

Master's thesis

**CONSUMER SELECTION OF VEGETARIAN
MEAL IN RESTAURANTS**

Heidi Rosala

University of Jyväskylä
School of Business and Economics
Corporate Environmental Management

Supervisors: Tiina Onkila & Kukka-Maaria Ulvila



JYVÄSKYLÄN YLIOPISTO

ABSTRACT

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<p>Abstract</p> <p>Development, which began from agricultural and industrial revolutions has improved and eased human lives on this planet. But the massive growth of the human population has caused some serious environmental impacts on our planet. Millions of hectares of forests have been converted into arable land, fresh water resources are decreasing and oceans are getting overfished, while the demand for food continues to grow. Agriculture is the most important contributor to the climate change and global meat production sector causes more greenhouse gases to the atmosphere than transport. By reducing the consumption of meat and increasing the proportion of vegetables in human diets, the environmental impact of food consumption can be significantly reduced. This research examines how we could motivate consumers into more vegetarian diets and decrease the consumption of meat. Public catering seems to have an important role in contributing healthy eating habits among Finnish people, but the role of individual restaurants, media and the western culture in promoting the sustainable consumption should not be underestimated. This study was made by using mixed methods and performing a consumer research in four Finnish lunch restaurants. The findings of this study indicate that Finnish consumers have a positive attitude towards vegetarian food. The most important factors that motivate consumers to eat more vegetarian food are the good taste, selection, and the health benefits of vegetarian food.</p>	
<p>Keywords</p> <p>Vegetarian food, Meat production, Sustainable consumption, Restaurants, Public catering</p>	
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1. INTRODUCTION

There have been two major revolutions which have changed the way human population is living on planet Earth nowadays. First revolution started around 10,000 BC and it was called the Agricultural revolution. During the Agricultural revolution people went through a transition from the pre-agricultural period characterized by a Paleolithic diet, into an agricultural period characterized by a diet of cultivated foods. The change was slow and long-lasting, but gradually people didn't just live on hunting and gathering, but also farming crops and later on animals. The second revolution started in the late 1700s in England and it was called the Industrial revolution. The Industrial revolution included transition from manufacturing goods by hand to manufacturing goods by machines. Hand tools were displaced by machines, and increasing use of steam power, water power, coal and later other fossil fuels reduced the physical work of human beings and animals, and also intensified the manufacturing processes. The adoption of the factory system made people move to the cities, which had huge effects on people's social life and living conditions. The Industrial revolution changed the world fairly rapidly. Cities grew fast and people in the cities were able to buy totally new products and services. New railroads and other means of transport made world smaller in terms of traveling, and in whole, economic prosperity continued to increase in the world. (Chiras 2010)

Unfortunately, agricultural and industrial revolutions in addition to the growth of human population have also caused some serious environmental impacts that threaten our long-term future on the planet Earth. The temperature increases are taking place all over the world, glaciers are melting, extreme and sudden natural disasters have become more typical – just to mention a few. We are dealing with a climate change which represents one of the greatest environmental, social and economic threats facing the planet and according to scientists; it is due to human activities. To stop this unpleasant change on our planet, we have to be able to do some changes in our own behaviour in all levels of the society. (Chiras 2010)

As we are filling up this planet, we as human beings, also have the responsibility to live on this planet in the most sustainable way as possible. Eating is one of the most inevitable functions for all living creatures and that is

why eating in a sustainable way plays a big role in a sustainable lifestyle. In this study I'm investigating how we could make this world a better place by finding ways to motivate people into more sustainable ways of nourishing themselves.

1.1 Motivation for the research

After watching several documentaries about food production I have become increasingly worried about farm animal welfare and the whole production process of meat. Documentaries like *Food Inc.* by Robert Kenner made me realize the harsh reality of mass production of food and mistreatment of animals in the production. I have started to decrease my own meat consumption and I have noticed I am not the only one being worried about this subject. (Kenner 2008)

In October 2013, Finnish reality TV hosts Riku Rantala and Tuomas Milonoff interviewed Leo Stranius, the executive director of the Finnish Nature Association "Luonto-Liitto" about meat consumption. In this live radio program Leo Stranius who himself is a vegan, challenged TV host Riku Rantala to try to live one month as a vegetarian and Riku Rantala accepted the challenge. Riku Rantala and Tuomas Milonoff, also known as the men behind the TV programs "Madventures" and "Docventures" also challenged all the other Finnish people to join them in the challenge that was soon named in Finnish "Lihaton lokakuu" (Meatless October). The challenge became very popular among Finnish people, for example, on the Facebook group-page of Meatless October more than 30 000 people were taking part on the challenge. Meatless October gained a lot of media attention and plenty of positive attention towards vegetarian diets. According to the survey made by Lihatie dotusyhdistys ry (the Finnish meat information centre) in 2014, the popularity of vegetarian diets had risen among young men. However, the survey also revealed that the consumption of meat has not lowered and a growing number of people are still eating meat every day in Finland. So, people have not changed their behaviour even though the more vegetarian diets have become a popular subject in the public debate. (HS 2015; Yle 2014)

1.2 Population growth and food security

The human population on planet Earth has increased dramatically during the 20th century. The global population grew from 1 billion in 1850 to 2 billion in 1930, and after that it doubled in just 45 years, so in 1975 there were already 4 billion people on Earth. In 2012 we reached the milestone of 7 billion people and the population growth is expected to continue also in the future. Currently

the global population growth is around 80 million annually, and the growth is occurring at different rates in different parts of the world. The world's fastest growing areas are also the areas with the most poverty, showing the direct link between high population growth and low standards of living. Many scientists believe that we have already crossed the carrying capacity of planet Earth in terms of how many humans the planet can support over the long haul. Our planet cannot handle constantly growing amount of people and that is why the population growth should be stabilized. (Chiras 2010; United Nations 2012)

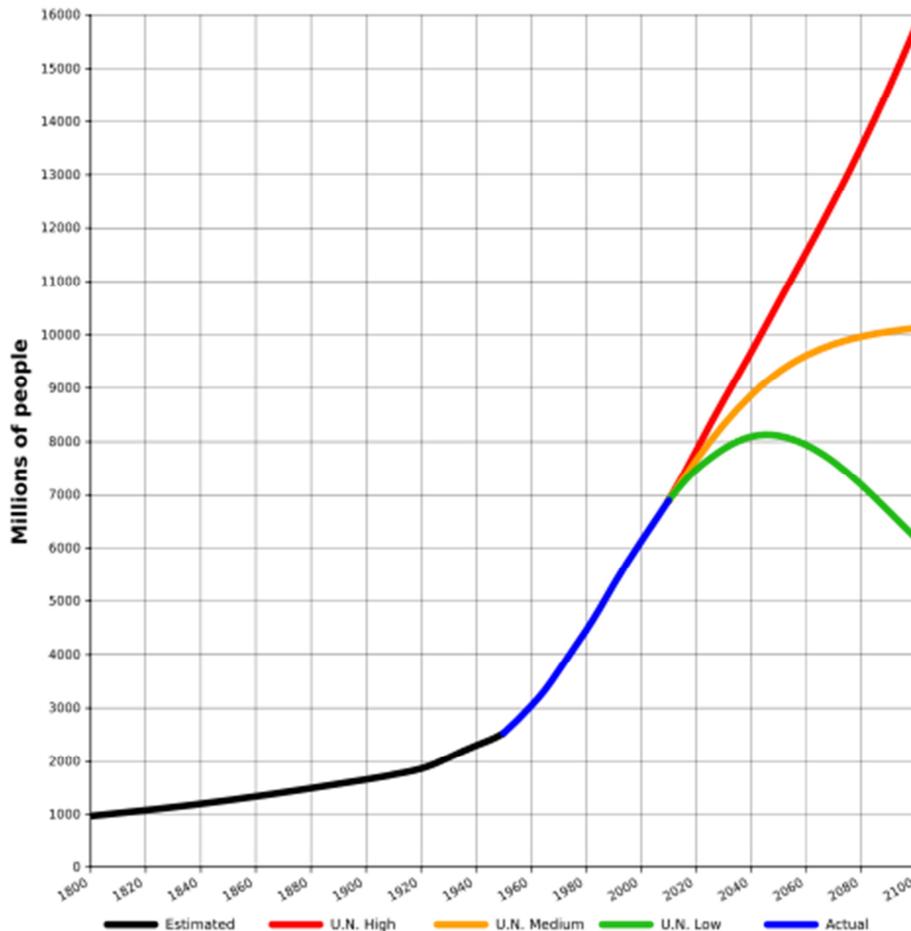


Figure 1: World population estimates from 1800 to 2100, based on "high", "medium" and "low" United Nations projections in 2010 (United Nations)

Throughout the long history of our planet, the human population on Earth has been relatively small. Living in a gathering and hunting culture didn't create good conditions for the population growth, but things changed during the Agricultural and Industrial Revolutions. Improvements in the field of agriculture, for example, the plow and irrigation made it possible to increase food supplies and feed more people. Industrial Revolution brought many new forms of machinery and many new technologies to the market which had a positive effect on food production, food supplies and also population growth. The development of modern medicine and invention of many new drugs such

as penicillin lowered the death rate, especially among young children. Improvements in sanitation and water purification decreased the effects of infectious diseases, particularly in the densely populated urban areas. In tropics, new pesticides were used in a fight against malaria-carrying mosquitoes with good results. All in all, the population growth is the result of lowering death rates combined with high birth rates. The net effect of these two factors – death rates and birth rates, has stimulated the population growth on our planet. (Chiras 2010; UNFPA 2015)

Some problems associated with or exacerbated by human overpopulation and over-consumption are water scarcity, hunger, depletion of natural resources (especially fossil fuels), increased levels of air pollution, water pollution, soil contamination and noise pollution, increased chance of the emergence of new epidemics and pandemics and poverty. It is logical, that the population growth also has severe effects on our agriculture and food security. (Chiras 2010)

1.3 Aims of the research

Meat production has a major impact on our environment, including land and soil, air and climate change, water and biodiversity. By reducing our consumption of meat and increasing the proportion of vegetables in our diets, we can significantly reduce the environmental impact of our food consumption. Production of vegetarian food consumes less energy, requires less arable land and emits less greenhouse gases than the production of meat. A diet with a plenty of vegetables has also proven to be a better choice for a human health, than a diet rich in meat. Benefits of vegetable rich diet are high contents of vitamins and fibre, and a low content of saturated fat. At present, Finnish people consume 1.5 kilograms of meat per week, as the recommended amount in a healthy diet would be 300 grams of meat per week. In other words, people are eating too much meat from the perspective of their own health and from the perspective of the environment. (FAO 2006; Kuluttajaliitto 2015)

As we should cut out our consumption of meat the aim of this research is to examine, how we could motivate consumers into more vegetarian diets and decrease the consumption of meat. In addition to the private restaurants, the role of public catering is very strong in Finland and that is why I'm studying both the private sector and the public sector catering in Finland. What are the tools of public catering to motivate people into more vegetarian diets and what can be done in the private sector to strengthen the position of vegetarian food? My principal research question is "How to motivate consumers into more vegetarian diets?"

1.4 Vegetarian diets

The Vegetarian Society of the United Kingdom defines vegetarian as a person who *“lives on a diet of grains, pulses, nuts, seeds, vegetables and fruits with, or without, the use of dairy products and eggs. A vegetarian does not eat any meat, poultry, game, fish, shellfish or by-products of slaughter.”* There are three main vegetarian types inside this definition: 1. vegans, 2. lacto-vegetarians and 3. lacto-ovo-vegetarians. Vegans are the strictest with their diet, meaning that they don't eat dairy products, eggs, or any other products which are derived from animals. Lacto-vegetarians eat dairy products, but they avoid eggs, and lacto-ovo-vegetarians eat both eggs and dairy products. There are also many other vegetarian diet types, but these three are the most common ones, lacto-ovo-vegetarianism being the most popular type of vegetarianism. (VEBU 2015; The Vegetarian Society of the United Kingdom 2015; Vegetarism och Vegetarian. 2015)

Term	Avoiding*
Lacto-ovo-vegetarian	Meat and fish**
Lacto-vegetarian	Meat, fish and eggs
Ovo-vegetarian	Meat, fish and dairy products
Vegan	All animal-based food *** (Meat, fish, dairy, eggs, honey etc.)

* This means naturally also all those products which have been produced from food, mentioned in the list.

** Fish means here all aquatic animals

*** Most vegans also avoid all commodities and consumer goods which include raw substances from animals, for example, leather, wool, detergents with whey etc.

Table 1: Different vegetarian diets (Leitzmann & Keller 2010)

In this study, I am concentrating on the lacto-ovo-vegetarian diet, which accepts dairy products and eggs, but avoids all kinds of meat, fish and other aquatic animals. I had several reasons for this decision. First, after years of working experience in different kinds of restaurants, I have noticed that completely vegan food is not often offered in ordinary food restaurants in Finland. Instead, there are usually at least some vegetarian meal options in all restaurants or it is possible for the kitchen staff to convert meat dishes into vegetarian meals. Second, the vegan ideology has enjoyed great success around the world, but it has not yet arrived to Finland on a large scale. We begin to have more and more different kind of vegan restaurants, but they are mainly located in the capital area or in other big cities, and they are often seen as places for certain marginal group of people. Many young people living in the bohemian areas of Helsinki perceive vegan food as a normal every day food, while many common people especially in the countryside, may see the vegan meals as a very extreme option

for them. I presume it is easier to motivate people first towards vegetarian meals, and maybe after that, towards vegan meals. Also, motivating consumers to eat more vegan food is very difficult, before there is at least some selection of vegan meals in ordinary food restaurants in Finland. We are not there yet, but I believe we are moving into right direction. (Leitzmann & Keller 2010)

2. ENVIRONMENTAL PROBLEMS CAUSED BY AGRICULTURE, MEAT PRODUCTION AND FISHING

2.1 Agriculture

Farmland covers approximately 38% of the world's land area, and the area is expanding all the time. Demand for food grows steadily - hand in hand with the population growth on our planet. But the ongoing climate change complicates farming practices, especially in developing countries. The amount of droughts and floods is increasing significantly around the world, which leads to poor wheat, maize and rice yields. The yields are reduced, and food prices are rising. For many farmers it will be also hard to earn their living by agriculture in this changing environment. As the climate change has huge effect on agriculture, agriculture itself is an important contributor to the climate change. It is the biggest emitter of nitrous oxides and methane in the world, and a serious emitter of carbon dioxide. All these gases are so called greenhouse gases that heat up the planet and speed up the climate change. In addition to greenhouse gases, agriculture effects on environment by following ways which also contribute to the climate change indirectly. (IPCC 2014; WWF 2015)

2.1.1 Deforestation

Forests are the lungs of planet Earth. They contain considerable biodiversity, providing valuable habitat for wildlife, but they are also critically important for human livelihoods. The total area of the world's forests in 2005 was 3.8 billion hectares, which means that forests covered approximately 30 percent of the world's land area. Around 9 percent of global forests are sub-tropical, 11 percent temperate, 33 percent boreal and 47 percent tropical. Unfortunately the total forest area of the world is decreasing rapidly. The annual shift from forest

land use to other land uses was 3 million hectares per year between 1990 and 2000 and 6 million hectares per year between 2000 and 2005. Global population growth is raising the demand for food and other agricultural products and therefore forests are converted to farming in numerous places around the world. Amazon rainforests are converted to soybean and cattle farms, as the Indonesian rainforests are converted to oil palm plantations. This conversion of forest areas to non-forest is called deforestation. (FAO 2012; WWF 2015)

Scientists are particularly worried about the tropical forest lost. Tropical forests have very high levels of biodiversity and it has been estimated that tropical forests are home to half of all the living mammals, amphibians, reptiles, insects, bird life and plant life in the world. There is about 25 000 tons of biomass above ground for every square kilometer of typical tropical forest, which contains about 12 000 tons of carbon. Deforestation of tropical forest turns an estimated two-thirds of this carbon into carbon dioxide. The more tropical forest is cut down, the more carbon dioxide is released to the atmosphere making the deforestation an important contributor to the global warming. In addition to reduced biodiversity and carbon dioxide emissions deforestation also increases soil erosion by increasing runoff and reducing the protection of the soil from tree litter. Forests protect water supplies and provide home for more than 300 million people worldwide. Hence, deforestation should not be seen only as an ecological problem, but a social and humanitarian problem as well. (Houghton 2009; WWF 2015)

2.1.2 Impact of pesticides

Pests are living organisms, for instance, unwanted plants, fungi, insects, mice and other animals that cause damage to crops. In order to avoid these pests and intensify the food production process, a wide range of chemicals is used in the agriculture. These chemicals are called pesticides. The National Institute of Environmental Health Sciences in United States defines pesticide as *“any substance used to kill, repel, or control certain forms of plant or animal life that are considered to be pests”*. The number of different pesticides is huge including compounds like insecticides, fungicides, herbicides, rodenticides, molluscicides, nematicides, and plant growth regulators. Ideally, pesticides are lethal for the unwanted pests, but they do not cause harm for the non-target species, including crops and human-beings. The use of pesticides raises yields by reducing losses from the weeds, diseases and insect pests, which also improves the quality of the crops. (Aktar et al 2009; The National Institute of Environmental Health Sciences 2015)

On the other hand, there are also many serious disadvantages connected to the use of pesticides. Pesticides can jeopardize the health of the people in two ways. Firstable, workers who work in a close connection with pesticides like formulators, sprayers, mixers, loaders and agricultural farm workers have a big risk to expose themselves to the pesticides that harm their health. Secondable, people can expose to a number of pesticides through food. Furthermore

pesticides can contaminate soil, water reservoir, turf, non-target vegetation and animals. To avoid pesticide residues a lot of consumers have chosen to eat organic food, because that is grown without the use of synthetic chemicals or pesticides. (Aktar et al. 2009)

2.1.3 Other environmental problems related to agriculture

As The Dublin Statement on Water and Sustainable Development declares in its guiding principle number 1 *“Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment”* (United Nations 1992). Unfortunately fresh water is very unevenly distributed in the world and a lack of water is a huge problem for a number of human beings, animals, and plants worldwide. Water scarcity is often a seasonal problem as many regions suffer from floods followed by dry seasons. The usage of water has increased by ten times during the 20th century, which has grown worries about even greater water shortages in the future. In order to take care of the diminishing fresh water resources on our planet, we need to optimize the use of water by careful planning, distributing and managing the fresh water resources. (Michael 2008)

Agriculture is the biggest user of world’s fresh water resources and it is consuming approximately 70 percent of all freshwater withdrawals in the world today, mainly because of the irrigation. Irrigation has been playing an essential role in agriculture, as the demand for food has tripled in the developing world in the last 40 years. The production of very strongly irrigated crops like wheat, rice and maize has increased two- to fourfold since the 1960s as the cultivation of many irrigated vegetables and fresh fruits has increased by four to six times over the same period. Irrigation is essential for farmers who balance between the floods and dry seasons. On the other hand, as the production of food is growing and the irrigation systems are getting more intensified, also the risks for the environment are getting bigger. Increased irrigation accelerates groundwater depletion, reduces downstream river flow and increases the evaporation in the irrigated area. Strongly irrigated fields suffer from drainage problems and it is estimated that around a half a million hectares of farmland goes out of production every year. As the population continues to grow and our water and land resources are limited, the extra food has to be produced with intensified and well managed irrigation in the agriculture. The water productivity of the irrigation systems has already improved enormously, but there is still a lot to be done in saving water in the agriculture. (Ward et al. 2006)

Erosion is a process which occurs when wind and water remove rock and soil particles, transport them away and set them down into another location. It is easiest to spot erosion on the coast, where waves and wind move little particles like sand and rocks constantly from one place to another. Erosion is a natural process, but it is often accelerated with human activities, such as tillage and plowing. The greatest single contributor to increasing erosion rates is unsustainable agriculture. As the demand for food is rising, more forests and

grasslands are converted into pastures and farm fields. Often soil cannot handle the transition where the natural vegetation is removed and replaced by the agriculture and it will lose its structure and suffer from nutrient degradation, and soil salinity. Soil erosion decreases agricultural productivity and causes land infertility as it removes the most nutrient rich top layers of the soil. Decreased soil fertility is often replaced by increased usage of fertilizers which can be pricey, and may lead to other environmental problems, as already mentioned. Soil erosion also causes many other environmental problems such as desertification, flooding, sedimentation of waterways and eutrophication of water bodies. Furthermore, it has been examined that eroded soil loses 75 - 80 percent of its carbon content to the atmosphere, where it accelerates climate change. According to WWF, in the last 150 years we have lost around 50 percent of the topsoil on our planet. In economic terms soil erosion costs estimated US \$ 30 - 40 billion annually for the United States economy, £ 90 for the British economy in a year and US \$ 400 million in a year for the island of Java alone in Indonesia. Both the environmental and economic impacts of soil erosion can be diminished with a use of sustainable practices in agriculture such as planting windbreaker trees, using mixed-cropping or crop rotation methods and cultivating in terraced fields. (Julien 2010; Morgan 2005; WWF 2015)

2.2 Meat Production

2.2.1 The rising demand for meat

The worldwide meat consumption has increased because of the population growth, urbanization and rising standard of living. The meat consumption is also estimated to continue its growth at least the next few decades. People eat meat because of its good taste, but also because of its great nutritional value. Meat is not only a great source of protein, but it also contains a lot of micronutrients like iron and zinc, and vitamins such as vitamin A. According to FAO (2006) the total meat supply has tripled since 1980 from 47 million tons to 137 million tons in 2002, and the meat production sector will continue its growth faster than any other sectors of agriculture in almost all the countries. Urbanization increases the meat consumption by improving the infrastructure, for example, functionality of the cold chains. Because of improved infrastructure sensitive food articles like meat, poultry and dairy can be distributed to larger areas with a longer time to use them and a lot smaller wastage. In developing countries, aggressive expansion of fast food restaurants and supermarkets chains has increased the consumption of meat at least by facilitating the distribution. (FAO 2006; WHO 2015)

Today around 78 percent of agricultural land is used for livestock production, which is a huge share. Lower meat consumption rate would reduce the production of animal feed and more crops could be cultivated for direct human consumption. On the contrary, growing meat consumption will increase the demand to produce more food for cattle and cut more forests down to get pasture for the cattle. Meat consumption is strongly related to the standard of living. As the standard of living is rising, previously undernourished people are able to shift to more rich and variable diets and consume more meat and even overnourish themselves. Other factors related to the meat consumption are, for example, religion and overall diets, livestock production and consumer prices. Finnish people ate 74.6 kilograms of meat per person in 2014, which is almost the same as the year before. Meat consumption has stabilized in Finland, but unfortunately it hasn't decreased. (FAO 2006; HS 2015; WWF 2015).

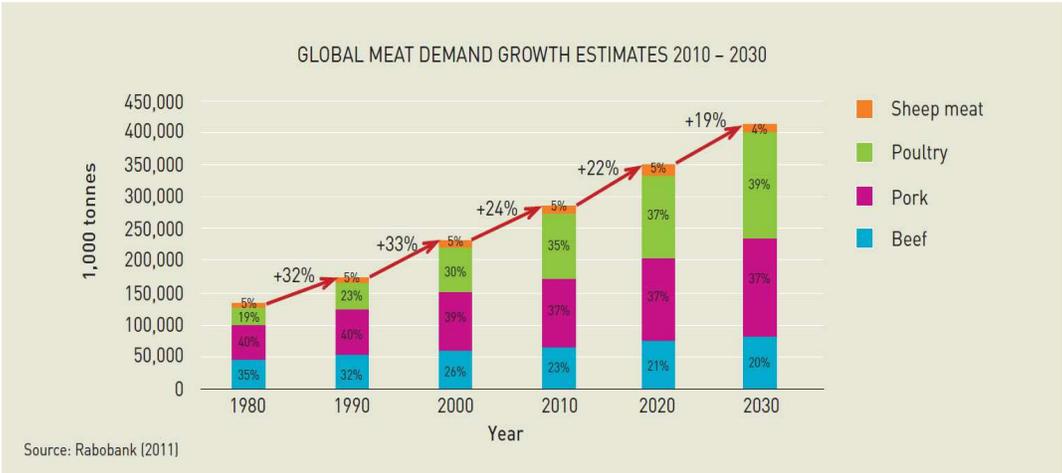


Figure 2: Global meat demand growth estimates 2010 - 2030 (Rabobank)

2.2.2 Meat production and problems related to land use

Since the mid-1800s, the conversion from natural habitats to cropland and pastures has been fast. The expansion of meat production has resulted in serious deforestation, especially in Latin America. In the Amazon area approximately 70 percent of previous forested area is ruled over by pastures and a large part of the remaining area is covered by feed crops. Luckily, during the last four decades the speed of the expansion of pasture and arable has started to slow, because intensification of agriculture and meat production has enabled to feed the increasing amount of people without expanding the production area as much as earlier. (FAO 2006)

Overgrazing is the phenomena where plants are exposed to too intensive pasturage for extended periods of time, or the recovery time is not long enough. It often occurs on rangelands where human-tended production animals such as cattle, sheep and goats are grazing. Overgrazing causes loss of biodiversity,

reduction of species and it increases surface run-off which in turn causes soil erosion. Overgrazing is also considered as a main contributor to the desertification in arid drylands, tropical grasslands and savannas worldwide. It is estimated that one third of all the rangelands in the world are overgrazed. Around 20 percent of the rangelands and pastures are degraded, mainly because of overgrazing and erosion caused by livestock. It is possible to reduce the problem of overgrazing by setting grazing fees and supporting livestock's free movement in the common property pastures. (FAO 2015; WWF 2015)

The goal of producing as much food as possible, in the most effective way has changed the production of meat completely, and this causes a lot of problems also in terms of land use. For example, in areas with a sparse meat production density, the livestock waste would not cause major problems. On the contrary, it would stimulate the crop growth and helps maintaining the soil fertile. Contrariwise, in areas with a high meat production density, the capacity of surrounding land or water to absorb the waste is quite often exceeded, which can cause serious environmental damage. Growing meat production will also increase the demand for feed. It is estimated that the feed demand for grain will increase almost by one billion tons over the 1997/1999 to 2030 period. Increasing meat consumption will also inevitably bring large-scale, industrial production closer to the cities which has number of environmental and health risks. (FAO 2006; WHO 2015)

2.2.3 Meat production's role in air pollution

Global meat production sector causes more greenhouse gases to the atmosphere than transport. It is responsible for 9 percent of anthropogenic CO₂ emissions, 37 percent of anthropogenic methane emissions and 65 percent of anthropogenic nitrous oxides emissions in the world. (FAO 2006)

Ilmasto-opas (Climate guide) internet sites by SYKE (Finnish Environment Institute), Land Use planning and Urban Studies Group of Aalto University and Ilmatieteenlaitos (Finnish meteorological institute) are providing useful information about the climate change and its impacts, mitigation and adaptation. According to Ilmasto-opas, best ways to scale down the climate burden of our food is to stop eating unnecessary food items such as crisps, sweets and sodas, but also reduce our consumption of meat. It can be seen from the data in Table 1 below, that the climate impacts of different food items are huge. The most environmentally friendly products are local potatoes, vegetables, and of course, the berries from a forest nearby. Products of animal origin usually have a higher impact on climate, but the results vary considerably depending on the product. The climate impact of beef is very high, whilst the chicken meat's impact is actually lower than the climate impact of greenhouse planted tomatoes and cucumber or rice, which is planted on the other side of the world. According to climate diet calculator, favoring local products in our diets and reducing consumption of meat are diminishing our climate emissions significantly. (Ilmasto-opas 2015)

Food	Climate impact on CO ₂ -eq / kg
Beef	15
Cheese	13
Pork	5
Chicken	4
Tomato and Cucumber (planted in greenhouse during winter)	5
Rice	5
Vegetable oil	3
Egg	2.5
Fish	1.5
Rye bread	1.3
Sugar	1.1
Dried beans	0.7
Berries, vegetables, potatoes	0.2

Table 2: Estimated climate impacts of different food items (Ilmasto-opas)

2.2.4 Antimicrobial resistance

In addition to pesticides and fertilizers used in the agriculture, a variety of medicines is used in livestock production to keep animals healthy, productive and make them grow faster. Livestock production is using rising amounts of antibiotics to treat sick animals, but antibiotics are also feed for healthy animals to speed up their growth. This overuse of antibiotics is creating drug-resistant bacteria, and a phenomenon called antimicrobial resistance, which is one of the most serious health threats today, and present in all parts of the world. According to World Health Organization “*Antimicrobial resistance threatens the effective prevention and treatment of an ever-increasing range of infections caused by bacteria, parasites, viruses and fungi* (WHO 2015). Antimicrobial resistance reduces the effectiveness while infectious diseases are treated. As a result, patients are sick for a longer time, which increases the risk of spreading resistant microorganisms to other people. While infections become resistant to first-line and second-line antibiotics, more toxic and more expensive medicines must be used to treat the patient. This prolongs the patient’s stay in the hospital, which in turn, increases the health care costs in the national levels. It is estimated that in the United States alone, more than two million people get sick every year with antibiotic-resistant infections, with more than 23.000 people dying as a result. To avoid the development of antimicrobial resistance, the use of antibiotics should be limited not only when treated people, but also while treated and farmed animals. (The Centers for Disease Control and Prevention 2013; WHO 2015)

There are also many other problems related to the production of meat. People feel growing concern about the treatment of animals in the production process that has undergone an industrial revolution. Animals are raised in massive buildings, still, without enough space to move and no possibilities to get out in the fresh air. The treatment of animals has become more unethical while the production process has been intensified. As farms, piggeries and henhouses get bigger, the impacts they have on the environment is also getting bigger. (Kenner 2008)

2.3 Benefits and problems of eating fish

About 71 percent of the Earth's surface is water-covered, and the oceans hold roughly 97 percent of all Earth's water. The biodiversity of the oceans is unrivaled and it has been calculated, that they contain over 80 percent of all life on earth. On a planet full of water, it is natural, that fishing is a very old source of livelihood and an integral part of the culture in countless communities in different parts of the world. Today fishing can be divided into three sectors, which are commercial sector, traditional sector and recreational sector of fishing. In this study, I'm mainly concentrating on the commercial sector of fishing and its benefits and problems for us humans and for the environment. (Hawaii Pacific University Oceanic Institute; Washington State Department of Health)

2.3.1 Benefits of eating fish

Eating fish is often valued as a healthy choice, because it's packed with protein, vitamins, and nutrients beneficial for the human health. Fish contains a lot of vitamin D, which is a fat-soluble vitamin, naturally present in very few foods. Fish is rich in calcium and phosphorus and a great source of minerals, such as iron, zinc, iodine, magnesium, and potassium. The fish fat content is better than the fat content of meat. There are less saturated fatty acids that tend to raise the level of cholesterol in the blood, but a lot of polyunsaturated fatty acids. Polyunsaturated fatty acids can help reduce bad cholesterol levels in blood and decrease the risk of heart disease and stroke. Fish contains a lot of omega-3 fatty acids, which keep our heart and brain healthy. Human bodies cannot produce omega-3, so we must get them from the food we eat. All fish contains omega-3, but the content is particularly good in fatty fish, such as salmon, trout, sardines, herring, canned mackerel, canned light tuna, and oysters. Because of all these health benefits, many nutrition recommendations worldwide, such as The National Nutrition Council in Finland and The American Heart Association recommend eating fish at least two times per week as part of a healthy diet.

(Washington State Department of Health; Valtion ravitsemusneuvottelukunta. 2014)

In addition to its health benefits, fish is also a tasteful and variable source of nutrition. Highly valued Michelin starred restaurants worldwide are serving it because of its good taste and its variety for different kind of cooking. Fish is generally distributed as live, fresh, chilled, frozen, heat-treated, fermented, dried, smoked, salted, pickled, boiled, fried, freeze-dried, minced, powdered or canned. Millions of people worldwide are depending on the oceans for their daily livelihoods and millions of people are eating fish worldwide as an everyday food. Japanese raw fish “Sushi” and British “Fish & Chips” are just some of the most well-known fish dishes around the world. Choosing to eat fish instead of meat can also be seen as a sustainable decision. Fish, unlike production animals is living in the water, without people taking care of it. There is no need to cut down forest to get pasture for it, nor there is need to feed it, or take care of it, if it gets sick. This way, some people find it environmentally a better choice of a meal as meat coming from a farm. In a way, these people are right, because the carbon footprint of a fish meal is often smaller, than a carbon footprint of a steak, but there are also many environmental problems related to fishing and eating fish. These problems I am writing out in the next two paragraphs. (FAO 2012)

2.3.2 Overfishing

As a result of good taste and great health benefits, people are eating more and more fish. In the 1960s people ate approximately 10 kilograms of fish per year per person. In 2009 we already ate almost twice as much, meaning approximately 19 kilograms of fish per year per person. That is a big change for the fishing industry and that is a big change for the oceans. The change is even bigger when we recall, that the population on this planet has more than doubled in these 49 years. There were 3 billion people on earth in 1960 and now we are far over crossing the line of 7 billion people. We are getting too dependent on the marine life and gradually we are fishing the seas empty. (Kanninen & Numminen 2015; FAO 2012)

World fish utilization and supply

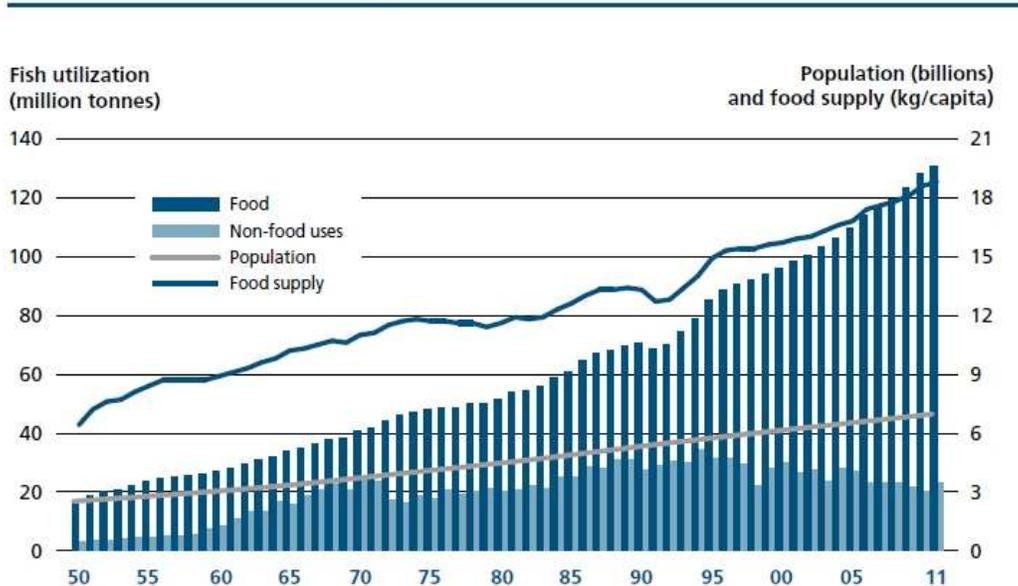


Figure 3: World fish utilization and supply (FAO 2012)

“Overfishing occurs when more fish are caught than the population can replace through natural reproduction” (WWF 2015). Overfishing can occur in all kinds of water systems, such as ponds, rivers, lakes or oceans. Increasing fishing efforts, efforts to maximize catches as well as unsustainable fishing practices are pushing many fish stocks to the point of collapse. More than 85 percent of the world’s fisheries have been pushed to or beyond their biological limits, which means that without international co-operation, strict management and good protection practices more and more species are depleted. Overfishing is not only threatening single species, but it also upsets entire marine ecosystems. As the marine ecosystems suffer, the people suffer too. Many indigenous people around the world are depending on sea as their only source of living. Losing the fish from the sea doesn’t only make these people hungry, but it can also force whole communities to change their way of living and even leave their homes in order to survive in changed circumstances. (WWF 2015)

In addition to the population growth and popularity of the fish dishes there are two other main reasons for overfishing. Firstable the methods of fishing as well as fishing vessels have developed enormously during the last few decades. Fishing vessels are huge like little factories and they are hovering our oceans way too effectively. According to Greenpeace International there are, for example, some enormous tuna fishing vessels that can catch up to 3,000 tons of fish during just one trip at the sea. While fishing with huge vessels, a lot of unwanted species and undersized individuals are caught accidentally. These unintentionally caught fish or other marine animals like whales, dolphins and porpoises are called “bycatch”. It is estimated by WWF, that approximately

30.000 million kilograms of bycatch is thrown away every year. This part of the catch, about 40 % of the annual fish catch in the world has either died or is dying when it's released back to the water. The amount of bycatch is telling its own story about the profligacy of fishing these days. (Greenpeace 2015; Kari & Ranta 2012; WWF 2015)

The last important contributor for overfishing is that the fisheries governance is often ineffective, and there is little or no control at all for fishing. Illegal, unreported and unregulated fishing is flourishing and hence about 20 percent of the world's fish catch is result of an illegal fishing. On a dry land we have got used to protected areas and national parks. Protected areas would be very useful also in the marine world to protect the most fragile and endangered species such as coral reefs and marine turtles. Unfortunately only 1.6 percent of the world's oceans have been declared as marine protected areas (MPAs) and even 90% of existing MPAs are open for fishing. In an open sea, the supervision is also much more difficult than on a dry land, simply because of the wide spread of the oceans. (Greenpeace 2015; WWF 2015)

2.3.3 Other problems related to fishing

In Finland many fish species have reduced enormously, and at the same time the wages of professional fishermen have shrunken. Fisher's average age is rising and young people no longer want to become fishers. As the amount of professional fishermen has collapsed, the amount of imported fish has risen. The problem is same almost everywhere in Europe. In the European Union level, almost 25 percent of the fish catch is caught outside Europe, in international waters or at the seas of other foreign countries, such as Mauritania or Senegal. As the Europeans start fishing on the costs of Africa or next to the other developing countries, they are easily driving the people in local communities to despair. One European trawler catches the same amount of fish in a month as 7.000 small local fishing boats in a year. Hence the consumption of fish has dropped in the sub-Saharan Africa, as it is growing in Europe and in the rest of the World. (Kari & Ranta 2012; WWF 2015)

The further we import the fish, the harder it gets to determine its origin and by not knowing the exact origin of our fish, the risk of eating endangered species is rising. Some of the most endangered fish in the world are different tuna species, like Bluefin tuna, Bigeye tuna, Albacore tuna, Skipjack tuna and Yellowfin tuna. The reason for the overfishing of tuna is mainly the popularity of Sushi dishes all over the world. The other widely overfished group of fish is sharks, not least because the shark fin soup is considered a big delicacy in Asia. Predator fish, such as shark, tuna, swordfish and billfish are extremely important for the stability of the marine ecosystems, because losing them causes complex and unpredictable knock-on effects in marine life. Disappearance of these predators causes for instance increased abundance of smaller marine animals. Increasing number of small marine animals in turn raises the amount

of algae which, for example, threatens the health of coral reefs. Again in the Baltic Sea, the disappearance of big predators like salmon and trout has accelerated the eutrophication of the sea. Despite the importance of them, it is estimated that we have lost at least 90 percent of all marine predators from our oceans. (Kari & Ranta 2012; WWF 2015)

3. HOW TO MOTIVATE CONSUMERS

According to Oxford dictionaries, motivation is defined as “*a reason or reasons for acting or behaving in a particular way*” (Oxford Dictionaries). In this study, it is investigated what motivates people to eat vegetarian food. Different things motivate different people, and reasons behind certain behavior can be various. In this chapter three, the most important motivators for vegetarian eating are presented. Some people are motivated to eat vegetarian food self-directed, while for some people motivation coming from the businesses and public sector can be essential. Public catering and individual restaurants can significantly increase the motivation of all consumers to eat more vegetarian food.

3.1 What motivates people to eat vegetarian food and what is the role of businesses as motivators?

3.1.1 Ethical and religious reasons

Although there are millions of people eating huge amounts of meat and fish every day on this planet, there are also thousands of those who have chosen to cope without eating meat or animal based products and millions of people who have decreased their consumption of meat. For many vegetarians, the main reason for vegetarian eating is their respect for all living things. These people are worried about the animal rights issues and treatment of animals in mass production, and they are determined to cut down their meat consumption to make sure their own action is not causing unnecessary suffering for animals. (Animalia; Lindeman & Sirelius 2001)

There are a lot of religions that either ban or strongly suggest avoiding meat. Muslims and Jewish people do not eat pork, while Jains are either lacto-vegetarians, or vegans. Hindus, Buddhists and also many Christian groups

avoid eating meat. It is notable that India is home for most vegetarians in the world, because most of the old Indian religions have philosophical schools that forbid consumption of meat. In a modern world, people travel more and more, and often they even leave their homes to live in other countries. In almost everywhere in the world, different cultures and religions live side by side, also in Finland. According to Finnish immigration office and police, 33.351 people moved to Finland from other countries in 2014, and more people are coming to our country every year. Regardless of place of residence, all people should be able to live according to teachings of their own culture or religion, also in terms of eating practices. Restaurants should be able to provide enough vegetarian options for people who are choosing vegetarian life-style because of their ethics or because of their religion. (Animalia; Maahanmuuttovirasto 2014; The Vegetarian Society of the United Kingdom)

3.1.2 The good taste of vegetarian food

As mentioned in the second chapter of this research, the climate impacts of different kind of food can vary a lot and hence, significant emission reductions can be achieved by changing consumer's food consumption habits. Several reports have shown that good taste, experience and ease of choice are the most important factors in consumer selection of food. Therefore, vegetarian food should look and taste as delicious as conventional food and choosing a vegetarian meal option shouldn't be more difficult for the consumer than choosing the conventional meat option. Consumer is not often willing to make compromises with the taste of food, even if the untasteful option is cheaper, environmentally friendlier and healthier option than the food that simply tastes good. (Roininen et al. 2014)

People in all age groups can enjoy the taste of vegetarian food. In schools and nurseries of Pietarsaari in Finland, children and young students were involved in the preparation of new lunch menus for the autumn semester 2015. The idea of listening to children's opinions was that if the children like the food they are getting at nurseries and schools, they will eat it better, and money will be saved because the wastage is smaller. Of course, smaller share of wastage is also better for the environment. As children were asked about their favorite food, many of them were hoping to get more vegetarian food for lunch. Instead, many meat portions, like liver steaks and whole meat sauce were removed from the menu, because they didn't receive support from young people. (Yle 2015)

At present, there are no restaurant schools in Finland which would offer specialization in the production of vegetarian food. Investing more in the education of vegetarian chefs would probably improve the quality and taste of vegetarian food, and therefore increase its sales. As the specialization in vegetarian food is rare in Finland, investing in tasteful vegetarian food could also bring a lot of competitive advantage to the restaurants. (Roininen et al. 2014)

3.1.3 Reliable research information about the health and environmental effects of vegetarian food

The environmental problems caused by meat production, such as cutting of the forests and high CO₂ emissions are serious threats to our planet. It is proven that most of the consumers are worried about the environmental issues and many of them have a genuine will to take action to mitigate climate change. However, several reports have shown that an average consumer doesn't have enough information about the environmental effects of production, procurement, preservation and preparation of food products as well as by food waste. There are a lot of false beliefs and misconceptions related to food, and often food is not seen as a major burden to the environment. Majority of the consumers believe, for example, that packaging, transportation and processing activities have the biggest impact on the environment, even though, the biggest impact is already caused in the primary production phase of food. To be able to make environmentally better conscious decisions, consumers need reliable, comparable, simple and understandable information about different diets and especially about the benefits of vegetarian food. (MTT 2013; Roininen et al. 2014).

Some people choose to become vegetarians or at least cut down their meat consumption because they want to lose weight and live more healthily. Vegetarian diets are naturally low in saturated fat and high in fiber, for which reason, vegetarians have a lower body mass index (BMI), a lower mean plasma total cholesterol concentration and a lower mortality from ischemic heart disease (Key et al. 1999). Studies have found that especially the older people are interested in healthy and natural food. This might be due to the fact that several illnesses and health issues effect on one's life more in an older age, than in the youth. For example, the risk of cardiovascular diseases, strokes and many other illnesses increases with age. (Roininen 2001)

3.1.4 Western world culture and media

As the freedom of choice in terms of nutrition has expanded in the western world, the purpose of eating has slightly changed. People are not only eating to survive and satisfy their hunger, but also for pleasure and expressing their ideals and identity. For many vegetarian people, vegetarian eating is not just a habit of refusing to eat meat, but a way to express their ideology on how life should be lived. As it is, vegetarian eating in addition to the healthy lifestyle and thin body has become a new religion in the Western world. (Lindeman & Sirelius 2001)

Frank Bruni, the chief restaurant critic of the New York Times, from 2004 to 2009 has described the relevance of food as part of our culture by saying that:

“Food is an aspect of culture that, because of everyone participates in it to some degree, is more egalitarian than ballet, or opera, or even theatre. It’s easier and less intimidating to join the fray and weigh in with an opinion.” (Haskell 2010)

Everybody seems to have an opinion about the food, and everybody should have an opinion about it, because we are all eating to survive. Television has been a standard feature in American homes since 1950s and shortly after that it also conquered the European households. The prevalence of television has led to a rising amount of cooking programs, which have entertained the people, but also taught western people how to cook. The genre of cooking programs was started by Julia Child’s cooking show “The French Chef”, premiered in 1963 in the United States. Julia Child was able to make the difficult French cuisine more approachable for American everyday "home chefs" and motivated them to practice cooking as art. In Finland, the first famous television chef was Jaakko Kolmonen, who first started his cooking program on YLE in 1970. After that, Jaakko Kolmonen has motivated Finnish people to eat healthy food and taught them how to cook in different cooking shows and in books he has written during the last four decades. (Diabetesliitto 2011; The Julia Child Foundation 2015; Tuva Labs Inc. 2015)

The popularity of different cooking programs has not decreased after the times of Julia Child and Jaakko Kolmonen. Today, cooking shows can be roughly divided into three different groups: the educational cooking programs, competitive reality cooking shows, and travel cooking shows. In addition to cooking programs, food has become a huge trend in other areas of media, like in magazines, books, and especially in different forms of social media. There are, for example, hundreds of food blogs only in Finland, concentrating on different kind of cooking. The most popular baking community in Finland is called “Kinuskikissa”, and it has more than 111.000 followers on the Facebook. Kinuskikissa also has its own blog, an Instagram page and a Twitter profile, so that it’s easy for people to follow it. There are own blogs and communities for vegetarian food, vegan food, raw food, baking, families, fitness people and so on. The popularity of these food influentials is so huge, that they definitely act as motivators for Finnish consumers in terms of food selection, and they can also motivate consumers to eat more vegetarian food. As an example, three years ago a Finnish food blogger couple Hanna and Alexander Gullichsen shared the recipe of Avocado pasta for Finnish consumers, who got very excited about the dish. The avocado pasta was eaten everywhere in Finland to such an extent that avocados were often sold out in many Supermarkets across the country. (Tuva Labs Inc. 2015; Yle 2012)

3.2 The role of public sector as a motivator for sustainable eating practices

3.2.1 Popularity of the Finnish public catering

In Finland, popularity of the public catering is high and tradition for public catering is strong. The basic education act (Perusopetuslaki 21.8.1998/628) in Finland states in its section 31, that every student is entitled to a supervised, properly organized and balanced meal every school day free of charge. Finland has offered a free meal in primary and elementary schools since 1948, being the first country in the world to serve free school meals. The objective of free school meals is not only to satisfy students' hunger, but also to teach eating habits and Finnish food culture for students as well as increase the consumption of healthy ingredients such as vegetables, fruits and full corn bread. In a way, sharing the same food at school every day has also encouraged and typified the equality in Finnish society. Regardless of the income of their parents, all children eat the same food at the school. Today about 900 000 students in Finland are having their free lunches every school day in primary schools, elementary schools, high schools and vocational schools. Finnish school lunch system is rather rare in Europe, as only Sweden provides a free school lunch for the students. In other European countries school lunch is usually paid and in many countries less than half of the students are eating the school lunch. (Opetushallitus 2015; Perusopetuslaki 1998/628)

Among schools, public catering is used by nurseries, universities, hospitals, rest homes, Finnish defense forces, prisons as well as state- and municipal agencies all around Finland. Majority of the food eaten among public catering is paid by the public funding, or it is financed by the taxes. University students have subsidized meals and many companies support the lunch of their employees, either by paying part of their meals at the staff canteen, or by giving meal tickets to the employees. As shown in the Table 1 below, around 75 percent, i.e. 3/4 of the Finnish people have a chance to use public catering in their daily lives. In prisons 4 million meals are served every day, while in the Finnish defense forces 17 million meals are cooked annually. In 2009, public catering prepared 413 million meals in Finland, which is almost half of the overall 850 million meals eaten outside Finnish homes that year. Eating together is an important part of the working day for Finnish people. The first factory canteens were established in the 1890s and the public catering at workplaces was developed especially during the 1970s, as the first generation accustomed to free school lunches in 1940s entered the working life. The weight of workplace catering was strengthened also by The Welfare facilities' recommendation by the International Labor Organization in 1956, which stated that every employee should have a chance to eat properly during the working day. The tradition of warm workplace lunch is still strong and the use of workplace catering has been stable between 1979 and 2001. Lunch is often eaten

together with colleagues, sponsored by the employer and enjoyed in a workplace canteen. (Aalto & Heiskanen 2011; ILO 1956; Raulio et al. 2010)

Group	Number of people	Share of diners, %
Children in public daycare	142 585	100
Primary schools, secondary schools and professional collages	888 115	90
Conscripts	25 000	100
Defence forces personnel	15 615	90
Prisoners	3 525	100
Prison staff	570	90
Other state personnel	72 315	33
Municipal staff	115 000	33
Private sector staff	2 327 500	33
Universities and Universities of applied sciences	275 780	54
Hospitals and rest homes	150 700	100
Overall opportunity for public catering	4 016 700	75

(Aalto & Heiskanen 2011.)

Table 3: Volume and different groups of people who used public catering regularly in Finland in 2008

3.2.2 Sustainability in public procurement

Finnish Government established a Decision-in-Principle in April 2009 to promote sustainable choices in public procurement. The aim of this Decision-in-Principle was to increase the sustainability of public sector food services by offering vegetarian-, organic-, or seasonal food at least once per week by 2010 and at least twice per week by 2015. In addition to this, public sector food services should pay attention to the whole life cycle of food ingredients, optimize the consumption of energy and water, and minimize the amount of organic waste as well as climate impacts of food. The Decision-in-Principle aims to improve the sustainability of public sector food services and furthermore the

consumption habits of its everyday customers through its three objectives. Firstly, offering tasteful vegetarian options would accustom people to consume more vegetables also at their homes, instead of meat which is more harmful for the environment. Secondly, providing organic food for its thousands customers public sector is boosting the production of organic products and improves their share on the market. And thirdly, favoring seasonal dishes reduces storage and transportation costs, promotes the use of fresh food and reduces greenhouse gas emissions of food. Public sector food services is a huge player in the food markets and hence public procurement can have a significant impact on the supply of different products and also the popularity of different food items on the market. (Aalto & Heiskanen 2011; Valtioneuvosto 2009)

Purchase decisions of food in the public sector are complex. Decision makers need to take into account many factors concerning the safety, healthy and costs of the food, which are all vitally important as the quality of procurement is examined. Sustainability is a relatively new criterion for the public procurement, while price and nutritional value of the food have been affecting more to the purchase decisions before. The procurement staff doesn't necessarily have enough information about the sustainability issues and they would need more guidance and counseling in the matter. More practical instructions are needed, as well as lists of products that meet the environmental criteria. The lack of information is bigger in small municipalities, which haven't had resources to hire environmental experts for their service to support the sustainability of public procurement. The higher price of the sustainable products has also encouraged purchasing conventional products instead of the sustainable options. Nevertheless, organizations with a higher environmental awareness and management commitment for sustainability issues are willing to favor sustainable products despite the possible higher price. (Aalto & Heiskanen 2011)

3.2.3 Vegetarian day in Finnish schools

Public sector can influence on people's consumption habits in three ways firstly, influence consumer's attitudes, secondly, set taxes or other economic instruments, and thirdly, limit consumer's choices. The city council of Helsinki decided to influence by limiting consumer's choices in 2010, as it made a decision about a weekly vegetarian day in all primary- and elementary schools, high schools and vocational institutions located in Helsinki. It is estimated before, that it is not possible to guide school children towards healthier diets without limiting the choices of unhealthy options. On the other hand, limiting person's choices can always lead on resistance, which in this case would occur, for example, as skipping the school lunch completely on vegetarian days. Lobardini, C. & Lankoski L. made a research about student's reactions towards vegetarian day in Helsinki, as the new vegetarian experiment started. According to the research, first reaction towards the vegetarian day was negative. Students ate less, or they didn't eat at all and the amount of bio-waste

increased. However, the criticism towards vegetarian food diminished in a longer term and in some cases the vegetarian day even encouraged students to eat vegetarian meals also on those days, when they had a freedom to choose between meat and vegetarian option. (Lombardini & Lankoski 2012)

The idea of a weekly vegetarian day in Finnish schools was originally born in 2009, as the Valitse vege (Choose Vegan) - campaign was organized by the animal rights association Fauna ry and the Finnish Vegan association. Campaign was supported by Suomen luonnonsuojeluliitto (The Finnish Association for Nature Conservation) and Maanystävät (Friends of the Earth Finland). The year-long campaign was funded by the Ministry of Environment and its aim was to promote vegan food in Finnish elementary schools and in high schools. Valitse vege-campaign inspired many green town councilors in different cities to take an initiative on arranging weekly vegetarian day at schools. (Ruokatieto 2009)

There was a lot of intense and exceptionally emotional debate about the pros and cons of vegetarian day in the Finnish town councils of Helsinki, Espoo, Tampere and Jyväskylä. The opponents resisted the vegetarian day because they thought it violates individual's freedom of choice. They also thought that especially young men need meat in their daily lives and if schools are not providing it, there is a strong possibility that some students not only skip the school lunch, but also the rest of the school day while eating somewhere else. The supporters of vegetarian day underlined environmental friendliness and ethics of the vegetarian food. They also pointed out that vegetarian diet is beneficial for student's health and people in general should choose the vegetarian food "due to the common good". In other words, vegetarian food is good for the student's health, but it's also good for the nature. Women had more positive attitudes towards the vegetarian day than men. The middle-age of the supporters was 42, as the opponents were older - 51 years old on the average. Despite the rather strong opponent, the city councils of Jyväskylä, Tampere and Helsinki decided to introduce vegetarian day in their schools. Only in Espoo, the initiative on vegetarian day was not realized. (Junnilainen 2011)

3.2.4 Can public catering effect on its customers' consuming habits?

Thousands on Finnish people are involved with public catering in their everyday lives and hence public catering can set an example on how people could eat also in their spare time. According to the research by Raulio, S. et al. in 2010, the Finnish public catering seems to have an important role in contributing healthy eating habits among Finnish people. School children who eat their school lunch also eat more healthy food like vegetables, fruits, rye bread and dairy products. In comparison, school children who don't eat their school lunch are more likely to consume unhealthy food such as French fries, hamburgers, pizzas and meat pies. Skipping the school lunch also leads to eating unhealthy snacks like chocolate, sweets, ice cream and soft drinks. As

the adults eating among public catering were examined, the results were similar. Employees who eat regularly at the workplace canteen are eating healthier food, for example, fish and vegetable dishes than employees who eat regularly outside workplace canteens. If healthy eating habits can be learned among public catering, it is very likely that public catering can also contribute to sustainable eating habits and promote the use of vegetarian food. (Raulio et al. 2010)

No individual organization can be fully responsible for promoting vegetarian food and changing consumer's eating habits into healthier direction. Although it has been proved in several studies, that healthy eating habit is learned in the childhood and that is why teachers, early childhood education and other school canteens play an important role in supporting children towards this healthy behavior. After the school years and possible university or other studies, many consumers continue to eat among public catering which can guide consumers' choices into healthier direction. On the contrary, if the healthy eating habits are not learned in childhood, it can be very hard to learn those in an older age. (Roininen et al. 2014)

4. METHODOLOGICAL CHOICES

4.1 Research methods

I made my research using mixed methods, which is a research method that combines both quantitative and qualitative research methods. John W. Creswell and Vicki L. Plano Clark have defined mixed methods in their book *The Nature of Mixed Methods*, as follows:

“Mixed methods research is a research design with philosophical assumption as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis and the mixture of qualitative and quantitative approaches in many phases of the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches, in combination, provides a better understanding of research problems than either approach alone.” (Creswell & Plano Clark, 2007, p. 5)

I wanted to use mixed methods as my research method, because I believed that using both quantitative and qualitative data together, would give me a better understanding of my research problem, and multiple views to the topic of my study. I also felt that using only quantitative or qualitative method alone, would have not given me enough tools to answer my research question. In this research, using mixed methods means, that I have first stated both quantitative and qualitative questions and collected both quantitative and qualitative data. Second, I have analyzed both quantitative and qualitative questions and interpreted those results separately. Third, I have made an overall interpretation of both results together. The strands of my research are described in the Figure 4 below. (Creswell & Plano Clark 2011)

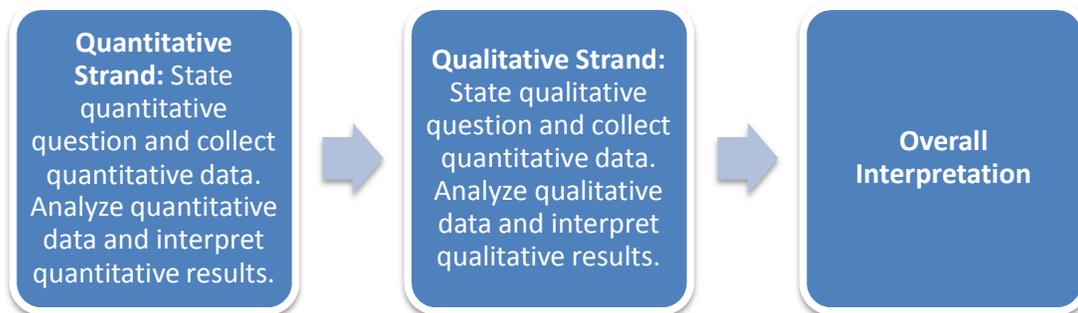


Figure 4: Use of quantitative and qualitative strands in the study (Creswell & Plano Clark 2011)

After I had decided my research method, I drafted an enquiry which had five quantitative questions and three qualitative questions about consumer's eating habits and especially about their attitudes towards vegetarian food. My objective was to find as heterogeneous group of Finnish people as possible, and that is why I carried out my consumer research in four different restaurants. I chose to conduct my consumer research during lunchtime, because a lot of people eat regularly at restaurants or workplace canteens specifically at lunchtime. People were answering my enquiry, as they were having their lunches and that is why I wanted to keep the enquiry relatively short and simple. My previous experience from the restaurant industry has taught me that people are often quite busy at the lunchtime. For some people lunchtime is also an important little break in the middle of a hectic workday and that is why it was justified for me to concentrate on the essential questions connected to the research topic, rather than frustrate the lunch hour customers with a large number of questions.

I started my enquiry with a quantitative question, whether the respondent chose a vegetarian lunch option today or not. It was essential for me to know, how many of the respondents chose the vegetarian option and how many chose the meat option. The first question was followed by a qualitative question about the reasons for choosing a meat option, or reasons for choosing a vegetarian option on this particular day. In question number three I'm asking why the respondent would choose a vegetarian option instead of meat and in question number four I'm asking why he or she would not choose the vegetarian option. For questions three and four I had given several answer options where the respondent could choose one or several options. In question number five I'm asking whether the respondent is supporting vegetarian days, for example, at

schools, workplace canteens and in airplanes. With this question I wanted to investigate respondent's general attitude towards vegetarian diet. In question number five I'm asking respondent's favorite dishes a) at home, and b) at restaurants. The purpose of this question was to examine, whether eating at a restaurant is encouraging people to eat more meat, for example, steaks which are pretty difficult to cook at home. In question number seven I'm enquiring how concerned the respondent is about the food security of meat, for example, the mad cow disease, the loss of food cold chain and so on. I have given three answer options for this question, which are a) very concerned, b) concerned, and c) not concerned at all. With this question I wanted to examine, whether the possible growing concern about the food security might encourage people to eat more vegetarian food instead of meat. The question number eight was a request for the respondent to speak freely about his or her opinions about the subject.

4.2 Collection of data

I carried out a consumer research in three different restaurants close by to the center of Helsinki and in one workplace canteen in Jyväskylä during the lunchtime in October 2014. Restaurants that I chose were Restaurant Martina in Ruoholahti, Restaurant Baker's on Mannerheimintie and Restaurant Central in Ullanlinna. A workplace canteen I chose was a Sodexo Tietotalo restaurant, which is located to the Lutakko area, close to the center of Jyväskylä. Participants were answering the enquiry while they were having lunch. I told all the participants that all their answers are confidential and that the enquiry is completely anonymous. I only wanted to know the gender and the age group of all the participants and that is why I categorized five age groups where participants could choose the right alternative. These age groups were: 1) under 25 years, 2) 25 - 34 years, 3) 35 - 44 years, 4) 45 - 64 years and 5) 65 + years. In the subsections below, there are short descriptions about the four restaurants where consumer research was taken place.

4.2.1 Restaurant Martina

Martina Ruoholahti is one of the Italian style restaurants of the Martina chain, operated by Restel and it is located next to the shopping center of Ruoholahti, opposite to the underground station of Ruoholahti in Helsinki. The Ruoholahti area is full of office buildings and demand for lunch is great. Martinas are easily accessible restaurants, with a reasonably-priced menu and a concentration on families and lunch hour customers. Every weekday, there is a special lunch menu for lunch hour customers between 11.00 am and 14.00 pm (or 15.00 pm in some restaurants). Lunch menu consists of changing three to

five meal options of which at least one is a vegetarian meal option. In addition to lunch meals, a customer can choose a pizza with two toppings or a salad with two toppings to their choice. All lunch options include the salad table, parmesan bread and a dessert coffee or tea. The à la carte-menu is not in use during the lunch hour, to guarantee a quick and easy service for the often busy lunch hour customers. While I'm writing the results of this research, there are 13 Martina restaurants in Finland, the southernmost located in Kotka and the northernmost located in Rovaniemi. Martina chain has unfortunately discontinued its operations in Ruoholahti and Restel has set up a new Burger King restaurant to replace the old Martina restaurant. (Martina 2015)

4.2.2 Restaurant Baker's

Restaurant Baker's is a well-known food restaurant, founded in 1915 making it one of the oldest restaurants in the center of Helsinki. Baker's is located on the corner of Mannerheimintie and Kalevankatu, opposite to the famous department store of Stockmann and it consists of food restaurant, coffee shop and a night club. The restaurant building stands in a night and day busy spot in the heart of Helsinki, with a lot of locals and tourists passing by all the time. The food restaurant (also known as the beef restaurant) of Baker's serves lunch on weekdays from 11.00 am until 14.00 pm. Lunch is served on a buffet table, and it contains the warm main dish, soup of the day, several side salads, bread table, and a dessert coffee or tea. Instead of the warm lunch, customers can choose a salad of the day, together with side salads and soup. The lunch buffet serves usually simple and traditional everyday-food, with a specialization on different kind of meat and steaks. The price of the lunch is 10.10 euros in May 2015, which is a very general price for a lunch in the center of Helsinki. (Baker's 2015)

4.2.3 Restaurant Central

Restaurant Central (also known as "Centtu") was founded already in 1898 on Helenankatu, where it later moved to its current location to Pietarinkatu 15. Restaurant Central is a traditional food restaurant, and it is strongly cherished by the local people in the area of Ullanlinna. Restaurant has a very loyal customer base and tourists and other "outsiders" rarely get lost in there. The customer base of Central is rather wealthy, because Ullanlinna is one of the richest areas in Helsinki. During the lunch time on weekdays from 11.00 am until 14:00 pm, Central provides a separate lunch menu with a little cheaper prices than the à la carte-menu, but the à la carte-menu is also in use. Many of the customers choose their lunch from the à la carte list, because it provides a lot of classical, well-known portions and because the price is perhaps not such a big issue among the customers of Central. Lunchtime is not usually so busy at

Central, instead of that, it is known for its atmospheric and busy evenings and weekends. (Central 2015)

4.2.4 Sodexo Tietotalo Jyväskylä

Workplace canteen Sodexo, which is located to the Lutakko area in Jyväskylä is the only workplace canteen included in this research. It is located to the area of Lutakko, which is becoming more and more popular neighborhood in Jyväskylä. In addition to the many office buildings located to Lutakko, the bus and railway stations of Jyväskylä and the congress center of Paviljonki are situated just a stone throw away from this lunch restaurant. Sodexo Tietotalo serves lunch every weekday from 10.30 am until 13.30 pm with a price of 10.10 euros, or 8.80 euros for the students and retired people. There is at least one vegetarian lunch option available every day at Sodexo and in addition to the warm meal; lunch also includes salad, bread table, dessert and coffee or tea. (Sodexo 2015)

4.3 Analysis of the research data

I got 69 answers for my enquiry including 22 answers from Restaurant Martina, 26 answers from Restaurant Baker's, 7 answers from Restaurant Central and 14 answers from Sodexo Tietotalo workplace canteen in Jyväskylä. Most of my answers I got from Restaurants Baker's and Martina, probably because they are very busy and popular restaurants during the lunch hour. On the contrary, Restaurant Central is a very busy restaurant in evenings and on weekends, but on lunch hour it can be quite peaceful. It can be seen from the data in the Table 2 below, that women were more active in taking part in this customer research than men. On the whole, I got 44 answers from women and 25 answers from men, meaning that 64 percent of the respondents were women and 36 percent of them were men. As can be seen from the table 3, I got answers from all age groups, age group 45 - 64 years being the best represented. 42 percent of the respondents were 45 - 64 years old, but I also got a lot of answers from people with an age between 25 and 44. I strongly believe that my survey sample represents pretty well the overall lunch eaters in Finnish lunch restaurants on the basis of age. People under 25 years of age are often still students and they are more likely to eat lunch at universities or in other student restaurants. On the other hand, people over 65 years of age have often already retired and they are more likely to eat their lunch at home, instead of eating lunch at restaurants every day.

	Female	Male
Martina	15	7
Baker's	13	13
Central	4	3
Sodexo	12	2
Overall	44	25

Table 4: The representation of different genders in the consumer research

	under 25	25 - 34	35 - 44	45 - 64	65 +
Martina	1	9	7	5	-
Baker's	1	5	7	10	3
Central	2	-	1	4	-
Sodexo	-	3	1	10	-
Overall	4	17	16	29	3

Table 5: The representation of different age groups in the consumer research

I decided to present the results of this study by concentrating first on the results of all the individual restaurants separately, and by writing an introduction on every restaurant's results separately. Because there were only four restaurants included to the study, the task was relatively easy to implement. Restaurants included to this study differ from each other in terms of style, selection and customer segments. Hence, it was important for me to present restaurant-specific results, to be able to draw conclusions about the restaurant's impact on consumer behavior. After the restaurant-specific results I gathered all the research data together and analyzed overall results, concentrating first on the quantitative questions of the consumer research, and after that analyzing the results of the qualitative questions.

The results of the quantitative questions I have compiled in tables to show the results in easily readable format. In presentation of the data I have utilized mainly the bar charts and one pie chart, in addition to traditional tables. The data analysis of qualitative questions of this study is based on a data driven analysis where a theoretical entity is formed from the chosen sample. I concluded my data driven analysis by description of the research data, analyzing the data and after that presenting and interpreting the data. I classified the results of qualitative questions in different categories and presented them in form of bar charts so that research results would be also here easily readable. (Tuomi & Sarajärvi 2009). After presenting the results of both quantitative and qualitative questions, I compared the results with each other.

5. RESULTS

As I'm writing about the results of this study, I am first concentrating on the results of all participating restaurants separately. After that I gather together the overall results from all restaurants by introducing first the results for the quantitative questions and then continue by presenting the results for the qualitative questions. Finally, I analyze the overall results of all the quantitative and qualitative questions of this study.

5.1 Results in Restaurant Martina

There were 22 people taking part in my consumer research in Martina, including fifteen women and seven men. Majority of the participants were eating meat at their lunch, with three people choosing the vegetarian option and 19 people choosing the meat or fish option from the menu. Two of the respondents were vegetarians, so only one non-vegetarian decided to choose the vegetarian option on the research day. In Martina, consumers chose the meat or fish portion mainly because they thought it satisfies their hunger better, it contains more protein and because the meat options sounded better than the vegetarian dishes. More than 80 percent of the respondents in Martina supported vegetarian days. While asked about the food security, just over half of those who answered the question, reported that they are not worried at all about the food security of meat, while eight people were concerned and one person very concerned about the security issue. When asked about favorite food, respondents' answers varied a lot. Many of the consumers answered that at restaurant they eat that kind of food they cannot cook at home, for example, sushi or ethnic food. Many of the respondents answered that they eat lightly at home, but when they visit the restaurant they want to have something tasty and filling. Some respondents answered that their favorite dish at a restaurant is a

fillet steak, which was not considered as a favorite dish by anyone, while eating at home. One of the female respondents replied, that she prefers vegetarian food at restaurants, while at home she likes to cook versatile food because of her children. In responses to open question eight, two respondents expressed their concern about hormones and antibiotics in meat. Two other respondents were hoping that restaurants would increase the selection of vegetarian dishes on their menus.

5.2 Results in Restaurant Baker's

I got 26 answers to my customer research in Baker's and answers came evenly across all age groups. Baker's was the only restaurant where I got answers from people who are over 65 years old, which might be due to the fact that Baker's is a popular lunch restaurant, not only among working age people, but also among the senior citizens who have already retired. Participants of the enquiry were evenly distributed between men and women, with 13 answers from both genders. Majority of the consumers chose meat option, with only three people from twenty-six choosing the vegetarian option; one man and two women. In Baker's, most of the consumers chose the meat option because they had got used in choosing meat, and because the meat option in buffet table looked delicious. Some of the respondents complained that getting the vegetarian food (which is often the salad of the day) takes too much time in Baker's and some people didn't even think that there would be a vegetarian meal option while they were choosing their lunch. A large majority of 88 percent of the respondents answered that they are not concerned about the food security of meat, while only two people replied that they are concerned about food security. The vegetarian day was supported by 73 percent of the respondents and resisted by 27 percent of the respondents in Baker's. While asked about consumers' favorite foods, a wide range of responses emerged. All in all, many respondents announced that they are eating "home-food" at home and fancier meals at restaurants. A good proper steak was mentioned many times as a favorite food at a restaurant and chicken was a popular dish while eating at home. Respondents did not have much to say in their answers to question eight. One person found vegetarian food very delicious, but he also thought that it is not filling enough for him. Few people mentioned that allergies are restricting their desire to eat vegetarian food and one respondent stressed the importance of Finnish origin in selecting food.

5.3 Results in Restaurant Central

There was a rather small group of people answering to my enquiry in Central, mainly because the lunch hour was not that busy on a day I carried out my research, and also because there were some business related lunches taking place in the restaurant which I didn't want to interrupt. Anyhow, I was getting 7 completed enquiries from Central, including 3 completed enquiries from male respondents and 4 completed enquiries from female respondents. Two people had chosen vegetarian lunch on this particular day in Central and five people ate meat or fish for lunch. It seemed to me that most of the respondents knew the lunch options of Central pretty well, before making the choice about their lunch. One respondent answered that: "I knew that this fish portion is delicious", while another one replied that "I wanted to have this particular dish for lunch today." Five of the seven respondents in Central supported vegetarian days in schools and other places, while the respondents who chose the vegetarian option themselves were against vegetarian days. Six of the respondents were not worried about the food security of meat, while one person was worried about the food security. When asked about favorite foods, majority of the respondents replied that they eat everything and try to keep their diets versatile. Almost half of the respondents expressed that they enjoy eating meat in particular.

5.4 Results in Sodexo Tietotalo Jyväskylä

There were fourteen people taking part in my customer research in Sodexo Tietotalo, including twelve women and two men. Nine of the respondents chose a lunch with meat or fish, and five of the respondents chose a vegetarian lunch. Sodexo Tietotalo was a lunch restaurant with the largest share of vegetarian lunch eaters in this study, with 36 percent of the respondents choosing a vegetarian meal there. Those respondents who chose vegetarian food chose it, because they wanted to eat something light and healthy, the vegetarian option seemed delicious for them, or because they didn't want to eat meat. Those who chose the meat or fish option, chose it because it is more filling and it seemed delicious for them. Eleven out of fourteen consumers in Sodexo were not worried about the food security aspects of meat, while three people were concerned about the food security. A large majority of 13 respondents supported vegetarian day, while only one person was against it. As in other restaurants, also in Sodexo I got a variety of different answers for the question seven about respondents' favorite food. However, many of the consumers

mentioned chicken or fish being their favorite dishes both at home and in restaurant, while not so many was mentioning steaks as their favorite food. The unpopularity of steaks might be due to the fact that in Sodexo, a great majority of the respondents were women and I think it is fair to presume that men are often more into steaks than women. In responses to question eight one respondent reported that vegetarian food in buffet tables is usually very good and filling and that is why she usually favors it at the expense of meat. Although the same respondent continued that the selection of vegetarian food should be wider also while ordering from à la carte list in restaurants. There were also other respondents saying that there should be more variation in vegetarian meals in restaurants and a few respondents found it important that restaurants should also offer more local and organic food.

5.5 Overall results

5.5.1 Results for quantitative questions

By the end of the survey period, data had been collected from 69 individuals, 13 of whom were eating vegetarian meal and 56 of them having the meat meal at their lunch hour. Consequently, people who ate vegetarian food accounted for 19 percent, and people who ate meat for 81 percent of the total respondents. Meat option was chosen by 32 women and 24 men, while vegetarian option was chosen by 12 women and only one man. In all restaurants some people were choosing the vegetarian meal option, but in none of the restaurants people who chose the vegetarian meal were in majority.

While observing the results by different age groups, it is quite remarkable to notice, that in the youngest age group of people under 25 years old, even half of the consumers chose to have a vegetarian meal option. This was an age group where support for vegetarian food was greatest. It is also interesting, that the second youngest age group (25-34 year-old people), gave weakest support for vegetarian food, with only 6 percent of the respondents choosing vegetarian meal for lunch. The higher the age, the bigger is the share of consumers who chose the vegetarian food in this study, apart from the very youngest age group of the study.

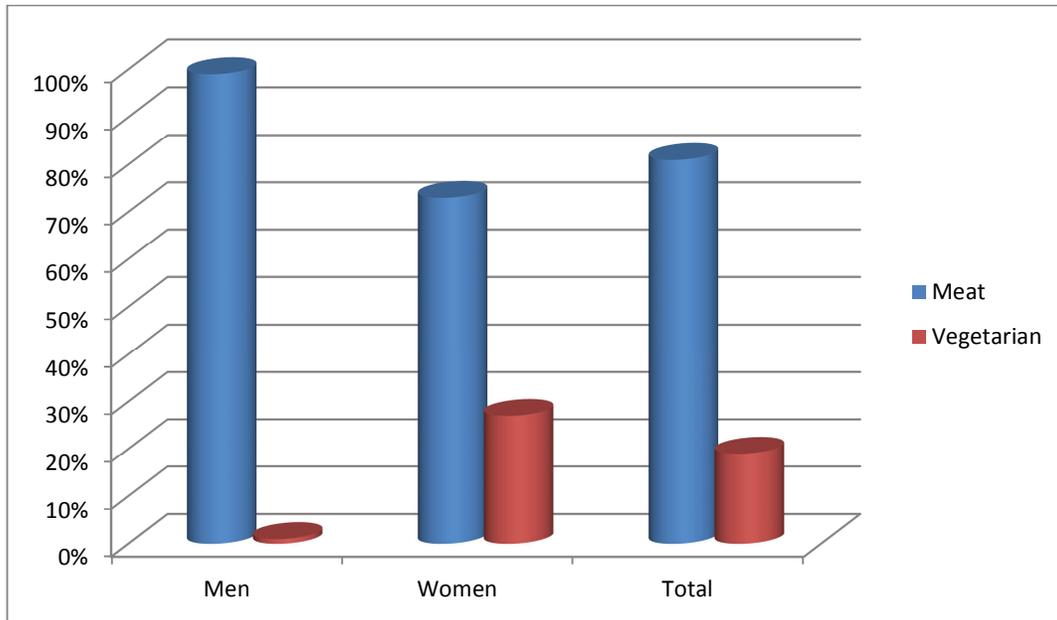


Figure 5: The share of consumers who ate meat and vegetarian food in total and by sex.

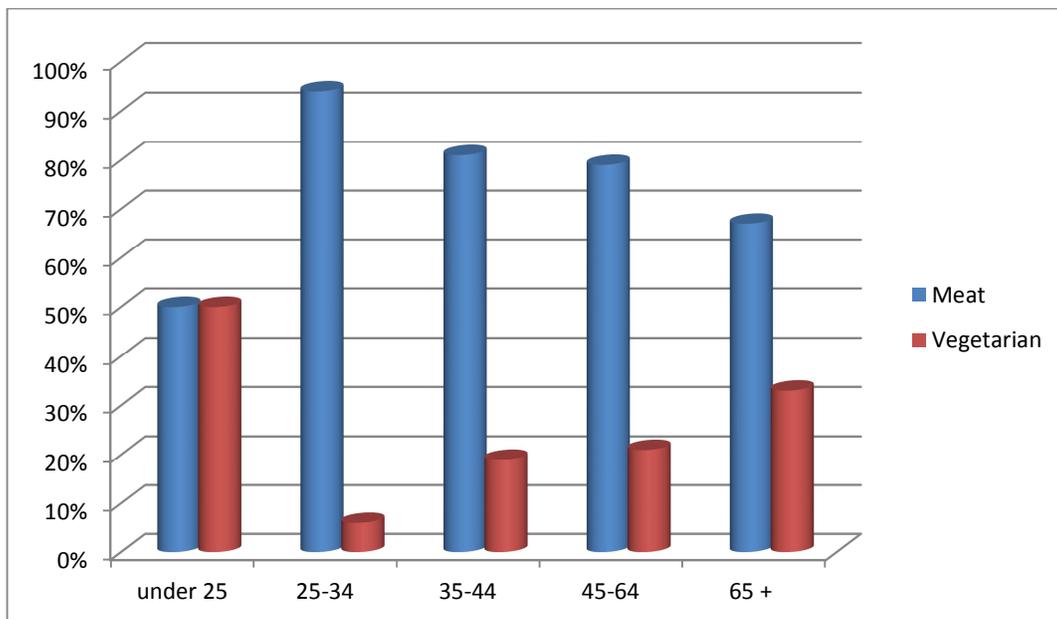


Figure 6: The share of consumers who ate meat and vegetarian food in different age groups.

Taking into consideration my research topic: "How to motivate consumers into more vegetarian diets?", I must put a lot of weight on the respondent's answers for questions three and four. Question number three is asking

respondent to tell what the reasons are for him or her, for choosing a vegetarian meal option instead of meat. In other words, which reasons motivate his or her behaviour to take the vegetarian meal? I gave seven answer options for this question: taste/appearance, price, healthy, ethical reasons, food security, vegetarianism/veganism and lastly, "other reasons" where respondents could define their reasons themselves. Consumers' answers for question three were surprisingly undivided. As can be seen from the Figure 5 below, 33 people, i.e. almost half of the 69 respondents, reported that the good taste or the good appearance of a vegetarian food is a good motivator for them to choose a vegetarian meal. 28 of the participants reported healthiness as a great advantage of the vegetarian food, making it the second most popular answer to this question. In restaurant Martina the healthiness was even seen as a bigger motivator for choosing a vegetarian lunch than the good taste or appearance of the food. The third most popular reason for choosing a vegetarian meal was "ethical reasons", which often meant that the respondent was either a vegetarian or a vegan. According to answers to this question, good taste and healthiness are clearly the most important reasons for consumers to choose a vegetarian meal at a restaurant, while the other reasons were given only a little support.

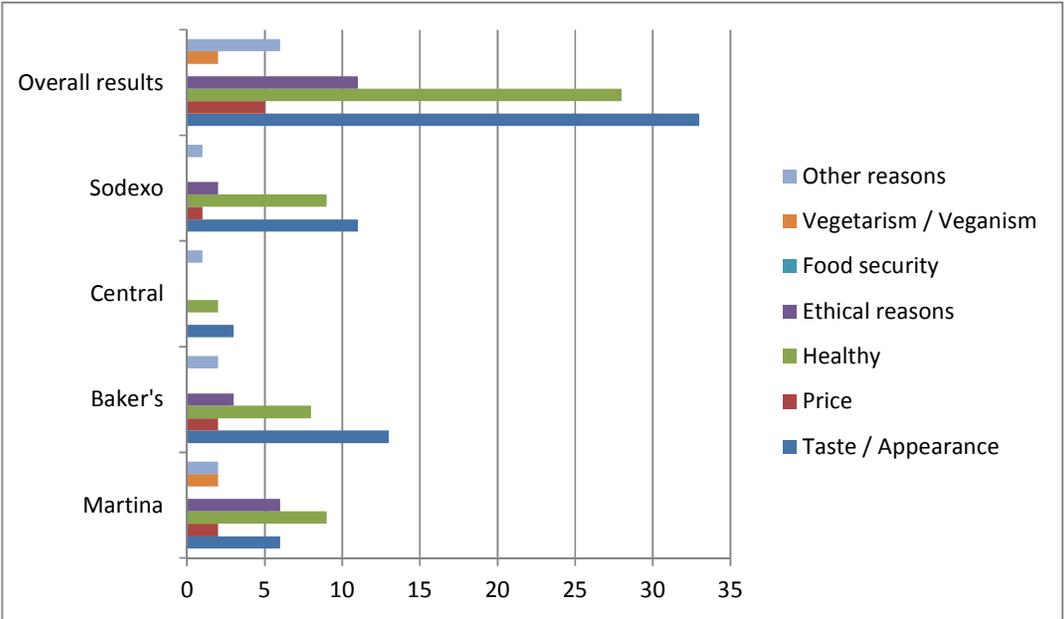


Figure 7: Reasons for choosing vegetarian meal option, instead of meat

In addition to hearing why people want to eat vegetarian food, I was highly interested in knowing why people are not willing to choose the vegetarian meal option. In other words, which factors motivate people to continue eating meat and avoid eating vegetarian food. In question number four, respondents were asked to name reasons why they are not choosing the vegetarian meal option and I gave five answer options for this question:

taste/appearance, price, bad selection, nutritional value/healthy and lastly, "other reasons" where respondents could define their reasons themselves. As shown in the Figure 6 below, the main reason for not choosing a vegetarian meal was the bad selection of vegetarian food. Bad selection was seen as the main reason for not choosing a vegetarian meal in all restaurants and overall 38 respondents selected it as their answer. The second most common reason for not selecting the vegetarian food was the bad taste or appearance of the vegetarian food, which got 18 votes. Other answer options failed to get a lot of support from the respondents, but there were very positive answers while respondents defined their other reasons for not choosing a vegetarian meal. One informant reported that "There are absolutely no good reasons for him to not choose a vegetarian meal." Two respondents replied that they really like vegetarian food and often choose it, but they also like to eat meat and fish dishes every now and then. Some people reported that they have serious vegetable allergies, which often make them choose the meat option instead of the vegetarian meal.

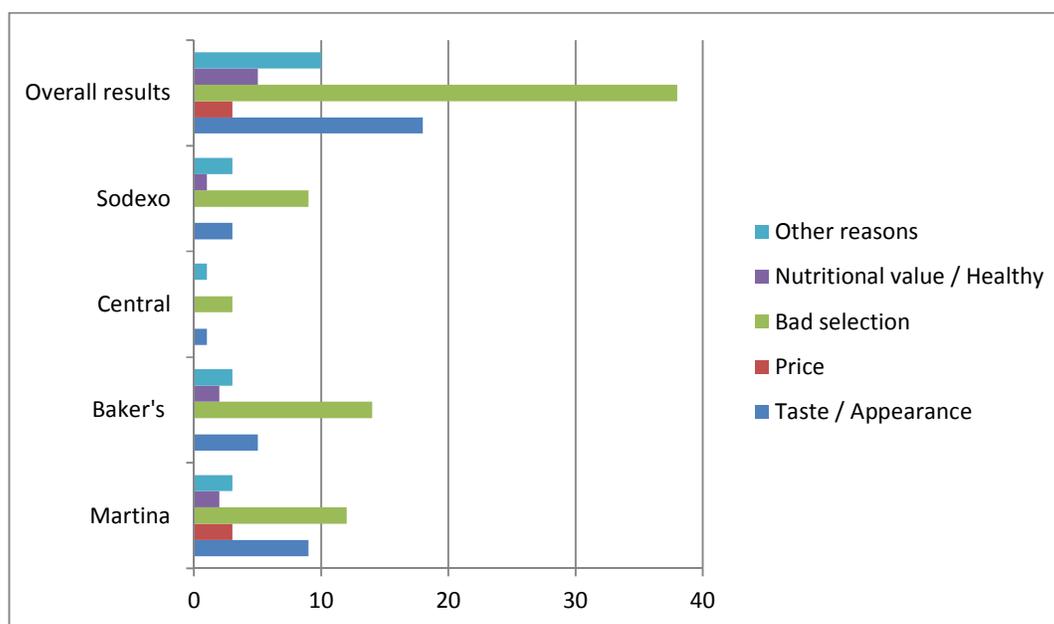


Figure 8: Reasons for not choosing a vegetarian meal option

In question number five respondents were asked about their opinion about a vegetarian day for example, at schools, workplace canteens and in airplanes. In all restaurants where customer research was taken place, the attitude towards vegetarian day was very positive. All in all, 54 people supported the vegetarian day, which is 78 percent of the respondents and only 15 people (22 percent of the respondents) were against the vegetarian day. Response rate for this question was 100 percent, which gives reason to deduce that it was easy for respondents to express their opinion in this question. The single most striking observation to emerge from the data of this question is that

in Restaurant Central those two respondents who chose the vegetarian option for their meal were against a vegetarian day. All the other respondents in Central who themselves were choosing meat on a day of the research were supporting vegetarian day.

In question number seven I was asking how concerned people are about the food security aspects of meat. As the pie chart below shows, 78 percent of the respondents answered that they are not concerned at all about the food security of meat. 21 percent of the respondents answered that they are concerned, and only 1 percent (meaning one person) said that she was very concerned about the food security of meat. Answers to question number seven show very clearly, that the food security of meat, for example, the mad cow disease, the loss of food cold chain etc. is not a big issue for the respondents of this study.

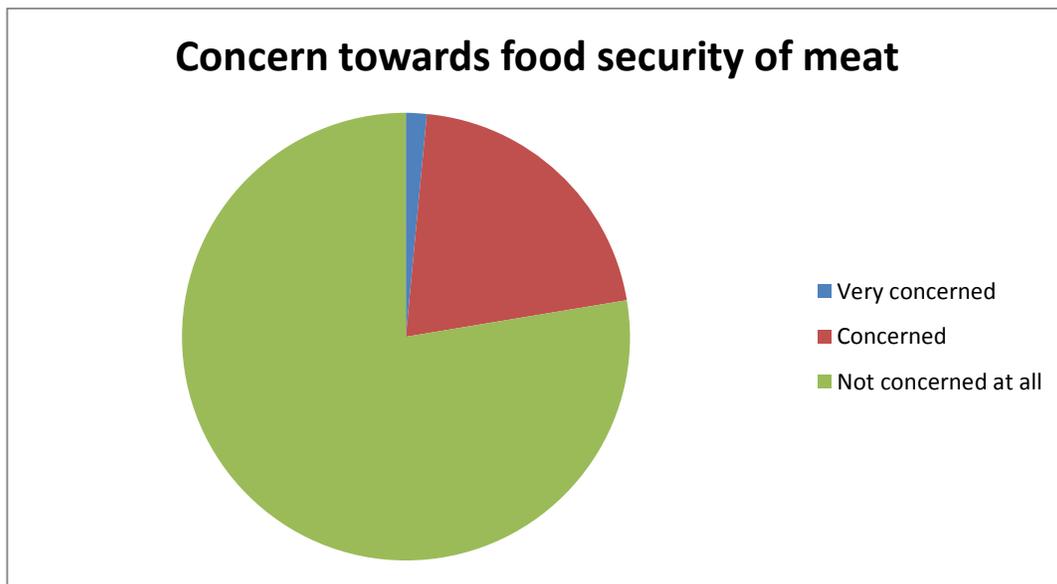


Figure 9: Respondent's concern towards food security of meat

5.5.2 Results for qualitative questions

In question number two, respondents were asked to justify their decision of the meal whether they had chosen a vegetarian option, or a meat option. In all restaurants, most of the respondents were making their decisions depending on which of the meal options seemed tastiest and appealing for them. There were respondents who chose their meal according to health aspects and respondents whose main motive was to eat something very filling, but the taste and appearance were clearly the decisive factors for most of the consumers while choosing the meal for lunch. Therefore it can be also observed, that the answers for question two, are clearly in line with those of question number

three. Only in Baker's there were consumers who didn't know about the existence of vegetarian meal option. Baker's was also the only restaurant where respondents didn't choose the vegetarian meal because they thought they need to wait longer for the vegetarian meal than they would need to wait for the meat option. In other restaurants the availability of the vegetarian food was as good as the availability of meat options.

In question number six questionnaire required respondents to give information on their favorite food a) at home, and b) while eating at restaurants. The overall response rate to this question was not as high as it was in previous questions, probably because some people did not see the connection of this question and other parts of the study. Some people didn't understand the question correctly, and maybe some people just didn't have the time to think about their thoughts on this question. However, my intention on this question was to examine whether consumers' meat eating habits depend on the place where they are eating, and whether eating at a restaurant is encouraging consumers to eat more meat. I received answers from 53 respondents and response to this question was very interesting, while answers varied quite a bit. There was a lot of support for the idea, that people eat easy-going and relatively light food at home, but when they visit a restaurant they want to indulge themselves with different meat dishes like fillet steak, reindeer or lamb. Red meat was the most liked favorite food at restaurants, followed by fish and white meat. At home, the most popular dish is fish, followed by red meat, "homefood", vegetarian food and white meat. All these dishes were almost equally popular among consumers. The most difficult thing to analyze in this question was the term "homefood" which was mentioned by 14 consumers. Home food can be seen as a simple every-day food made in Finnish families, and it can contain pretty much everything. It can be either meat or vegetarian food, and that is why it might slightly distort the results of this question.

It was also interesting to notice that, around half of the respondents wanted to eat light meal on a lunch hour, and other half wanted to eat a very filling and satisfying lunch. In great measure, men wanted to eat filling food and chose meat because of its satisfying features, while women wanted to eat something light, and that's why they chose the vegetarian meal option. From some of the replies, it emerged that the person is eating his or her main meal of the day at lunch, while for some people the main meal would be the dinner eaten in the evening. If the respondent was answering to the question, he or she often gave several options for both for the point-a, and point-b. In this case, all the options were gathered and analyzed. Because there were a lot of different portions mentioned, the portions are categorized and then collected into groups, which are presented in the Figure 9 below. Some individual comments were impossible to categorize under any of the following headings, and therefore I had to exclude them from this analysis.

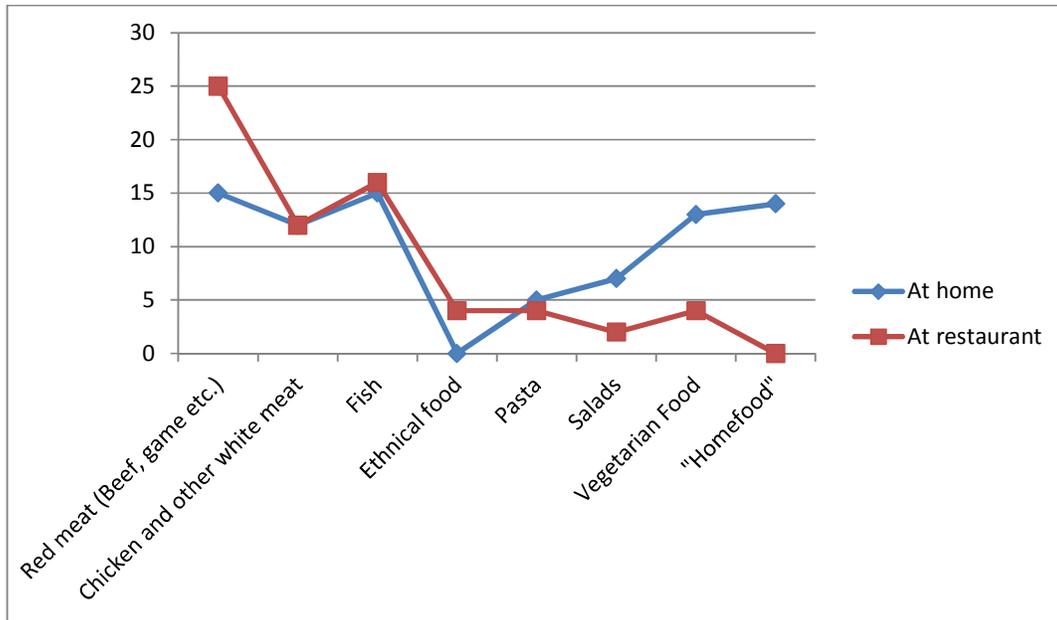


Figure 10: Respondents' favorite food at home and at restaurants

The last question of the consumer research gave respondents an opportunity to share their thoughts about the subject of the study freely. The overall response to this question was pretty low, as it often is with questions like this. It is natural, that it is easier for respondents to answer to pre-formatted questions, than to give their opinion about some subject. I also presume that these kinds of questions are favored by those respondents, who are particularly interested in the theme of the study. These respondents have a strong opinion about the subject and they want express their opinion. However I did get some very good answers to question number eight. Many respondents found that the selection of vegetarian food is very poor in most of the restaurants and they would eat more vegetarian food, if the selection was wider. People also expressed that it is very important for them to favor Finnish food and local food whether the food is animal-based or plant-based. Only two respondents expressed their concern about antibiotics and hormones used in meat production and a few respondents mentioned they are worried about the unethical treatment of animals in the livestock production. I reduced all the answers to the question number eight and formed opinions on the basis of the most popular answers. The most supported opinions can be seen in the table 6 below with a number of respondents supporting these opinions.

Opinion	Number of respondents supporting opinion.
I enjoy eating vegetarian food.	6
Selection of vegetarian food should be wider in restaurants.	5
I prefer local food / Finnish food.	3
The ethics of meat production process worries me.	2
I'm worried about the steroids and antibiotics in meat.	2

Table 6: The most common opinions about the vegetarian food

5.5.3 An overview of the results

Overall, these results indicate that most of the customers have a positive attitude towards vegetarian food and most of the people can imagine themselves having a vegetarian meal while they are eating at a restaurant. The vast majority of the respondents support vegetarian days at schools, workplace canteens and in airplanes, and they don't seem to have serious motivational reasons to avoid vegetarian food. On the other hand, respondents of the study also have a very positive attitude towards meat and generally speaking they do not have a great motivation to avoid meat. It was easy to deduce from the results of the study, that the standard of living is relatively high in Finland, which means that a large majority of the people can afford meat or fish dishes and the price is not the reason to eat vegetarian food for many. Consumers also have a lot of confidence in the food security of meat. This is maybe due to the fact that there have not been serious scandals related to meat products or meat production in Finland lately. Consumers brought up a confidence particularly in Finnish food, while foreign food did not get any particular praise. The answers and acceptance of my customer research were very constructive in all restaurants. Restaurants offered great facilities for my research work and respondents gave me a lot of positive and encouraging feedback on my research.

6. DISCUSSION AND CONCLUSIONS

6.1 Limitations

Before comparison to the previous research and conclusions it is important to draw attention to the possible limitations of the study. First, it was observed while giving in the enquiry form in different restaurants that some customers seemed to have negative thoughts towards vegetarian diets. These people were not interested in answering the enquiry at all. It was also noted that customers who were following some sort of a vegetarian or vegan diet, were very interested to take part in the study and answer the enquiry. Hence it is possible that people with a positive attitude towards vegetarian diets were more willing to take part in the enquiry than those who had negative attitude towards vegetarian diets. This might also distort the results of the study.

Second, it must be pointed out, that the research sample of this study was not very extensive. It would be important in the following studies to employ more respondents to get a wider research sample. Maybe by offering some financial incentives the research sample would grow. Financial incentives could also motivate people with a negative attitude towards vegetarian food to take part in the study more actively.

Third, there were no questions about the respondents' family background and living conditions in the enquiry. While analyzing the data, I realized that it could have been interesting to know whether the people responding the enquiry are living alone or do they have families, because surely single people and people with families have different kind of eating habits. For single people living alone, the lunch time dining can be the only warm meal during the day, while people with families often eat a warm meal also at home in the evening. Probably the importance of the lunch time catering increases, if it is the only time during the day that a person is eating a proper (warm) meal.

6.2 Comparison to previous research

The overall response to this enquiry was very positive and it can be stated that respondents had mainly positive thoughts about vegetarian food. These findings are in agreement with the study of Povey, R., Wellens, B. & Conner, M. (2001) about attitudes towards following meat, vegetarian and vegan diets. The findings of Povey et al. showed that people who are following different kind of diets have usually a positive attitude towards vegetarian diet. Vegetarian diet can be seen as a compromise between a vegan diet and a diet including meat and that is why vegans as well as people eating meat can feel positive about vegetarian food. Povey et al. also suggest that the public knowledge about vegetarianism and vegetarian food is growing, which is leading to its increasing acceptance towards it. This assertion is supported by my consumer research, which clearly represents that consumers have a lot of information about vegetarian food and its benefits. (Povey et al. 2001)

The current study found that good taste and healthiness are the most important motivators for a consumer to choose a vegetarian meal at the restaurant instead of meat. These results are in agreement with those obtained in the study about climate friendly meals in restaurants by Roininen et al. (2014). According to Roininen et al. consumers are not often choosing their meals on the basis of environmental impacts. Instead, environmentally friendly meals should be especially appealing and tasteful for the consumers, so that they could compete with the conventional meal options. In equal situation though, the environmental aspect of a vegetarian food can solve the game in favor of vegetarian food.

However, the findings of the question five do not support the previous research by Lombardini & Lankoski (2012) and Junnilainen (2011). In the current study, people's attitudes towards vegetarian day were very positive, with 78 percent of the respondents supporting the vegetarian day. In the previous studies, many consumers had very determinedly against vegetarian day. A possible explanation for this might be that consumers have got used to the idea of a vegetarian day during the last few years and that is why it doesn't evoke such a great emotions.

6.3 Conclusions

Population growth, climate change and the carrying capacity of the environment forces us to think of new, more ecological ways to live on this planet. The main goal of the current study was to determine those reasons that motivate consumers to choose a vegetarian meal in a restaurant. It has been examined, that a vegetarian diet is much more environmentally friendly than a meat-oriented diet. It has also been studied, that learned behaviors can be

difficult to change, and for that reason it might be also difficult to change consumer's eating habits. The rationale on which people select their food is complicated, while it is based on many objectives and decisions which are influenced by society, religion, cultural factors, personal preferences and availability. Finnish public catering has an important role in contributing healthy and environmentally friendly eating habits among Finnish people, as it serves food for thousands of Finnish consumers every day. On the other hand, the role of individual restaurants cannot be underestimated in motivating people to eat more vegetarian food, because no individual organization can be fully responsible for promoting vegetarian food and changing consumer's eating habits.

This study has shown that Finnish consumers eat a lot of meat, because they like it, and they do not often have a great motivation to avoid it. Consumers do not tend to worry about the food security issues of meat, nor do they have, to a great extent, ethical problems concerning meat production. But the findings of this study also indicate that Finnish consumers are positively oriented towards vegetarian food. Unfortunately, positive attitude do not always translate into serious efforts at eating more vegetarian food and cutting down consumer's meat consumption. There must be other motivators as well. However, it was shown in this research that consumers can be motivated towards more vegetarian diets by focusing on the good taste, availability and healthiness of the vegetarian food. According to this study, as well as other studies in this scientific field, good taste and attractiveness are the main advantages of vegetarian food in the struggle against the meat dishes.

6.4 Suggestions for further research

In the past few years, there has been a lot of discussion in the world about insect eating, and I strongly believe this is also an important topic for future research. According to the report *Edible insects – Future prospects for food and feed security* by Food and Agriculture Organization of the United Nations, insects have always been a part of human diets, but for some reason many societies have become very distant with the idea of insect eating. In western societies insect eating has been, and still is, a taboo with many westernized people reacting on it with an immediate horror and disgust. At present, insects are mainly eaten in the Southeast Asia, and in Central and Southern Africa. The most commonly consumed insects in the world are beetles, followed by caterpillars, bees, wasp and ants. (FAO 2013)

As we are trying to find new ways to feed growing population on our planet, where the oceans are overfished and arable land is diminishing, insect eating could be one solution. Depending on the species, insects can be completely fine and healthy nutrition for human beings as a great source of protein, fiber, fat, vitamins and minerals. A number of people have noted that

insects can taste delicious and they are also easy to cook. Producing insects emits less greenhouse gases and provides less land and water as traditional livestock, such as cattle and pigs. Collecting, processing and selling insects can be done with the most modest technical equipment and with only a little monetary investment. Hence gathering and rearing of insects can offer livelihood opportunities, especially for the poorest people in developed and in developing countries and thus improve their standard of living. Insects can be also used as a feed in aquaculture and in the livestock production replacing fishmeal and soy. (FAO 2013; HS 2015)

Unlike many other areas of food production, the research of edible insects is at the pioneer stage which offers a great opportunity for new research. Important topics for a future research could be, for example, the examination of the nutritional value of different insect species, investigation of the socio-economic benefits of insect gathering/farming/selling and exploring the environmental impacts of insect production. Edible insects should be examined from the perspective of many different disciplines, at least from the point of environmental sciences, health sciences, social sciences, law and economic sciences. (FAO 2013; HS 2015)

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APPENDICES

Appendix I – Kuluttajatutkimus - Consumer Research

KULUTTAJATUTKIMUS PRO GRADU-TUTKIELMAAN Heidi Rosala – Jyväskylän yliopiston kauppakorkeakoulu

1. Valitsitko tänään kasvisruokavaihtoehdon?
 - a. Kyllä
 - b. Ei

2. Miksi valitsit kasvisvaihtoehdon / lihavaihtoehdon tänään?

3. Miksi valitsisit kasvisruoan liharuoan sijasta?
 - a. Maku / Ulkonäkö
 - b. Hinta
 - c. Terveydelliset syyt
 - d. Eettiset syyt
 - e. Ruokaturvallisuus
 - f. Olen kasvissyöjä / vegaani
 - g. Muut syyt: Mitkä?

4. Miksi et söisi kasvisruokaa?
 - a. Maku / Ulkonäkö
 - b. Hinta
 - c. Huono valikoima
 - d. Ravintoarvot, ravitsevuus, terveellisyys
 - e. Muut syyt: Mitkä?

5. Kannatatko kasvisruokapäiviä esim. kouluissa, työpaikkaruokaloissa ja lentokoneissa?
 - a. Kyllä
 - b. Ei

6. Mitä syöt mieluiten:
 - a. Kotona?
 - b. Ruokaillessasi ravintolassa?

7. Oletko huolestunut liharuoan turvallisuudesta (esim. hullun lehmän tauti, ruoan kylmäketjun katkeaminen jne.)?
 - a. Todella huolestunut
 - b. Huolestunut
 - c. Ei lainkaan huolestunut

8. Sana on vapaa.

Sukupuoli ja ikäryhmä: (Ympyröi oikeat vaihtoehdot)

Sukupuoli: Nainen Mies

Ikäryhmä: alle 25 v 25-34 v 35-44 v 45-64 v 65+