, and requires those, one will end up in market court. If procurer wants to have strawberry jam suitable for catering kitchens, one has to define e.g. packaging size between one to two kilos with certain berry and sugar contents. Interviewee continues that earlier one was able to procure desired products by defining such strict criteria excluding other alternatives, so that everyone knew that there is only one supplier who can provide such product with certain packaging. This was common way to operate previously. Nowadays criteria have to be precise to describe the quality, but cannot exclude any supplier. So criteria have to be relevant without excluding. The ability is to manage this.

“When tendering tractors criteria roughly required tractor to be red and brand beginning with V letter, so that all knew it was about red Valmetti.”

“It is easy to say that why are you not favoring local food, if one does not know the law about public procurement one cannot understand that it is a totally different case to operate as a private entrepreneur who can freely decide what to buy and just buy if the price is not a barrier, public organizations cannot.”

According to interviewee certificates are double-barreled in nature. All the big national food producers, like HK, Atria, Valio, have all possible ISO certificates available since they have resources and commonly factories all around the Europe. ISO standards concern e.g. manufacturing processes, and prove quality, safety and traceability of products. When asking certificates from small and local producers, none has such certificates available. If procurer will require those certificates, it will automatically exclude small suppliers from tendering. Thus, contracting entity must be careful when demanding such certificates, and only demand those with most important categories where environmental issues has the most impact. Instead of demanding ISO standards procurer has to focus on other things such as nutrients, quality and hygiene of products in order to avoid blocking of small local producers.

Interviewee enlightens that as tender documents are established all suppliers logged in HILMA portal are able to ask detailing questions and see provided answers through the system. This is required in the EU legislation that determines that contracting authorities are not allowed to answer questions individually during tendering. This guarantees fair and equal treatment for all who are interested to submit tender. Procurement authorities will then answer questions regarding call for a tender. Procurement authorities will investigate whether they have set requirements too high if potential supplier claims that there is no such product meeting the requirement available on the market, although contracting authorities have thought that there is. Then contracting entity ponders to how modify requirement if needed. At this point minor modifications are acceptable if necessary.

“Is it suitable to offer flour in package of 10 kilo even though a call for tender requested flour sack of 5 kilograms?”

“Criteria for ketchup salinity was requested to be lower than it is generally available on the market, is it fine to offer ketchup including higher salinity?”

“In general market does not offer crackers with fiber content that would exceed sett criteria, can offer lower?”

After time limit to ask detailing questions has expired, acquisition secretary compiles questions and contracting authorities have to answer them within three days. There is two

weeks for suppliers to react to these before tender period expires. Approximate number of detailing questions has been around 50, of which some are easy to answer and some have to be investigated in order to avoid situation that no tenders are offered because of too strict criteria.

5.3.3 Sourcing

After establishing call for tender, suppliers can ask specifying questions about it within defined time limits in case needed. This is widely used manner within different procurement categories. All suppliers interested to tender can ask questions and answers are provided through HILMA portal. No private information is given and all candidates have the same access to information. Information sharing happens during “open time of call for a tender” when all interested suppliers can leave their tender to Procurement Services. After receiving call for tenders they exist and if needed, there is a chance to specify those individually. However, factors effecting on criteria or prices that determine supplier selection cannot be specified by no means. According to interviewee importance of award criteria depends about the procurement type and is very important factor. Award criteria is to motive suppliers to perform better since points are given to suppliers that do better compared to other candidates based on most economically advantages tender (MEAT).

After answering questions, procurement authorities will receive tenders and make comparison of price and quality. Current tendering with many foodstuff categories the award criterion is based the lowest price. According to interviewee a common accusation is that public food services often procure on the lowest price. This does not mean automatically that one procures the worst. When award of contracts is based on the lowest price it means that product’s quality criteria has to be defined so precisely that baseline is at least what has been defined.

“It is rather difficult since evaluation of foodstuff quality is quite challenging.”

“So it is very important to consider such details beforehand.”

There are different quality factors like organoleptic quality and nutrition quality to evaluate, which is rather laborious to implement. Specific weights are given for different quality types,

one major being organoleptic quality. For instance, with frozen vegetables it means that procurer first views different suppliers' frozen pea, corn, sweet pepper mix, and looks their visual appearance and proportion e.g. attractiveness, ripeness of sweet pepper cubes, are there more peas and only little corn and sweet pepper, if so, one can guess that it is cheaper. The aim is to have attractive appearance and all in the same proportion. Thus, points are given based on their appealing and proportion of ingredients. After that, vegetables are cooked and tasted, so taste and mouthfeel are estimated and then weighted. Tasting is arranged as a blind test so that taster does not know which supplier's products one tastes. Then quality points are summed up with price points, which form the overall score. In order to have reliable results there are 15-20 persons participating in tasting. According to interviewee it is rather laborious to sum up all the points. In current tendering evaluation of quality is arranged for frozen products including fish, vegetables and convenience food.

"It requires damn amount of work to evaluate quality"

"Since meat products are not part of tendering, which makes evaluation slightly easier at this time."

After evaluation procurement entity forms summary of results and based on those will select winners who will become contract suppliers. Contract period is in total maximum of 4 years, constituting of 1 obligatory year and 3 option years. This means that after first year parties can decide if they wish to continue contract or not. If parties do not gain consensus e.g. price, the contract will only expire and does not need to be terminated.

5.3.4 Utilization

According to interviewee contract management includes communication through tendering. As contract suppliers are decided, there is appeal period and after that preparation of contracts start as they are legally valid. Contract is identical with terms and conditions defined in call for a tender. It is mentioned already in call for a tender and also in the contract whether it is important to have annual follow-up meetings with suppliers. Such meetings may require supplier to organize inquiry about customer satisfaction. Inquiry form is drafted together with Procurement Services and supplier in the meetings. Meeting can be arranged e.g. twice per year so that in first time inquiry is created and on the second time results and

possible improvement targets are reviewed. For instance, quality can always be improved but not lowered compared to definition in call for a tender. According to interviewee such meetings refer to partnership that brings win-win situation for both parties. Shaping operating models and improving collaboration is important in order to streamline actions e.g. if there are multiple parties, so that parties know whom to contact.

Punishment for supplier is used in some extent. For instance, if temporary break in the service crosses the limit there will be sanction measured in monetary value, which will be reduced from the next billing according to common agreement. This is usual with critical services e.g. phone or printing services, where suppliers' engagement is critical. Monetary value is more effective instead of written reclamation, in order to get service fixed. With food products, if contract supplier does not have needed products available mentioned in the contract, Procurement Services is allowed to buy products from someone else with their price, and contract supplier is responsible to pay the difference so called margin payments. This improves the supplier engagement with the contracts. However, Procurement Service has to consider carefully procurement categories that are the most critical ones, since this can be seen in pricing as additional risk premium. Suppliers consider whether they might face such situation where risk is to occur, and tend to increase prices in order to cover expenses caused by such risk.

In food tendering interviewee says that collaboration and actual work with contract suppliers will just begin after awarding the contract. If the tendering process has been laborious until this, it will only continue. Contracting entity will go through delivery points, frequency, dates and the times with contract suppliers and products be checked. If supplier's product selection is suitable as a whole but have single products that are not proper, there are discussions about what products are changed. Then there is tasting of products, which is heck of a thing. In case e.g. wholesaler of industry products changes to offer some other broth than previously, there are differences between those products, which means that menu planners have to go through recipes again, try, adjust menus and instruct new things. Contracting entity and contract suppliers have to learn to know each other including operating models, logistics, products, ordering and billing. All products have to be matched according to own production.

"Then the work will just start."

“It is goddamn thing and does not end after awarding contract.”

“It is quite a thing to plan logistics according to deliveries, then opening customer numbers is own thing, ordering through own production control systems and integration with suppliers’ systems.”

“This is a nightmare, not nice at all.”

“Cooking cream, testing new product, thermal storage, does is curdle...”

“If it is not nice for partners, it is not nice for us either. There is a big work, but customers eating do not need to understand that.”

Previously with foodstuff all product categories were tendered at the same time. Current tendering does not include meat or milk products, due to contract break of meat products, and re-tendering causing different rhythm. Contract break happened also with milk products, which explains different rhythm and scattered tendering. Still, aim is to even rhythm in some point. This was the first time during interviewee’s work history that one has to break the contract. It is also a new phenomenon that signifies that the industry has changed and competition is hard. The first cancellation of contract was due to problems with supply security that was not what was expected. The second termination of contract was because supplier had offered too low tender and set prices too low and could not afford such prices after all. Interviewee lightens that there was no need to break the contract but suppliers refused to use an option year. Suppliers wanted to take over the markets.

Interviewee tells that successful foodstuff tendering constitutes of many factors. One is that received tenders are clear and unambiguous, and there are no deviations from call for a tender. Making contract is fluent process e.g. opening customer numbers. Most importantly the products are similar as desired and defined and there is security of supply. Even though products would be excellent, but activities are not e.g. repeating delivery errors or running out of products. Delivery should never be on a same day with cooking. However, if delivery comes a day before with missing ingredients that are needed tomorrow, it is difficult to get ingredients for tomorrow from anywhere. So security of supply is very important. Procurer knows that always things will not go as planned and supply difficulties and interruptions occur. Still, how the contract supplier reacts on such issues, understands customer’s operations, commits, engages, informs and considers possible problems beforehand how they can be fixed or product replaced, are crucial things. It is not only a matter of one single ingredient and product but the whole chain, how ordering runs, how accurate delivery is and

dealing with possible delivery mistakes. In successful tendering partner provides quality products, good security of supply and responsiveness with problem situations, flexibility and customer orientation. Thus, collaboration between parties is very important, supplier commitment, handling of possible issues in deliveries, understanding customer needs, flexibility, ordering, delivery, products, managing mistakes. Partner who can manage such emerging issues, customer orientation, flexible.

“The worst situations occur if supplier does not warn beforehand of delivery problems. For instance, when delivery arrives and one notices that 150 liters of cooking cream is missing and no one has informed about that.”

“I cannot transform to mincemeat, oh no, too bad. This kind of attitude also exists.”

“There is no other way but the staff will go to supermarket and clean out the mincemeat shelves in the worst case, as 150 kilos of mincemeat is missing, and packed in 400 g packages that makes a few packages, which has happened as well.”

“Collaboration plays a crucial role in successful tendering.”

Interviewee tells that nowadays there is such issue in food industry that producer does not make products ready for storage. It is kind of good thing, but reverse is that all procurers making orders do not pre-order. Catering Services always pre-orders and defines menus and dates and the total need of products for certain time periods precisely even months before, so that food industry can adjust their production according to plan. However, all do not operate like this and products are made based on orders. So now it happens that producer rejects from orders, even though pre-orders have been made. If there is consumption peak by other operator, it does not guarantee that procurer who made the pre-order will have products and might be left without products. This is today's phenomenon that has even gone too far with efficiency. As a consequence, running operations are very vulnerable. Therefore the way partner manages is crucial.

“It happens quite often, unfortunately, that producer denies from orders.”

“All live from hand to mouth.”

“Collaboration is crucial factor, which is key question to consider this day.”

Next chapter will present findings based on documentary analysis of tender documents and conversations with the interviewees.

5.4 Tendering food products

According to tender documents there are common aspects for different food products categories. Call for tenders state that all parties involved in tendering underline values regarding environment, ecology and sustainable development within their actions, which suppliers are also to value. Contract suppliers are encouraged to acknowledge e.g. traceability of products, animal welfare, and minimum amount of packaging, recycling and small ecological footprint of products within their operations. Procurement entity reserves right for five kitchens to act as “pilot kitchens”. It can order foodstuff to these kitchens also from other than contract suppliers on experimental basis to find out suitability and logistical functioning for area. Procurement procedure is open procedure that is based on framework agreement at each product category. Duration of the framework agreement and contract period is from 1st September 2016 until 31st August 2017. Contract period includes one obligatory year and three optional years (36 months). Next table will summarize award criterion and new contract conditions and their main features applied in tendering for different food product categories.

Table 3. Details in call for a tender

Product group	Award criterion	Details of criteria widening
Industrial products	Lowest price	One contract supplier No partial offers accepted
Fresh products	Lowest price	Many contract suppliers Partial offers accepted by product group and delivery point
Bakery products	Lowest price	Many contract supplier Partial offers allowed by product group/delivery point
Frozen products	MEAT	Price 70p: price comparison between product groups, including delivery costs Quality factors 30 points: - usability of products 15p - organoleptic quality 15p Many contract suppliers Partial offers accepted
Fresh fish	MEAT	Price 75p: price and delivery costs Quality factors 25 points: - implementation of sustainable fishing methods 10p - environmental management system and certification 10p - constant cold chain and control system 5p Many contract suppliers Partial offers accepted by product group/delivery point

The award of contract is based on the lowest price with many foodstuff categories including industrial products, fresh products and bakery products. There are also foodstuff categories in which awarding contract is based on both quality and price (MEAT), which are frozen products and fresh fish. All tendering categories follow open procedure. Industrial food includes products supplied by wholesalers. The products are listed in the bidding form attached in call for a tender. Partial offers are not proved and only one supplier will become contract supplier. The contract will be awarded to the tenderer who has the lowest price after tenderers and tenders meeting the minimum requirements in call for tender and in bidding form and delivery costs have been summed up.

Tendering fresh food products include e.g. fresh and peeled potatoes, root vegetables, vegetables (shredded and chopped). Framework agreement will include many contract suppliers. The contract suppliers, who meet the requirements and criteria in call for a tender are selected by product groups based on the lowest price. Partial offers are accepted by product groups, so that all the products in the selected group have to be offered. Product groups are categorized as group 1: washed, peeled and chopped fresh potatoes, group 2: root vegetables and group 3: vegetables. With bakery products award criterion is based on the lowest price. Many contract suppliers meeting minimum requirements are selected to framework agreement. Partial offers are accepted by product groups and rows. Also supplier may select into which delivery points one will offer. Groups are following:

Group 1: Whole and sliced barley flatbread and/or oatmeal bread and rye bread. In case group is offered, it has to be offered wholly.

Group 2: Sliced bread and pastries. Suppliers are selected by product row and delivery point. All product rows can be offered or product rows can be left out without offering.

Frozen products include product categories frozen foods and – semi-prepared foods, frozen bakery products, frozen vegetables, root and potato, ice-cream, frozen berries, fruits and frozen fish. Partial offers accepted by product groups. Many contract suppliers will be selected to framework agreement. The contractors are selected based on the most economically advantageous tender (MEAT), when considering justifications mentioned in the specifications, call for tender or negotiation call. With tendering fish award criterion is based on most economically advantageous offer (MEAT) thus both price and quality will be

scored. Call for a tender is divided into two product groups, of which supplier may select both or only one group. All products included in group have to be offered. Supplier may select all delivery points or part of them. Many contract suppliers who meet minimum requirements will be selected in framework agreement. In addition to the announcement of most widely used products, other preprocessed freshwater fish and sea fish that are suitable for catering kitchen are also desired.

“So this kind of widening has been made.”

5.4.1 Criteria requirements and indicators

Following chapter will review suggested criteria requirements and indicators by researcher, which are recommended for the case organization to apply in food tendering. Suggestions are based on readily available guidance on sustainability indicators regarding sustainable food procurement, GPP criteria based on LCA, and interview with senior consultant at Consulting Ltd. Next table will summarize both criteria suggestions and also highlight the criteria suggestions used in tendering for different food categories by contracting entity. Analysis is based on examination of tender documents, observation and interviewees.

Table 4. Criteria suggestions for tendering food products

Food product category	Used criteria	Sustainability criteria suggestions	Details
Industrial food		Fair trade Organic Animal welfare Rice	Coffee, tea, honey, sugar Eggs, flakes Free eggs Replace with domestic barley/rice-oat mix
Fresh products	X	Organic Short supply chain Packaging	Potato, carrot, onion, tomato, cabbage Potatoes peeled in 24h from delivery
	X	Seasonality	Environmentally friendly: in bulk, recyclable, bio-based Privilege to procure berries/vegetables from local supplier
Frozen products	X	Environmental certification	MSC-certificate (Marine Stewardship Council)
Bakery	X	Short supply chain	Quality, rye bread baked in 24h/white bread in 12h from delivery
Fresh fish	X	Sustainable fishing methods	According to product label

With industrial food products none of suggested criteria were applied in tendering. Industrial food products are awarded based on the lowest price. Interviewee explains that for such products it is quite easy to define clear quality and so the award can be based only on price. According to interviewee integrated production method has been predominant in Finnish

agriculture for the past 20 years. So requiring such method as criteria would not make difference, and already some environmental standards require such methods. In many EU countries method is not yet so widely used. In the demand inventory that researcher participated, there were no discussions about either organic products or Fair Trade products. Analysis of established tender documents revealed that neither was applied as criteria. According to interviewee procurer could ask from producers if they offer organic products or not, which would promote their use and sustainability of public food. Interviewee considers that Fair Trade products can be seen as “money making” at least in some extent. There can be some other way to show products are socially responsible, which can be more affordable for public use as well.

“It is clear way to show ethics, but...”

With fresh products contracting entity reserves the right to procure berries and root vegetables from local producers during the harvest season, which is applied criteria suggestion. Also short supply chain that will lead to shorter delivery times are applied in tendering. Tendering frozen products applies suggested label for frozen fish products. MSC-certificate proves that suppliers fish according to sustainable fishing methods. At procurers' demand inventory participants discussed what criteria could be applied regarding percentage and content of frozen vegetables. All agreed that “homemade” vegetable patties would be the best option. Then, bakery products include short supply chain, so shorter delivery times as criteria requirement. In the meeting there was discussion about local bakeries and participants hoped to have more offers from local bakeries since some have not given any tenders in previous tendering.

With fresh fish contracting entity requires that contract supplier suppliers follow sustainable fishing methods. Interviewee explains that cyprinids are very good, but problem is their availability. Now in Western Finland there is one big operator that focuses on cyprinids and offers also for catering kitchens products that are made from roach fish and bream, which is really good. Domestic fish species, Baltic herring, is outcast in South Karelia region but is healthy and environmentally friendly. Other frozen fish species delivered from the other side of the world have greater CO₂ emissions due to logistics. Thus, even though their nutrition is fine, selecting domestic freshwater fish and fishes with healthy fatty acids is preferable.

5.4.2 Goals for sustainable food procurement

Next chapter will discuss about factors in terms of food tendering. Results were gained through discussions with the interviewees. Factors and their relation and impact to the set targets for sustainable food procurement are also discussed. The aim is to clarify how Procurement Services support the set goals and what other factors impact on sustainable food procurement. The city has launched its “targets for year 2050” towards resource efficient city. In terms of food production and consumption there are three main targets: the food consumed in Lappeenranta is healthy and sustainable, waste from the food production and consumption is fully utilized, and the use of local food in the public food services is well established. Next figure will present the targets and factors affecting their implementation.

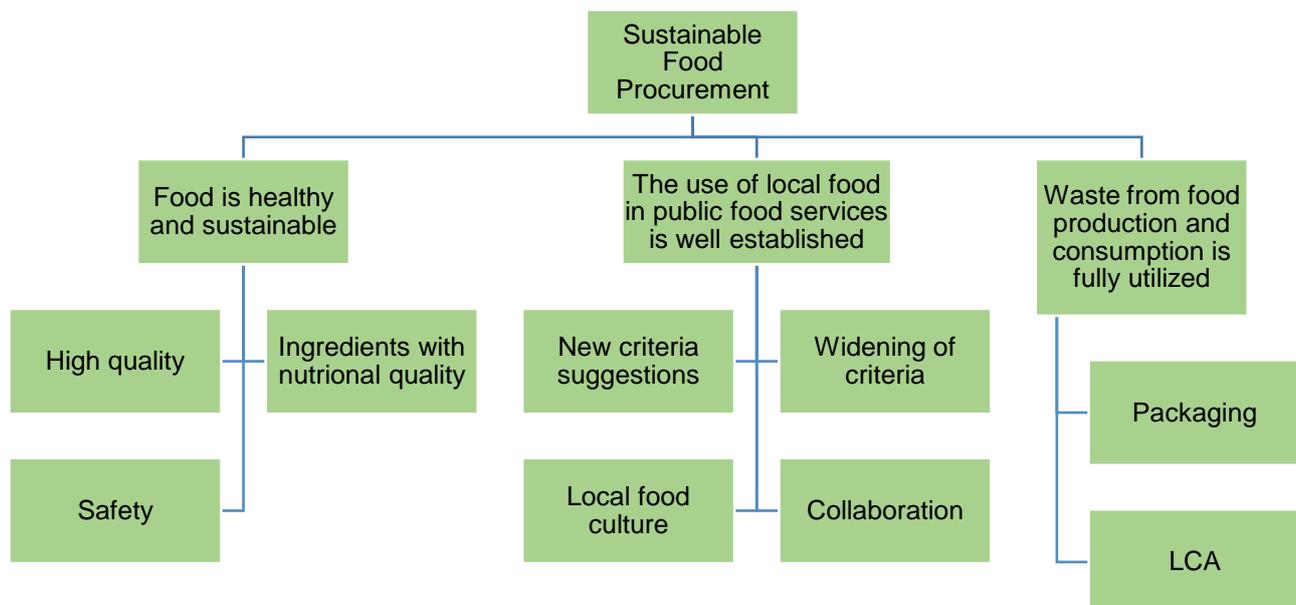


Figure 9. Sustainable food procurement

Interviewee states that in terms of sustainable food procurement it is a bit tricky to define goals. However, in general the goals for food procurement include having high quality products and ingredients with nutritional quality. Food safety is important, and having products that are demanded since one knows there have been all sorts of food scandal. These are the most important factors.

“Sustainable food procurement, it is maybe a bit difficult to answer straight on that but in general level nutritional and quality ingredients...”

Interviewee tells that it is great that ingredients that are healthier are also better for the environment. So choosing healthy ingredients that nurture human's health promotes also environmental wellness and sustainable development. Nutrition recommendations according to “traffic light model” advises that decreasing amount of beef and increasing amount of vegetables, berries and fish reduces also environmental load. Nowadays it is easier to implement menus with vegetable products and legumes, than it was previously. Four years ago as Catering Services started to offer beans and chickpeas on their menu, there were writings on the newspapers about damn saving campaign. So consumers only considered this as means of cheapening, and not so that beans are nutritionally better and more environmentally friendly. Now people have become more aware of such things, travel more and have eaten such ingredients around the world e.g. in Asia where such ingredients are commonly used. Acceptance has become positive and consumers know that they follow sustainable development. Now that these two things support each other, it is easier for Catering Services to implement healthy diet because people have become more environment and health conscious and understand the background.

“Acting according to nutrition recommendations is also beneficial for the environment and there is no conflict.”

“Somehow people are maybe more worried about the environment and climate change than their nutrition.”

Other target, waste management, is outside the main study scope because in tendering food products one cannot set criteria requirements about waste management since it is not straightly related to the subject matter, in this case foodstuff. Instead waste management regards to catering services that is more concerned of waste utilization and food consumption in large kitchens. Still interviewee's opinions about the goal are provided since points relate to packaging that could be applied as criteria requirement in food procurement.

Interviewee explains that goals of food procurement include matters related to packaging. For instance, large catering kitchens prefer products packed in big unit sizes with as little

wrapper as possible. Interviewee describes that there has not been significant visible changes regarding packages. Quite the opposite, situation looks quite the same when looking back 10 to 15 years, packaged in plastics and in cardboard. There might be something that interviewee is not aware of e.g. changes in packaging quality or plastics' content quality. There have been announcements from suppliers saying that they have started to use something else, that interviewee has not thought that much. Again, legislation has tighten e.g. plastics have to be for food grade, and suppliers had to modify their mix of plastics so that if plastics are in touch with foodstuff, there will not be any substances dissolving into food products. Thus, this might have cause some changes into packaging, but there are no visible changes visually.

“Maybe there are some changes in packaging quality, maybe more of renewable, it is possible, I am not so aware of such things and have not understood those so well.”

There are no significant changes with amount of packaging. On the contrary, opposite trend can be seen e.g. on bakery industry. Interviewee is a bit disappointed that big bakery chains that used to provide bakery products in big “hooded” boxes with papers on the bottom and products covered with big, light plastics inside the box. Nowadays there are only one or two products packaged in such way. Thus, big catering kitchens receive also their products in retail packaging, which means that school having more than 1300 eaters, bread is received in plastic bags of six or eight units. Reason for this is that bakeries can do longer series and products last longer as packed in small plastic bags compared to “hooded” boxes in which products will dry quicker. In this way bakery industry strives to achieve efficiency. Big catering kitchens feel that they no longer receive bakery products in large packages and development has gone worse. In turn, regarding logistics if bakery products were packaged in “hooded” boxes they would be transported every morning in order to be fresh, but now bread is transported once or twice per week because of long shelf life, which is based on hygienic packaging not preservatives. Thus, emissions from logistics decrease, and amount of packaging and workload in kitchen increase. When considering other sectors, for instance cleaning services, there is more development towards more environmentally friendliness when compared to food products.

“Thus, there is such amount of plastics, which requires lot of work to open such packages.”

“I do not know is it due to increased legislation regarding products safety, so that they just have to be packed in such way and it is hard to decrease amount of packaging.”

Interviewee considers life cycle regarding kitchen equipment, and says it is rather difficult to relate life cycle thinking and food products since food is rather short duration commodity. With food products perspective is wider so that procurer makes such choices regarding actions and ingredient selection, which in a long term impact on climate issues and water usage. For instance, does one consume rice in meals, or domestic whole grain cereal product, or how much beef is included in menu planning, lamb, pork or chicken versus legumes and source of plant protein. This has more long-term effects.

“With one single product it is rather difficult to consider life cycle thinking.”

The third goal is that the use of local food in the public food services is well established. According to interviewee criteria requirements were loosen and divided into smaller parts. Aim is to widen criteria without compromising quality requirements in order to provide more opportunities for smaller, local producers to offer smaller parts of whole, and opportunity for them to select delivery point. Interviewee explains that previously area was divided into e.g. Lappeenranta and western South-Karelia, and Imatra so eastern South-Karelia, and all suppliers were supposed to offer to those areas. Some could and some could not. Now there is list of delivery points, from which suppliers can choose where they can offer. It is also possible to offer smaller parts of a whole e.g. if procurement entity requires certain products it allows e.g. twenty percent of missing products in case producer does not have such products so this will not prevent producer from offering.

“So this kind of widening of criteria has been made.”

Interviewee tells that history of South-Karelia's food culture has been more modest compared to Western Finland that has been richer area. Food culture is based on bread, bakery products, pies and forest food, like berry cultivation, swamps, fishes and roots, not breeding of stock or dairy industry that are common in Western Finland. Then potato is rather difficult in South-Karelia and the closest potatoes come from Kymenlaakso and Ostrobothnia. Currently potato is procured from Kouvola area and further processing is made in South-Karelia, since currently in South-Karelia there cannot be found producer that is big enough with sufficient quality.

“South-Karelia is not potato parish at all.”

There have been discussions with local producers if there are interested to participate in public tendering. In South-Karelia there are many small producers as private entrepreneurs. Interviewee describes that the problem of the region is that it is very difficult for small producers to collaborate and there is competition between them. Promotion of networking has been made, so that if producer alone cannot offer big enough amounts or courage is lacking, similar kind of producers should try to network and offer together. It is just not possible that producer offers potatoes until Christmas and then runs out. Then procurement entity should find some new supplier. Interviewee has tried to say that they could tender together and so secure supply, but one has been talking about that for fifteen years, and no significant changes has occurred. Interviewee is familiar with Ostrobothnia area. Comparing the regions, in Ostrobothnia there is less talk and it is more serious but more things are getting done. In South-Karelia there is a lot of talk, very much talk, seeming that now this will succeed, but nothing happens after all. This is the difference between the regions. If producers in South-Karelia are willing to participate in tendering they should be ready to invest and develop their own operations. Suppliers' products should meet the criteria demanded to large catering kitchens, instead of wondering that why their products have not been procured.

“Here it is just rather old-fashioned producers being jealous to each other, and really difficult to start cooperation.”

“When producer heard the price he said that not going to happened and will rather take potatoes into forest than go through all the trouble so that would distribute with such price.”

“Unfortunately it is some characteristic of the region, there is not such pulling together, so that problem is this and what shall we do with it, shall we make a match of it.”

“But no, producers came to hear and are silent, but then nothing happens.”

“Producer must change if willing to participate.”

“Roots should be suitable for catering kitchen.”

“I don't know, is the trouble investment, unwillingness or incapability.”

6 CONCLUSIONS

Purpose of the study was to embody factors that affect on SPP implementation. Focus was on tendering food products at case organization, Procurement Services that is municipal contracting entity and commissioned study. City of Lappeenranta has engaged in Green Lappeenranta strategy and project Towards Resource Efficient City, which aim to achieve resource efficiency within different sectors and promote sustainable wellbeing. Contracting entity is to contribute city's targets through practicing SPP. Objective was to examine and analyze factors including practices and sustainability criteria and their influence on SPP execution at organizational level and procurement process level. Focus was on tendering food products with aim to clear factors that support sustainable food procurement and its goals.

First aim was to clarify factors that impact SPP implementation at organizational level. Networking and knowledge sharing play important role among organizations in tendering, which saves both money and time. Procurement Services is willing to engage in SPP including senior management and to implement SPP practices in different product categories. This proves great commitment to city's target. Management that provides training about sustainability for staff signifies great engagement that supports SPP implementation. This is in line with the previous literature by Walker and Brammer (2009) who defined top-level commitment as a facilitator for SPP. This is effective signal for stakeholders showing the way Procurement Services is heading. However, concrete measures are needed so that SPP will be more than just means to promote brand image. Since no exact meters for sustainable development exists at organizational level, it is difficult to evaluate progress in terms of SPP. Thus, informing stakeholders can be challenging. In addition, since contracting entity has not defined visible targets, SPP remains a bit fuzzy area where parties are supposed to head without clear direction and knowledge how they are succeeding. This can be seen as barrier for SPP implementation.

Second objective was to identify factors that impact on SPP at procurement process level. Findings prove that preparation stage and specification stage are crucial in SPP implementation. Participants in early stages have significant role. Their know-how and description of subject matter impact on the product's sustainability, which will define sustainability of the process. Importance of education, personal attitudes, interest and urge

to leap towards greener alternatives are critical factors to have, which promote sustainability at process level. If participants at early stages fail to regard sustainability, contract awarded can be less sustainable and consequences follow years after. If previous tendering has failed to consider sustainability, it is likely that following tendering will do the same since applying old, familiar criteria is convenient. However, contracting entity is not alone responsible of SPP, but also clients and suppliers have great responsibility. Thus, early collaboration, deep knowledge sharing and creating common goals for procurement at early stages could promote SPP further.

Regarding food tendering interviewees agree that preparation beforehand is crucial. However, comparing responses reveals that contracting entity and client disagree how planning stage has succeeded. One reason is probably that they value different sustainability aspects. One concentrates more on social sustainability and the other on environmental aspects. However, both agree that it is important to provide opportunities for local producers to tender, which supports social and economic sustainability of the region.

At process level major barriers include certificates and verification of supplier's compliance, which creates challenges for criteria setting. Although there are many indicators and certificates available that confirm sustainability, verifying supplier's own certificate becomes an issue. This may even cause procurement to be less sustainable since there is a fear that one is unable to verify supplier's equivalent certificate. In the worst case, failing to verify could lead to dispute and renewal of tendering. This is understandably to be avoided due to the massive workload tendering causes. There is also other issue with certificates. It seems that procurers have to select between big suppliers with environmental certificate or small local producer without certificate. So, specification stage is vital. It appears that if procurement entity will require environmental label that is a visible sign of SPP execution, it will prefer big suppliers e.g. ISO-labels verified by third party will weaken chances of small producers to success in tendering due to their limited resources of money, personnel and expensive costs of such labels. Consecutively this will exclude local producers from tendering, so weaken economic sustainability. In that sense, it seems that environmental sustainability and economic sustainability will exclude one another.

Aim was to clarify specific characteristics of food procurement. Procurement entity is often accused at procuring at lowest price, which does not expose the whole picture. Findings

reveal that early stages, specification and evaluation based on MEAT, are very laborious to implement due to massive workload and require lot of resources. It is logical to procure at the lowest price in such categories in which quality is simple to define. Since minimum requirements are defined so that products are healthy with high-quality, award criterion based on the lowest price can be seen suitable.

Findings prove that partnership has important role in public sector. This is in line with the study of Amann et al. (2014), even though partnership is often linked to private sector companies. Importance of collaboration seems to increase due to changes that occur at food industry. As food industry becomes more uncertain with its operations, there is need for a trustful partner with whom to collaborate and build long-lasting partnership based on trust. Partner who is committed and willing to find solutions to possible issues is irreplaceable and saves from many disruptions and errors. However, it looks that in food tendering deeper collaboration with supplier begins only after contract award. There is potential to engage with supplier already at early stages to find more sustainable solutions. Collaboration can bring many advantages when there is common will among parties towards SPP.

One objective was to recommend new sustainability criteria for Procurement Services to utilize in food tendering and consider their impact on goals of sustainable food procurement. Regarding social sustainability there are many factors that support the target, food procured in the region is healthy and sustainable. Implementing goal is nowadays easier since consumers have become aware of sustainability. Nutritional ingredients, high quality food and safety are very well emphasized, which promotes socially sustainable food procurement. Researcher's observation at value discussion revealed that clients acknowledge importance of food quality, impact on human health and details of fiber and multi grain contents. However, use of both organic products and Fair Trade products is rather low at public caterings. Neither were applied as criteria or even considered at demand inventory. One clear explanation is due to their expensive prices and tight budgets. This is line with the previous study of Walker and Brammer (2009) as well. Use of Fair Trade products may not be considered worth of all the expenses that the brand holds. In general, orientation of public sector to employ long-term unemployed within different sectors can be seen as a great step towards socially sustainable procurement. Regional and visible way to promote local wellbeing is the starting point for social sustainability.

With economic sustainability the target, use of local food in public food service is well established, is tricky to implement. Contracting entity has established criteria requirements and widen criterion, which is to support procurement of locally produced food and enable local producers to participate in tendering. However, both procurer and supplier, influence on the end result. Currently it can be seen that parties are on different sides and value different things, which makes collaboration challenging. Local suppliers' attitudes seemed to be rooted deeply, which complicates collaboration. As contracting entity has facilitated participation in tendering, producers may feel appreciated and become more collaborative and make the effort to invest in their processing equipment. This would improve their production methods and make products suitable for public caterings. It appears that socially and economically sustainable food seems to support each other. Procuring locally produced food at short distance will guarantee safety, fresh quality food and also promote producers' business and so local economies. This supports both social and economic sustainability that seem to go hand in hand.

With environmental sustainability some improvements are required to reach the target. There is still some unawareness among procurers and clients about possibilities to engage in environmentally friendly practices. Thus, it is challenging to set such requirements that support the target. Especially, features regarding sustainable packaging would require deeper investigation and will to dig into less familiar aspects e.g. packaging material. Such aspects should be considered significant and worth the effort to search alternatives that exist. However, also food industry plays a significant role. Even though procurers would set tight requirements and demand food products with less packaging material, it is unsure whether industry would agree due to their on interest of effectiveness and volume. Also, food industry has a central role with offered sustainable products since they are able to define market availability. Procurement Services might be left without tenders if asking such requirement e.g. bigger packaging sizes with less plastic. On the other hand, legislation forces food industry to use certain materials that are recyclable and environmentally friendly, even procurers would not define such requirements. Again, environmental and sustainability seem to go hand in hand since preferring ingredients that support human health are also better for environment due to more environmentally friendly production methods.

After food tendering researcher viewed contract award notices at HILMA portal, which provided selected contract suppliers for each product category. With bakery products two tenders were received of which other was from local supplier, and contracts were made with

both suppliers. Number of tenders is quite modest considering criteria of short supply chain and acceptance of partial offers, which was supposed to offer more changes for small and local producers. With fresh fish only one supplier gave tender with whom the contract was made. Then group of fresh products got six tenders from small producers. Contract was made with eight suppliers in total of which three are local producers. This can be seen as a great result of widening criteria, which supports local production. With frozen products eight tenders were gained in total of which three were from small supplier, contract was made with seven suppliers who all come outside the region. So it seems that in South-Karelia there are no such suppliers. With industrial food products the contract was made with one supplier based on lowest price, in total one tender was received from small supplier who was not selected due to price competition. Criteria suggestions applied and widening of criteria support the targets that cover three pillars of sustainability social, economic and environmental sustainability. Thus, findings prove that Procurement Services is moving towards sustainable food procurement.

6.1 Recommendations

Based on findings general model of “Steps towards SPP” was created for Procurement Services to utilize in tendering with different procurement categories. “Steps” will show the sustainability factors that can be regarded at different procurement process stages focusing on preparation and specification stages, because at those stages procurer has the greatest power to impact on sustainability. The researcher wanted the Steps to be general and applicable for different categories and not only for specific group due to long contract period between tendering, approximately four years, so simple and general steps were considered more suitable for contracting entity to apply.

Figure 10. Steps towards SPP (modified: Witjes &Lozano 2016)



First it is recommended that Procurement Services would launch simple targets and meters for SPP at organizational level. Thus, contracting entity would be able to refer to their goals and progress in concrete manner. Simple measures for procured product or service could classify applied sustainability criteria separately from general criteria requirements. In that sense it would be easier to view sustainability aspects that are already applied and also consider other alternatives. In addition, saving these for becoming tendering would provide a good baseline from which one could begin to consider further sustainability alternatives. Collaboration with both client and supplier side could become more fruitful as concrete targets and meters exist. Then parties would know what is expected from them and how they are developing. Thus, participants in tendering could determine common goals for procurement at early stage. In addition,

Suggested steps are based on idea of circular economy (CE) and modified according to Witjes and Lozano's (2016) model. Steps were modified accordingly since the process model of CE provides a great example that Procurement Services could apply to promote

SPP implementation and simultaneously support city's targets about resource wisdom. Model is valuable because contracting entity faces the major challenges at early stages of tendering. Collaboration that has occurred mainly at the final stages between procurer and supplier should begin at preparation stage. Shaping operating models and improving quality should take place already at the preparation stage. Thus, early engagement and profound dialogues with both supplier and client, especially with critical product groups regarding sustainability, could further improve partnership among parties and SPP implementation.

6.2 Reliability and validity of the research

Reliability of the study refers to its credibility and repeatability. The researcher has implemented the study honesty and sincerity. Research material has been managed with care, without changing the information. Interviewees answered the questions reliably based on their own experiences and point of views, which supports the reliability of the study. In this case reliability can be considered good since it is likely that the similar answers would be gained from the interviewees even in different situations. However, it is possible that if similar research would be renewed after few years, interviewees' answers could be dissimilar and point of views changed. There were no external distractions during the interviews, which would impact on reliability. All the interviewees have been working in their field for a long time so they have gained lot of experience and know-how. They have been participating in different projects during the years, which proves their professional capability. This improves the reliability of the research, since interviewees are experts within their field. On the other hand, interviewees' own personal opinions, experiences and attitudes may weaken the reliability.

This research focused on sustainable public procurement and tendering food products at Procurement Services that operates in the South-Karelia region. It is likely that the similar kind of results would be gained in case interviewing other respondents with the similar background due to common factors affecting in the region. Still, differences of opinion could lead to different results. However, if research was implemented elsewhere the results would probably be different, depending of the area and product category. Still, in the public sector same rules and regulations concern all the involved parties so it is likely that similar factors and issues would arise in that sense.

Validity of the research suffers from a minor number of interviewees consisting of three respondents who provided their own opinions during the interviews. Researcher's own participation, observation and investigation of organizational documents and tender documents improves the validity. Qualitative interview themes and non-standardized questions answered the research questions that were under investigation, which increases validity. Also gained responses were comprehensive. Study focuses on the specific region and product category, thus it is questionable to generalize results. However, in public procurement process stages are similar to all parties participating in tendering so it is possible that equivalent points would arise also from other similar studies.

6.3 Further research topics

In the near future it would be interesting to wider research to consider supplier's point of view, and gain valuable information on supplier's perspective. This could further promote collaboration between the parties. Especially, how do small and local suppliers feel participating in tendering, and do they consider that new policies and widening of criteria have been beneficial for them in tendering. Also, to hear suppliers' opinions regarding other factors that would make them more willing to tender, would be probing area of study. In addition, wider and deeper investigation on client's side would be useful in order to explain their motives regarding sustainability aspects of procurement in more detail. In addition exploring SPP practices of other Finnish public contracting entity located in different region would provide a great contrast for this study that focused on South-Karelia.

Study about SPP on different sector and product category e.g. cars, health care or construction that is considered significant in terms of sustainable development would be a fascinating topic. Such research would be provide a great comparison between different categories and clarify how different product groups have progressed in terms of sustainability and what reason there are behind that. Due to many policy changes that public sector and public procures face today, it would be interesting to carry out study after a longer period of time to assess the impact of such changes and how they have impact on SPP implementation.

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APPENDICES

Appendix 1

Interview questions

1. What goals there are for SPP?
2. How procurement can support the goals?
3. Has environmental strategy for procurement been established?
4. How important you consider following factors in terms of SPP?
 - a) Procurement description
 - b) Criteria
 - c) Participation in preparation stage
 - d) Sanctions
 - e) Communication at contract management
 - f) Budget
 - g) Other factors
5. What goals there are for sustainable food procurement?
6. How you consider current criteria to impact on sustainable food tendering?
7. Are there challenges for criteria development?
8. What factors are seen either promoters of barriers for successful food tendering?