

Business related knowledge and skills identified as needed among green micro-entrepreneurs in the Swedish Central Baltic region

NatureBizz Working Report - Sweden

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Sammanfattning

NatureBizz är ett treårigt EU-finansierat Interreg Central Baltic-projekt som löper mellan mars 2018 och oktober 2021. Målet med projektet är att stödja tillväxten och konkurrenskraften hos gröna mikroföretag genom att identifiera och förbättra relevanta och nödvändiga affärsrelaterade färdigheter i de deltagande länderna Sverige, Finland, Estland och Lettland. Som en del av NatureBizz projektets första fas är syftet med den här studien att identifiera kunskaper och färdigheter som behövs av svenska gröna mikroföretagare för att de ska lyckas utveckla lokala naturresurser till hållbara produkter, tjänster, upplevelser och lönsamma affärsverksamheter.

Studiens underlag består av sekundärdata och primärdata. Både primär- och sekundärdataanalysen indikerar att det finns behov av kompetenshöjande åtgärder bland gröna mikroföretagare. Detta framförallt när det gäller tillämpbara kunskaper inom management, marknadsföring, försäljning, offentlig upphandling och prissättning för mikroföretagare. Språk, värdeskapande, tjänste- och upplevelsedesign för mikroföretagare är områden där kompetensutveckling kan behövas, likaså när det gäller kvalitet och hållbarhet samt relations- och nätverksskapande för mikroföretagare. Vad gäller befintliga utbildningar och utbildningsmoduler inom dessa kunskapsfält finns det ett antal på gymnasial och eftergymnasial nivå samt även några på högskolenivå som erbjuder utbildning inom något eller några av kunskapsfälten. Även LRF och klustret Grönt Centrum på Gotland erbjuder kurser och kursmoduler inom några av ovan nämnda kunskapsfält. Denna studie har inte funnit några distansutbildningar som riktar sig till yrkesverksamma gröna mikroentreprenörer för att höja sina tillämpbara kunskaper med inriktning mot företagsekonomi, management, värdeskapande, tjänste- och upplevelsedesign, relationer, nätverk, hållbarhet och kvalitet för mikroföretagare. Något som framkommit i intervjuerna är att mikroentreprenörer har ett stort yrkeskunnande, att deras tid är en knapp resurs samt att det är en högst utmanande uppgift att uppnå god lönsamhet i affärsverksamheten.

Kompetensutvecklingsbehovet varierar från mikroföretagare till mikroföretagare, men att tillämpbara kursmoduler inom traditionella företagsekonomiska kunskapsområden, såsom management och marknadsföring i kombination med försäljning, offentlig upphandling, prissättning, värdeskapande, tjänste- och upplevelsedesign, hållbarhet, kvalitet samt relationer och nätverk, skulle kunna vara verktyg för att bistå de gröna mikroentreprenörerna att stärka sina affärsverksamheter. Då tiden upplevs vara en mycket knapp resurs kan onlinebaserade kurser vara att rekommendera, helst i kombination med fysiska träffar där nätverksbyggande och gemensamt problemlösande och lärande inkluderas. Eventuella studieresor och träffar behöver genomföras under lågsäsong i relation till entreprenörernas verksamhet, förslagsvis i februari.

Abstract

NatureBizz is a three-year EU-funded Interreg Central Baltic project that runs between March 2018 and October 2021. The objective of the project is to support the growth and competitiveness of green micro enterprises by identifying and improving relevant and necessary business-related skills in participating countries Sweden, Finland, Estonia and Latvia. As part of the NatureBizz project's first phase, the purpose of this study is to identify the knowledge and skills needed by Swedish green micro enterprises to succeed in developing local natural resources for sustainable products, services, experiences and profitable business activities.

The basis of the study consists of secondary data and primary data. Both the primary and secondary data indicate that there is a need for improved skills among green micro entrepreneurs. The need for improved knowledge applies above all with knowledge in management, marketing, sales, public procurement and pricing for green micro-entrepreneurs. Even languages, value creation, service and experience design for micro entrepreneurs are areas where improved skills may be needed. Similarly, quality and sustainability, as well as relationships and networking are areas where improved skills are needed for green micro entrepreneurs. There are several existing education and training modules in these fields of knowledge at upper secondary and post-graduate level as well as some at university level that offer education in some of these fields of knowledge. LRF and Grönt Centrum on Gotland also offer courses and course modules within some of the above-mentioned fields of knowledge. This study has not found any distance education aimed at professional green micro entrepreneurs to enhance their applied knowledge with business, management, value creation, service and experience design, relationships and networks, as well as sustainability and quality for green micro entrepreneurs. An impression from the interviews is that green micro entrepreneurs have profound professional skills, that their time is a scarce resource and that it is a most challenging task to achieve good business profitability.

The needed development of skills varies from one micro entrepreneur to another micro entrepreneur, but offering applicable modules in traditional business areas, such as management and marketing combined with sales, public procurement and pricing, value creation, service and experience design, sustainability and quality as well as relationships and networks could be tools to assist the green micro entrepreneurs to strengthen their business operations. As time is perceived to be a very scarce resource, online-based courses can be recommended, preferably in combination with physical meetings where networking and mutual problem solving, and learning are included. Any study sessions and meetings need to be carried out during the off season in relation to the entrepreneurs' activities, preferably in February.

1. Introduction

The growth of green sector markets could offer new business opportunities and jobs, but it may also require new approaches from micro-entrepreneurs. New market conditions demand new skills, and dynamic entrepreneurs to foster growth, to exploit business opportunities and to create sustainable product, service and experience offerings from natural resources.

The NatureBizz project is a three-year EU-funded Interreg Central Baltic project running between March 2018 and October 2021. The project's objective is to support growth and competitiveness of green micro-businesses by identifying and improving relevant and needed business related skills in the participating countries Sweden, Finland, Estonia, and Latvia.

In the NatureBizz project, green micro-entrepreneurship and green micro-enterprises are defined as “Business activities related to development of sustainable, small-scale products and services based on local natural resources that also contribute to human wellbeing. This includes different sectors: e.g. nature-based wellbeing services, super-/biofood, biocosmetics, eco-friendly handicraft, nature-based experiences. Green products are also utilized when producing services, thus the connection with nature is relevant during the whole business process” (NatureBizz, project plan, p. 5).

In the first phase of the NatureBizz project, relevant and needed skills and knowledge in green micro-entrepreneurship and business development are being identified and aligned between the partnering countries. This report is constituting part results of this assignment, comprising the identified needed business skills and knowledge among green micro-entrepreneurs in the Swedish Central Baltic region. Based on this Swedish country report along with the reports produced in Finland, Estonia and Latvia, a professional training program (approximately 20 ECTS credits) with a curriculum, courses, and connected study material will be designed and implemented for green micro-entrepreneurs in the Central Baltic region. The training program will be designed, developed and implemented collaboratively by the Swedish, Finnish, Estonian and Latvian partnering universities mainly as online studies. The three phases of the NatureBizz project is illustrated in figure 1.1 here below.

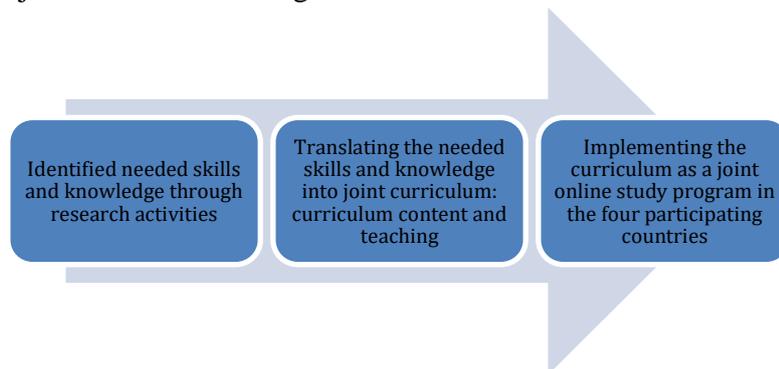


Figure 1.1 The three phases of the project NatureBizz, (NatureBizz, project plan)

The aim of this country report, as part of the first phase of the NatureBizz project is to identify knowledge and skills identified as relevant and needed by Swedish green micro-entrepreneurs to support them to manage their business activities. This aim aligns with Sweden's expected contributions to the NatureBizz project. The aim has been met by gathering and analyzing secondary data that can relate to the topic of Swedish green micro-entrepreneurship. Knowledge, information and experiences have also been gathered by interviewing eight Swedish green micro-entrepreneurs and six green interest and umbrella organizations.

1.1 Green micro-sized enterprises in Sweden

Sweden has many so called micro-sized entrepreneurs. Approximately 96 % of all enterprises in Sweden have 0-9 employees, of which 73,2% are sole proprietors and 23,1% are micro-sized enterprises with 1-9 employees (Statistiska Centralbyrån, no date). Sweden also has large amounts of natural resources, for example in the form of forest, iron ore, and hydropower. Sweden is the only major iron ore exporter in the EU and the country is also one of the largest exporters of paper, pulp and wood products in the world. (Utrikespolitiska Institutet, no date)

Other main industries based on natural resources are agriculture and fishery, industries which harbor many micro-entrepreneurs. Like the other Scandinavian countries, Sweden has many lakes and forests, which is often a necessity for businesses based on natural resources. In Sweden, the right of access applies, which means, among other things, that visitors in the Swedish nature could travel freely in privately owned landscapes. People can visit, camp one night, hike, and for example pick berries or mushrooms in forests and fields owned by someone else. This gives rise to opportunities for certain types of entrepreneurship based on natural resources, including tourism and experience offerings (cf. Skogsstyrelsen, no date). Part of this visiting industry, sustainable tourism engages many micro-entrepreneurs, such commitment is for example seen in the article "How Sweden will be the world's most sustainable destination" in Cision Wire (Cision Wire, 2017).

On a local and regional level, natural resources can be viewed as something that makes an area more attractive (cf. Johansson, 2017; Norran, 2017). Natural resources are however also associated with conflicts such as the right to use land, who should own land and a certain antagonism between small farmers and larger companies. Examples of articles with these themes are "System Critical Analysis of Agriculture" in *Miljömagasinet* (Björk et al. 2017) and "Something galls in Swedish Nature Conservation" in *Jord & Skog* (Östensson, 2017). Several texts concerns issues related to environment and climate (cf. Arnbom, 2017; Lindström, 2017). Another theme often associated with natural resources and green entrepreneurship in Sweden is technical innovation, such as Agtech (cf. Lindblom, 2017).

An increasing interest for consumption of green and sustainable products and services has been observed both internationally and in Sweden (e.g. Lantbrukarnas Riksförbund, 2017; Hagelin, 2015; Sveriges Radio, 2014; CSR i praktiken, 2009; Sweden.se, no date). The interest for green issues in Sweden is relatively high in comparison to other European countries (European Commission, 2014). Sweden is ranked first in the EU when it comes to consumption of organic foods, recycling drink cans and bottles as well as having the highest share of its energy from renewable sources. In Europe, the organic food market is growing by 5-7 per cent yearly, and Sweden is ranked highest in this index. According to a study by the European Commission, 40 percent of the Swedes have purchased an eco-labeled item in the past month. (Sweden.se, no date) This is in line with research results indicating that consumers in economically more developed regions tend to prefer locally produced food in comparison to consumers in economically less developed regions (Jadřůvová et al. 2018). Sweden is a country that tend to perform well in for example OECD's index for wellbeing (OECD Better life index, no date). Swedish companies have also been observed as keen on producing green and ecological products and services (Lantbrukarnas Riksförbund, 2017; Bové, 2016). Therefore, attaining a high level of green consumerisms in Sweden does make the Swedish green market interesting to study, and to study Swedish green entrepreneurs and their experiences from being active on the green market. Such studies could bring better predictions and knowledge about green consumerism and green entrepreneurship in Sweden, the Central Baltic region as well as in general.

2. Data collection and analysis

The research design involves data collection in two steps. The first step included searching for, selecting and analyzing secondary data with relevance for the aim of the study. Recent and relevant national and regional green sector strategies and green sector-related reports were used (N=12). Additionally, around twenty non-published and non-official reports and documents created by LRF, Macklean (an LRF owned management consultancy firm focused on green business), and food industry consultant Wikström, Lennart at Cultimedia Information AB have also been analyzed. Current and relevant green curricula (N=6), targeting green entrepreneurship and business studies have also been selected and studied, as well as peer reviewed research articles, popular research and students' literature and theses (N=22) with the theme of natural resources, sustainability and green micro-entrepreneurship.

In a second step, empirical data was gathered by conducting interviews (N=14). One group of the respondents represent the following kind of organizations: business development organizations, sectoral agencies, and umbrella interest organizations supporting green micro-sized enterprises (N=6). Additionally, green micro-entrepreneurs (N=8) were interviewed. The primary selection criteria were the locality of the micro-entrepreneur and the type of business activities. Region Gotland and Roslagen were the regions chosen. The reason for choosing these two regions, was that both host many green micro-entrepreneurs, both of them host the above defined organizations, and both of them belong to the region defined by the Interreg Central Baltic programme. Based on the above-mentioned selection criteria, the interviewed organizations and micro-entrepreneurs were selected through a snowball search method.

The interviews were semi-structured with a framework of questions and themes related to the aim of the study. The interviews performed with the support organizations and the ones performed with micro-entrepreneurs were constructed with different interview guides. The same interview guide made up the foundation for all interviews within the category (organization or micro-entrepreneur), however focus and wording have varied to some extent depending on the nature and context of the organization, micro-enterprise, and micro-entrepreneur. The interview guides are enclosed in appendices 1 and 2. The same two interview guides have been used in all four partnering countries (Sweden, Finland, Estonia, and Latvia). The interviews included open-ended questions to identify ways of seeing and understanding the topic from the perspective of the respondents as that gave the informants freedom to express their views in their own terms. Follow-up questions and additional questions have frequently been asked, depending on the context. The interviews in Norrtälje were undertaken in May and June 2018, and the ones on Gotland in August 2018. One or two of the project members participated in each interview. Notes were taken. Later the notes were transcribed and sent to the respondents for verifying and commenting. The length of the interviews with the organizations ranged from one to two hours, and the interviews with the micro-entrepreneurs ranged from two to almost four hours.

The secondary data and the interview notes were analyzed with an approach of qualitative content analysis in order to identify themes and patterns. According to Krippendorff (2013), content analysis is a research technique for making replicable and valid inferences from texts. In this study, the qualitative content analysis was about systematically transforming large amount of texts into an organized and concise summary of key findings. The analysis was inductive, following the coding techniques of Miles and Huberman (1994), whereas new categories were formulated out of the studied data.

Firstly, considering the aim of the study, relevant secondary data was searched for, reviewed and analyzed. Secondly, empirical interview data with micro-entrepreneurs and umbrella and support organizations was collected and analyzed. Thirdly, all data was combined and analyzed. All the texts were read through several times to acquire a sense of the whole and to identify essential features of the content for further analysis. The texts were divided into meaning units; sentences related to skills and knowledge were defined as needed by the micro-entrepreneurs to develop local natural resources into business activities. The texts were reviewed line by line and codes were generated with an inductive coding system, groups of content that share a commonality (cf. Krippendorff, 2013) A constant comparative method was used, where each text was compared with each of those texts already assigned to that category. The aim of grouping the data this way was to reduce the number of categories and create overarching themes. An illustration of the data collection and analysis material is found in figure 2.2. here below.

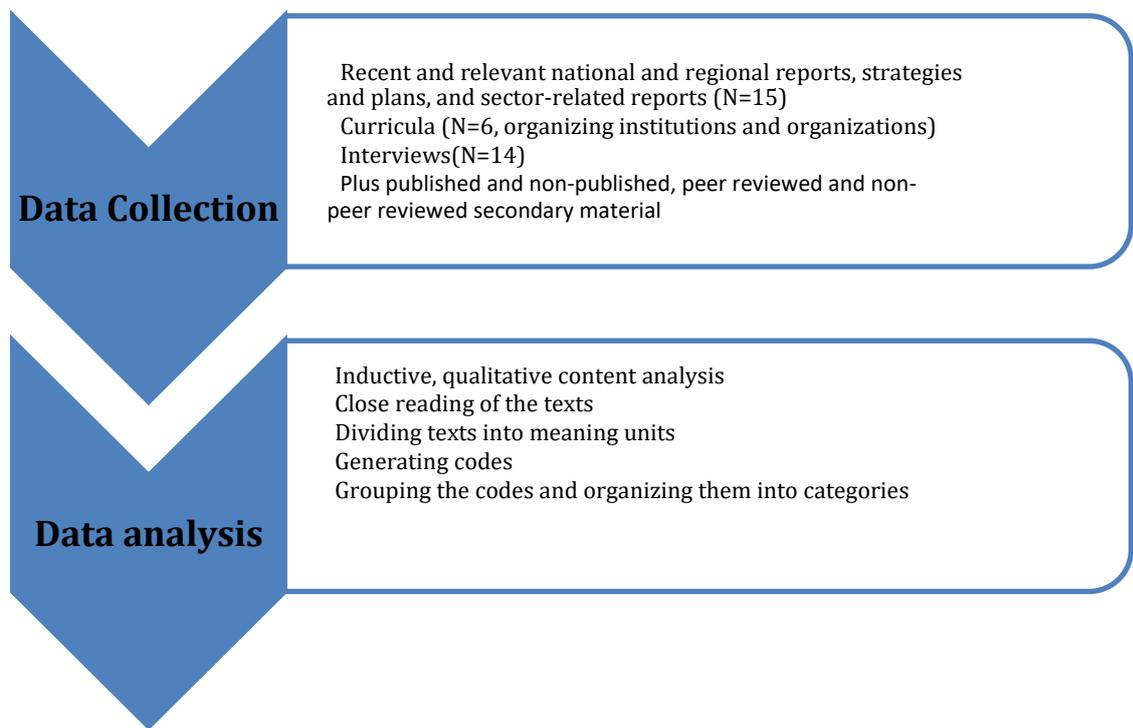


Figure 2.2. Data collection and analysis material

2.1 Ethical considerations

The respondents have been informed about the project NatureBizz and its purpose before the interviews took place. After the interviews, the respondents were given the possibility to read the transcribed interviews, and if desired to make comments and propose corrections to the texts.

3. Secondary data analysis about green micro-entrepreneurship connected to natural resources in Sweden

3.1 National, regional, and sector-related reports, strategies and plans

A content analysis (as further described here above in section 2) of the below listed fourteen recent and relevant national and regional reports, plans, and strategies and sector-related reports has been made.

1. Region Gotland. (2018). *Regional Visiting Strategy for Gotland. 2017 - 2027. Established by the regional board* (translated title).
2. Region Gotland. (2016a). *A regional food and provision strategy for Gotland 2016 - 2025. Food and Provision Industries - a strengthening area for development and growth on Gotland* (translated title).
3. Region Gotland. (2016b). *Action plan for: A regional food and provision strategy for Gotland 2016 - 2025. Food and Provision Industries - a strengthening area for development and growth on Gotland* (translated title).
4. Region Gotland. (2015). *Growth Program for Gotland 2016-2020, RS 2015/831. Executive Office. Regional Assembly Version 161121* (translated title).
5. Swedish Agency for Economic and Regional Growth. (2016). *Expertise and competence requirements in Swedish visitors' industry* (translated title).
6. Swedish Board of Agriculture (2012), *Swedish aquaculture - a green nutrition on blue fields. Strategy 2012 - 2020* (translated title).
7. Swedish Board of Agriculture (2011). *Agriculture in figures years 1866-2007* (translated title).
8. The Federation of Swedish Farmers (Lantbrukarnas Riksförbund). (2018). *Green entrepreneur. Business opportunities in the whole country* (translated title).
9. The Federation of Swedish Farmers (Lantbrukarnas Riksförbund). (2017). *Sweden as eco country - analysis of ecological farming in Sweden* (translated title).
10. The Federation of Swedish Farmers (Lantbrukarnas Riksförbund). (2014). *The green industries' business at farm level* (translated title).
11. The Federation of Swedish Farmers (Lantbrukarnas Riksförbund). (2011). *Green Entrepreneurship 2011, construction, horse operations, small-scale food business, tourism and energy. 9202 entrepreneurs on profitability, investment and the future* (translated title).

12. The Horse Industry's National Foundation (Westholm, 2015). *Tomorrow's horse job and education. An analysis of social trends and developmental factors that affect the horse industry's labor market and education* (translated title).
13. The Rural Network. (Wigren-Kristoferson, 2012). *What can the Wool Ram Reward winners teach us?* (translated title).
14. The Swedish Energy Agency. (2018). *The road to a 100 percent renewable electrical system. Part 1: The future of the future and Sweden's prerequisites* (translated title).
15. Vreta Kluster (Oscarsson and Ström, 2014). *The green industries - a future industry* (translated title).

Additional written reports, and around twenty non-published and non-official reports, have also been considered. This additional material consists of documents created by LRF, the food industry consultants Macklean, and Wikström at Cultimedia Information AB.

Green enterprises using natural resources as a base for their business activities in Sweden are commonly bundled under the label The green industries (De gröna näringarna). The Federation of Swedish Farmers (Lantbrukarnas Riksförbund, 2014) define the green industries as “Businesses with land, forest, garden and countryside environment as a base for business activities”. 63 different business activities in more than 30 industries is identified, including for example food production, fishery, dairy production, gardening cultivation, contracting/outsourcing, crop production, tourism, healthcare and caregiving, energy, and forestry. 90 000 of the green industry enterprises, most of them micro enterprises with between 0-9 employees, are members of LRF. Many of the green micro-entrepreneurs have diversified their business into several businesses, so called “combiners” (kombinatörer). On an average, a small green industry company is running 3,4 different businesses (Lantbrukarnas Riksförbund, 2014).

National statistics indicate that there has been a decreasing number of farmers, (defined as entrepreneurs with more than two hectares of land) in Sweden over the last 100 years. The farming industry has also been under pressure of technological changes, where for example the number of owned machines has been increasing, while numbers of employees and sales of mineral fertilizers and insecticides has been decreasing (Jordbruksverket, 2011).

Another term related to green business and green industries is bioeconomy. The bioeconomy comprises those parts of the economy that use renewable biological resources from land and sea – such as crops, forests, fish, animals and microorganisms – to produce food, materials and energy (European Commission, 2018). The term is much used in policy and research, however seemingly not in the business vocabulary.

A term that appears to have gained popularity is water cultivation, which refers to the cultivation of animals and plants in water. Although quite small when it comes to water cultivation business activities in Sweden today, this has been defined as a potentially upcoming industry in Sweden. A national strategy for it has been presented by the Swedish Board of Agriculture (Jordbruksverket, 2012).

An especially common term in the studied regional strategies and sector related reports is sustainable tourism. Here defined as a “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” (UNWTO, no date). Food security is a term referring to food supply and how to sustain that. This field is sometimes ideationally in opposition to other areas of sustainability such as growing more ecological and GMO-free crops. This opposition is however mostly noticeable in research (cf. von Bothmer, Fagerström and Jansson, 2015; Reed, 2010; Saifi, 2004). Green energy appears as a growing industry, also for micro-entrepreneurs in Sweden (LRF, 2018) and is commonly mentioned both in business contexts and in research. The Swedish Energy Agency (2018) wrote in the report ‘The road to a 100 percent renewable electrical system. Part 1: The future of the future and Sweden's prerequisites’ that there is a target of 100 percent renewable electricity by 2040 in Sweden (Statens Energimyndighet, 2018, p. 42).

Labeling and certifications related to sustainability seem to be of importance in Sweden. One could see different levels of requirements in different types of labels and certifications. The interest in labels and certifications related to sustainability can, in turn, explain why words such as ecological, eco, eco-friendly, and organic have become more common. These words are often associated with the certifications that often use different definitions and requirements for labeling and certifications. One common and well-known ecological label and certification in Sweden when it comes to food production, including restaurants, is KRAV. According to the homepage of the organization KRAV, it has been a key player in the organic market in Sweden since 1985 and the KRAV-label is claimed to stand for (KRAV. No date.):

- Sound, natural environment
- Solid care for animals
- Good health
- Social responsibility

Parallel to an interest in products, services, and experiences produced in sustainable ways, the studied secondary data indicates that there is an increasing interest for local production and consumption, especially when it comes to food production and consumption. Locally produced and consumed products, services, and experiences are shown particular interest in the regional strategies. Besides, animal well-being is a recurring theme in the studied secondary data material.

3.2 Research, popular science, and student theses

Sustainability in research is interpreted in different ways, a specific division is between a “green” perspective and a more ecological perspective (cf. Saifi, 2004; Andersson et al. 1997) and the food security perspective where focus lies on technical development, GMO and conventional farming (cf. von Bothmer, Fagerström and Jansson, 2015; Kirchmann et al. 2014; Pretty, 2008). Among the research focuses some are more common: toxics within the farming industry (cf. Costa et al. 2014; Puech et al. 2014), the need for legal knowledge (cf. McKeon, 2015; Argyropoulos et al. 2013) as well as knowledge about the market (Rundgren, 2016; McKeon, 2015; Argyropoulos et al. 2013; Saifi, 2004), the understanding of green consumers (Aslihan and Karakaya, 2014; Nasir and Karakaya, 2014; Hughner, 2007) and green marketing/green branding (Bauer et al. 2013; Chen, 2009). Other focuses are technique (Hopma and Woods, 2014) and a social perspective (Reed, 2007). A significant animal welfare discourse within the Swedish green industries has been observed (Saifi, 2004; Andersson et al. 1997).

When taking part of research having been made about micro-entrepreneurs and their needed skills, it is noted in one article that five traditional operational factors are the foremost needed for micro-entrepreneurs and small businesses in South Africa. The factors were 1) inventory management, 2) production planning and control, 3) operational specifications and quality, 4) production measurement techniques and 5) support production requirements. These factors were in turn related with different skills (Urban and Naidoo, 2012). Other studies show the benefits of micro businesses cooperating with each other (Philipson, Gorton and Laschewski, 2006), as well as the usefulness of getting network support from other micro-entrepreneurs (Helen Samujh, 2011). When offering competence development for micro-entrepreneurs, studies also indicate that the learning context itself is a valuable resource, for example with the purpose to learn from others, to benchmark, and to network (Lundström and Holmgren, 2011).

Here below, in table 3.1, keywords related to green micro-entrepreneurship connected to natural resources which have been found in reports, policy documents, strategies and research are presented.

Keywords	Definition/Meaning
Business activities related to “Green”	The meaning diverse, but often refers to Green care and Green healthcare, handicraft, natural products, wood processing, sector/superfood/biofood/local food (production, processing and trade), tourism, hospitality, recreation and leisure (nature-based tourism, business tourism, dining & drinking, beauty and bio-cosmetics, spa, health & wellbeing) contracting/outsourcing, energy (renewable & green), textiles & clothing, water/aqua cultivation, rental services, garden (fruits & berries, plants, vegetables)
Bio economy	Refers to an economy that relies on renewable natural resources to produce food, energy, products and services
The green industries (de gröna näringarna)	Comprises businesses, and then mostly micro businesses that use cultivated land, forest, garden and countryside environment as the base for their business activities.
Water (aqua) cultivation	Cultivation of animals and plants in water
Sustainable tourism	Sustainable tourism is tourism that takes full account of its current and future economic, social and environmental impacts” (UNWTO)
Food security	Is an area where you work with issues of food availability
Green energy	The interest for this and its popularity is increasing. Green energy uses renewable energy sources and is also called renewable energy.
Labeling, Certifications	An increasing number of products and services are being certified or labeled in accordance with different green requirements
Ecological, eco-	Mostly referring to ecologically certified products and services. The ecological practice is less common, for example was only 19% of the total agricultural land in Sweden certified for ecological use in 2017
Organic	Mostly used for imported products
Locally produced food	Used for products and services produced locally and nearby consumption.
Animal wellbeing	Often prioritized in Sweden. Animal wellbeing is stronger regulated by law than in many other countries
Sustainable	Used both for products/services, systems and larger descriptions of societal issues

Table 3.1. Identified related to green micro-entrepreneurship connected to natural resources found in reports, policy documents, strategies and research

3.3 Programs, curricula and courses offered

If one counts all programs, curricula, and courses from the level of upper secondary level to university associated to the theme of business and entrepreneurship in connection with natural resources, more than 200 have been found in this study to be offered in Sweden. The clear majority of these are offered at upper secondary level, including adult upper secondary-level education. Four curricula were found at university level. One curriculum is found for an Advanced Higher Vocational Education Diploma. The Federation for Swedish Farmers, LRF, arranges online, short business-related courses. Some of these are open for anyone to participate, while others are only accessible for LRF members, most of which are micro-entrepreneurs. Sustainability was found to be included in a few of the curricula. In table 3.2 here below, the curricula, courses and programs found in this study as being offered at above upper secondary level, i.e. at university level, advanced higher education level, and courses targeting micro-entrepreneurs in the green industries are presented.

Higher education institute	Course name/theme	Central learning outcomes	Targeting participants
Stockholm School of Economics	MPG - A tailored executive management programme for the green industries.	Understanding management and management skills for the green sector	Part time studies, targeting professionals in the green industries. 12 full days over a period of four months
Linné University	Entrepreneurship and business development, focused on Growth in the Green Industries (7,5 ECTS)	Businessmanship, Innovation, Risk analysis, Business intelligence, Trend tracking/scenario planning	Full-time students and professionals in the green industries
Mid University	Eco-entrepreneur for sustainable development. Three-year bachelor programme	Environmental science, business and entrepreneurship	Full-time students
Swedish Agricultural University	Agronomist-Economist Five-year program	Dominance of business related courses One of the courses is named Entrepreneurship and sustainable development, Organization theory II	Full-time students Many jobs are proposed but the job title entrepreneur is not to be found in the list
Campus Telge and Skillebyholm (Advanced Higher Vocational Education Diploma)	Gardener, ecology, and entrepreneurship A two-year full-time program, including internship	Entrepreneurship and management, sustainable plant production, gardening plant knowledge and	Full-time students

		application	
LRF (The Federation of Swedish Farmers)	Six online courses: Basics of businessmanship, financial management, sales, resource efficiency, risk and trend tracking, forest knowledge	Business studies with influences of practical craftsmanship for the green industries.	For professionals in the green industries interested in gaining new knowledge about business. Some of the course modules can only be accessed by LRF members.

Table 3.2 Curricula, courses and programs found at above upper secondary level, i.e. at university level, advanced higher vocational diploma level, as well as LRFs online courses targeting micro-entrepreneurs in the green industries

At upper secondary school level, there are approximately 200 programs, so-called Naturbruksgymnasium/Land management schools. Often these are offered in collaboration with organizations connected to the green industries. The programs tend to be focused on for example animal attendance, animal care, agriculture, forestry, gardening, nature and adventure, machine attendance. (Gymnasium.se, no date) No special program with focus on green entrepreneurship has been found, although by regulation all high-school programs in Sweden comprise some course/s in entrepreneurship (Regeringskansliet, 2009).

For more information about the programs, curricula and courses, see appendix 3.

3.4 Business-related knowledge and skills identified as needed among green micro-entrepreneurs from the secondary data analysis

Through the secondary data analysis of this study, the below listed general-related knowledge and skills have been identified as needed among green micro-entrepreneurs in order for them to manage sustainable and profitable micro businesses.

General business and management skills

- Knowledge of sustainability's three building blocks, ecological, social and economic sustainability
- Knowledge about how to manage, report and communicate sustainability
- Quality and environment as business resources (Sustainability, LCA, Certifications and labeling)
- Sustainable strategies and production (e.g. for food and tourism), logistics, transparency, local value creation, climate smart, service strategies, LCA

- Understanding markets and customers (trust, behavior, insights, business intelligence, trends and trend tracking)
- Digitalization & IT as business resources
- Place marketing, branding and collaboration as business resources
- General business knowledge on a micro-business level, e.g.
- Managing and organizing networks, clusters, new business forms (e.g. at successions)
- Business Creation (Innovation & Entrepreneurship, Business Models & Business Development)
- Sales & Marketing (including place marketing and collaborating, digitalization, exportation, pricing, value creation, negotiations and building business relations)
- “From non-processed-goods supplier to value creating market actor” (Value creation, logistics, organizing & networking, negotiating)
- Management and leadership (including HR) for micro-entrepreneurs
- Service, hospitality and experience management and marketing (concept and service design & development, marketing, sales, quality, relations)

4. Empirical data analysis: Skills and knowledge identified as needed and asked for by the green micro entrepreneurs

4.1 Data collected from the regions of Roslagen and Gotland

The empirical data in this report is collected from two regions, Roslagen, located northeast of Stockholm, and Gotland, an island southeast of Stockholm. These two locations have proximity to the Baltic Sea as a common denominator, as well as a relatively high number of workplaces within green industries, as well as a seasonal demand for products and services associated with tourism and climate variations.

Norrtälje is the biggest municipality in Roslagen with its 5 870 km² and its population amounted in 2018 to approximately 61 357. In 2016, 4010 persons were registered as entrepreneurs with their own companies in Norrtälje. The number of persons employed in agriculture, forestry and fisheries was 2016 between 3-4 % of the total population and it is above the national average of approximately 2 %. The agriculture, forestry and fishery industries were the closest to what in this report is called green business, although there is also be green business in other industries. (Norrtälje kommun, no date)

Gotland is an island consisting of 3140 km² land area and a population in 2018 amounted to approximately 58 595. Almost 4500 persons are registered as entrepreneurs. 27 % of all workplaces are within the agricultural industries and approximately 6 % of the population are employed in these industries. Of Gotland's population, 38 % live outside the urban areas, which is significantly more than the national average of 13 %. Approximately 70 % of the land area of the island is used for agriculture and forestry. Ecological production is carried out in more than 19 % of the agricultural land. Tourism is important for the green industries on Gotland, however high tourist season occurs only during the summer period. (Region Gotland, no date)

4.2 Interviews: Themes and identified needs of knowledge and skills

Entrepreneurs from eight green micro businesses were interviewed, each with their own interesting, and often incredible, story to tell. The interviews were situated in each business location. The interviews were combined with observations and photographing of the locations. In the following table 4.3, the interviewed micro-entrepreneurs are listed, and their business activities are briefly presented.

Interviewed micro-entrepreneurs in Roslagen		
Company name and main digital platforms	Main products /services/offerings	Annual sales and number of employees
Hökeriet (Granby Gård) Websites, Facebook, Instagram and Twitter	Food (e.g. meat, grains and oil), farm shop, restaurant, and guided tours to cultural relics	< 1 million Euros Owners and co-operation with other local micro-entrepreneurs.
Kröns Trädgård Website, Facebook, Instagram and Twitter	Market garden, shop, restaurant & café, and garden services	< 1 million Euros Five full-year employees, including owners, and more in high season.
Senneby Trädgård Website, Facebook and Instagram	Food (vegetables, cultivation), farm shop	< 1 million Euros Two owners employed plus one full year employee, and more in high season.
Ullgrens Handelsträdgård Website, Facebook, and on retailers' platforms	Food (salads and other vegetables, cultivation), market garden	< 1 million Euros Nine full-year employees, and more in high season.
Växplats Nybyn	Market garden, farm shop and café	< 1 million Euros The owner and her partner, part time employed. Sometimes seasonal workers.
Interviewed micro-entrepreneurs on Gotland		
Östergarn Tryffel Website, Facebook and YouTube. Through other brands on websites and in social media	Gotland truffle, cultivation, search, and processing	< 1 million Euros The owner is the only employee.
Lilla Bjers Website, Facebook, Instagram and Tripadvisor. Also had several TV-recordings.	Food (vegetables, cultivation and processing), farm shop, including produced handicraft produced at the farm and elsewhere, and restaurant	< 1 million Euros Five to six full time employees, including the two owners. More employees in high season. Approximately 45-50 salaried employees a year
Frans Brozén Facebook	Food (vegetables, cultivation), farm shop	< 1 million Euros The owner. Sometimes seasonal workers.

Table 4.3 Interviewed micro-entrepreneurs

Many thoughts, ideas, experiences and knowledge were shared in the interviews with the micro-entrepreneurs. To systematize the information, a division into themes has been made.

Experience based practical skills related to the production and craftsmanship elements of the business activities

The results of the interviews clearly indicate that green micro-entrepreneurship involves and is dependent on extensive experience based practical knowledge. This kind of knowledge and competence appears to be the foundation and “the heart” of the green micro-entrepreneurs’ business activities and business result. Some talked about how these skills have been inherited, others about how they had attended courses to learn the practical craftsmanship. In this process, the knowledge raw material is the first-hand practical experience and knowledge gained through the daily practicing of all different daily business activities performed in the respective micro enterprise context. This kind of practical and tacit knowledge is developed and improved over time through in a continuous trial-and-error learning process. Some aspects of the practical knowledge seem to take a very long time to learn, while other parts seem easier to learn through courses. Other practical knowledge, not craftsmanship related to the core business, were different competencies related to general management knowledge. This was important and seemingly something that most had learned through courses and experience.

Sustainability

This is an area that seems to affect all interviewees, though in different ways. Some believed that ecological sustainability can mean different things, and that organic certifications make it too narrow, while others considered green to be only ecologically certified products. All interviewees talked about different activities in their own business that were environmentally sustainable, and everyone thought that environmental sustainability was particularly important for those living on natural resources. In addition to environmental sustainability, several interviewees spoke of social sustainability and that it was an important part of their business. Someone talked about spreading information about how food is produced so that people get a better understanding of the industry. Animal welfare was a third theme that was brought up, both as something of personal importance but also as a customer demand.

Relationships & networks

All interviewees talked about how they had different kinds of relationships with suppliers, customers, other micro-entrepreneurs and different kinds of networks as well as with different support organizations and public organizations like the municipality.

Legal knowledge

Some of the interviewees had experienced legal problems, primarily with authorities. Land issues seem to be a problem. Knowledge about public procurement and tools to manage such processes is also asked for.

General business & management knowledge for green micro-entrepreneurs.

The businesses were to a certain extent viable. All interviewees seemed to have good knowledge of their core business (e.g. growing), but other kinds of knowledge concerning the entrepreneurship varied. However, three areas of needed business skills emerged in the interviews, including *marketing, financial management and organization*. As for marketing, the interviewees that represented some of the more sustainable businesses talked more about how they based their work on customer needs and customer experience.

These entrepreneurs worked with several communication channels such as talking with customers, providing customers with an experience, doing their business storytelling on the website, and in social media and in general caring a lot for the brand. Some communicated their work with sustainability issues, others did not. Regarding financial management, some of the interviewees worked actively with this and others did not. Those who worked with it seemed very satisfied and seemed to be able to relate it to marketing and sales. The knowledge area of organization theory and organizing the business seemed by most of the interviewees to be something they needed to learn more about or hire someone with that kind of skills. Knowledge areas also talked about was leadership and management, as well as Human Resource issues.

Six of the interviewees were representatives of organizations supporting green micro-entrepreneurs in different ways. Their views were often like what the entrepreneurs had expressed in their interviews, but some things differed. In the below table 4.4, the interviewed support organizations are listed.

Organizational name	Brief description
Roslagsmat	Roslagsmat is a small network organization in Roslagen with around 15-member organizations. The organization organizes markets, has joint market communication through a website, Facebook and Instagram.
Goda Gotland	Under the joint Goda Gotland umbrella, companies on Gotland work together to increase visibility and availability for the wide and exciting range of Gotland-produced food and commodities. They have 39 members presented in their website.
Gotlands Förenade Besöksnäring	Gotlands Förenade Besöksnäring is a private initiative after Gotland's tourist association was released in 2011.
Hushållningssällskapet Gotland	Hushållningssällskapet is the collective national name of regionally based, independent and knowledge-based organizations working for rural development.
LRF Gotland	The Federation of Swedish Farmers is an organization for Swedish farmers. LRF has about 170 000 individual members, representing companies in the agricultural and forestry sector. On Gotland are most member companies micro size enterprises with few employees.
Region Gotland	Region Gotland is also the municipality of Gotland.

Table 4.4 Interviewed support organizations

All the support organizations describe how hard green micro-entrepreneurs struggle with their business activities. All of them have been involved, in different roles in creating different courses offered to green entrepreneurs. The organizations all work to promote the interests of their members and their enterprises. Roslagsmat, Good Gotland, Gotlands Förenade Besöksnäring and Region Gotland are organizations that are entirely linked to the geographic sites of Roslagen and Gotland respectively. The other support organizations have local departments, but they act under national umbrella organizations. However, all organizations' representatives agree that the relationship between the site and products or services based on natural resources plays a major role in the business activities and brands. Typical products manufactured on Gotland and in Roslagen are described as crafts, including food production, art and experiences. Currently, for example, makeup and skin care products are rare. On Gotland, the sea's natural resources are described as sparingly utilized, although there are exceptions. In Roslagen, not many products connected to sea and water were found.

Several of the interviewees describe a situation where small and micro sized green entrepreneurs need to be knowledgeable about how how to work with insights about trends, the business environments, and the consumers experiences, needs and wants. Several of them mention sustainability as an urgent and important knowledge field for green micro-entrepreneur. How to profit of the ongoing digitalization in the different business activities is also an aspect that was mentioned.

Most of the organizations' support efforts seem to be about marketing, brand building and other relationship building activities. The entrepreneurs are described as very knowledgeable within their field of production and business, but that their time is often insufficient, and that the profitability is many times poor in the micro-enterprises. They see a need for improved skills that can help to increase profitability and that is why some of them arrange or convey different kinds of guidance and courses for their members in this respect. The interviewees emphasize that, as their member organizations have different maturity levels, are of different sizes, and produce and offer different offerings, they have different needs for knowledge and skills development. They agreed with the interviewed entrepreneurs that any study trip should be arranged during low season, such as in February. Most interviewees found University points to be uninteresting for green micro-entrepreneurs, but diplomas to hang on the wall may be of interest.

5. Summary of results and suggestion for course modules

The results generated through the research process of this study (see figure 2.2) are summarized here below in table 5.5.

Sector-specific characteristics			
The green business sector includes enterprises that are basing their business on natural resources. Examples of such businesses in Sweden are green care and healthcare, handicraft, natural products, wood processing, sector/superfood/biofood/local food (production, processing and trade), tourism, hospitality, recreation and leisure (nature-based tourism, business tourism, dining & drinking, beauty and bio-cosmetics, spa, health & wellbeing) contracting/outsourcing, energy (renewable & green), textiles & clothing, water/aqua cultivation, rental services, garden (fruits & berries, plants, vegetables)			
Literature review			
The literature review showed that there are many areas that are important for entrepreneurs depending on natural resources. Particularly prominent was the need for knowledge about quality and different aspects of sustainability. What was also highlighted was the need for general management skills and to be able to use the advances in digitalization and IT. Something that also emerged was the importance of relational abilities and support as well as inspiration from other green entrepreneurs.			
Knowledge about quality management and sustainability (e.g. toxics and animal welfare)	Knowledge about supply chains and value creation	Knowledge about general management skills such as place marketing, new business forms etc.	Knowledge about digitalization & IT as business resources
Interview results			
In the interviews it was clear how the entrepreneurs' practical craftsmanship was important, in which a kind of qualitative knowledge also emerged. The importance of different types of sustainability aspects was also emphasized, however both perspectives and knowledge varied when it came to this topic. Finally, the importance of understanding the customer, the market, and being able to manage their own company was emphasized.			
Craftsmanship	Sustainability	Marketing	Managing a micro enterprise

Table 5.5 Summary of results

The results of the study have led to the suggestion of four course modules connected to general business knowledge and sustainability. In the below table 5.6 the suggestions for course modules based on this study are presented.

Suggestion for course modules			
<p>Our proposal for course modules is based on the secondary data review and the interview results. Since our focus is on entrepreneurs' knowledge in business, we propose four modules that begin with general knowledge about quality and sustainability linked to entrepreneurship. In the next module we suggest deals with financial, legal and organizational management aspects of a green business. We finally suggest that the last two modules include different aspects of creating, marketing, selling and delivering green products and services.</p>			
<i>Module: Quality and sustainability for the green micro-entrepreneur</i>	<i>Module: Financial, legal and organizational management for the green micro-entrepreneur</i>	<i>Module: Marketing, value creation, offering design and development, and green branding for the green micro-entrepreneur</i>	<i>Module: Production, supply chains, relationships and green networks for the green micro-entrepreneur</i>
<i>Answers to: What is quality and sustainability for green micro-entrepreneurs?</i>	<i>Answers to: How to run a green micro business?</i>	<i>Answers to: How to create, market, sell and deliver green products and services?</i>	<i>Answers to: How to create, market, sell and deliver green products and services?</i>
<i>Includes: Quality and sustainability management for green micro-entrepreneurs</i>	<i>Includes: Business management for green micro-entrepreneurs</i>	<i>Includes: IT, green market communication, offering design and development, sales techniques for green micro-entrepreneurs</i>	<i>Includes: Network and value chain relations as well as public procurement for green micro-entrepreneurs</i>

Table 5.6 Suggestions for course modules

6. Concluding discussion

The results from this NatureBizz study focusing on the Swedish Central Baltic region, demonstrate that many green micro-entrepreneurs use natural resources in their business activities to create green and sustainable offerings for the Swedish consumer and restaurant markets. The empirical material indicates that during the 2000's, there has been a clear trend of fast growing customers interest in such offerings. There is some evidence that the trend has been leveling out for some time, but it seems clear that there will continue to be increasingly rich business possibilities for micro-entrepreneurs using natural resources in their business activities to create green and sustainable offerings.

As was found from the secondary data (cf. Urban and Naidoo, 2012), micro-entrepreneurs often lack certain skills and knowledge related to general business and management skills. The secondary data analysis also showed that sustainability can embrace many different meanings, which indicates its complexity and the complexity of creating value using the concepts of green and sustainability. The results of the interviews also showed a variety when it came to general knowledge of the concept and the meaning of sustainability. Therefore, the suggested curriculum includes modules with focus on sustainability and quality, as well as marketing and value creation of green offerings. Skills related to general business management, people management, and financial management with a focus on the specific challenges in micro-sized enterprises were explicitly mentioned by most entrepreneurs as needed and relevant skills and that is therefore part of a module. Something that was observed both in the secondary data analysis (cf. Wigren-Kristoferson, 2012; Helen Samujh, 2011) and in the interviews is the importance of market relationships and that is why module four includes knowledge about market relationships, and issues about supply chain and networks.

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Additional written material: Around twenty non-published and non-official reports and documents created by LRF, Macklean (a LRF owned management consultancy firm focused on green business), and food industry consultant Wikström, Lennart at Cultimedia Information AB.

Appendix 1. Interview questions for green micro-entrepreneurs

1. Overview of company? (company data e.g. age and size)
2. What is green business and green entrepreneurship for you? (take different definitions: ethical, eco, green, bio-, sustainable)
3. What kind of natural resources are you using in your business activities?
4. How responsible/sustainable/ethical is your business and use of natural resources?
5. What do you think are consumer demands you are targeting? How do you identify the consumer demands?
6. Are you thinking about expanding (local, regional, national, international)?
7. What markets are you targeting?
8. How do you design/develop your products and services?
9. What kind of added value does your products create for the consumer? Why are your products better?
10. Do your products provide wellbeing? Local community, human health, animal wellbeing etc. How, in what ways?
11. Describe how your relationship with nature is expressed in your business activities?
12. What kind of additional business skills and knowledge do you need to be able to use natural resources in your business activities? NB!
13. How do you communicate the sustainability of your products and services?
14. With whom do you collaborate (clusters, networks)? What are the benefits and challenges of cooperation?
15. How would you like to develop your business? What are the challenges?
16. What are the proportions of green products of your total income?
17. What training/education have you participated in? What kind of training do you need? How should it be organized and delivered (in what formats)?
18. Will it be realistic for you to participate in all 4 on-line courses?
19. We have planned a study trip for entrepreneurs piloting the courses. Where would you like to go? How much are you willing to pay extra for participation of a 3-4-day study trip?

Appendix 2. Interview questions for support organizations

1. What kind of micro size entrepreneurs using natural resources are represented by your organization/ are in your area?
2. What kind of natural resources are they using in their business activities?
3. What kind of additional business skills and knowledge do they need?
4. How do you see the state of art of the sector now and how do you see the development of the sector in the future? Why?
5. SWOT of the sector
6. Have you provided trainings for micro size entrepreneurs related to the topic (business skills/natural resources)?
7. How should we implement the trainings?

Appendix 3. Business-related curricula, courses and programs, targeting students and entrepreneurs in the green industries

Linné University (Linnéuniversitet)

“Entrepreneurship and business development, focused on Growth in the Green Industries”, 7,5 HP, 5 weeks full time. Courses within the fields of: Feasibility studies, Businessmanship, Innovation, Risk analysis, Business intelligence, Trend tracking/scenario planning. Contract education together with LRF.

Available at:

<https://lnu.se/mot-linneuniversitetet/Organisation/ekonomihogskolan/utbildning-vid-fakulteten/lnu.seopen/>. (Accessed 16-04-2018).

Mid University (Mittuniversitetet)

“Eco-entrepreneur for sustainable development”. Bachelor program. Blended learning, campus and distance learning. Courses in environmental science, business and entrepreneurship.

Available at:

<https://www.miun.se/utbildning/program/natur-och-miljo/ekoentreprenor-for-hallbar-utveckling/om-programmet/> (Accessed 16-04-2018).

Swedish Agricultural University (Svenska Lantbruksuniversitet, SLU)

Curricula with connection to entrepreneurship - A five-year master program in Agriculture science and business studies (organizing, marketing, finance, business control), including “Entrepreneurship and sustainable development, Organization theory II”, 7,5 HP.

Available at:

<https://www.slu.se/utbildning/program-kurser/program-pa-grundniva/agronom-ekonomi/> (Accessed 16-04-2018).

Stockholm School of Economics (Handelshögskolan i Stockholm)

Courses developed together with organizations within the green industries with focus on business and management skills. Target groups are active entrepreneurs within the green industries.

Available at:

Handels: file:///C:/Users/annan/Downloads/18-0077-programblad-mpg_ok_webb.pdf (Accessed 16-04-2018).

Campus Telge and Skillebyholm (Advanced Higher Vocational Education Diploma)

“Gardener, ecology, and entrepreneurship”, Full time, two- year program.

Courses: Entrepreneurship and management, Sustainable plant production 1, 2, Internship 1,2,3, Gardening, establishment and maintenance, Plant knowledge and application, Thesis.

Available at:

<http://www.skillebyholm.com/utbildning-kurser/yh-heltid/tradgardsmastare-ekologi-och-entreprenorskap-yh-400p/> (Accessed 16-04-2018).

Federation of Swedish farmers (Lantbrukarnas Riksförbund, LRF)

Practical online courses for their members with focus on business skills.

Available at:

<https://www.lrf.se/foretagande/lrf-foretagarakademi/> (Accessed 16-04-2018)