SI-DRIVE
Social Innovation: Driving Force of Social Change

SOCIAL INNOVATION IN ENVIRONMENT AND CLIMATE CHANGE: CASE STUDY RESULTS

POLICY FIELD ENVIRONMENT AND CLIMATE CHANGE
D6.3

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Authors	Doris Schartinger, Beatrix Wepner, Thomas Andersson, Qammar Abbas, Desislava Asenova, Zoya Damianova, Adriana Dimova, Viorel Ariton, Chris Hannum, Sencer Eker, Antonius Schröder, Marthe Zirngiebl
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Remark:
This case study summary is an own interpretation of the case study conductors and policy field leaders based on the information and data accessible and given by the initiatives.

A. METHODOLOGY

1 METHODOLOGY AND DESIGN

1.1 SI-DRIVE METHODOLOGY

The SI-DRIVE methodology is constructed as an iterative research process characterised by two empirical phases based on and feeding the three central research pillars of SI-DRIVE: theory, methodology and policy. Starting with a first theoretical, methodological and policy and foresight framework the empirical phase 1 led to a global mapping of Social Innovation: comparative analysis of 1.005 cases worldwide, seven policy field reports, global regional report, external database screening, and eight first policy and foresight workshops. These results led to the improvement of the three pillars and set the ground for the second empirical phase: the in-depth case studies, which results will be presented her and in a reporting of each of the seven policy fields of SI-DRIVE. Finally, the results of both empirical phases will lead to a summarizing comparative analysis in each of the policy field and to the final theoretical framework, the final methodology and the final policy and foresight recommendations of SI-DRIVE.

Thus, the chosen triangulation and combination of quantitative and qualitative methods has also a sequential aspect: While the quantitative approach is more appropriate for the analysis of 1.005 mapped social innovation cases, the qualitative methodology is more relevant for the in-depth case studies (based on the quantitative and qualitative analysis of the first empirical phase).

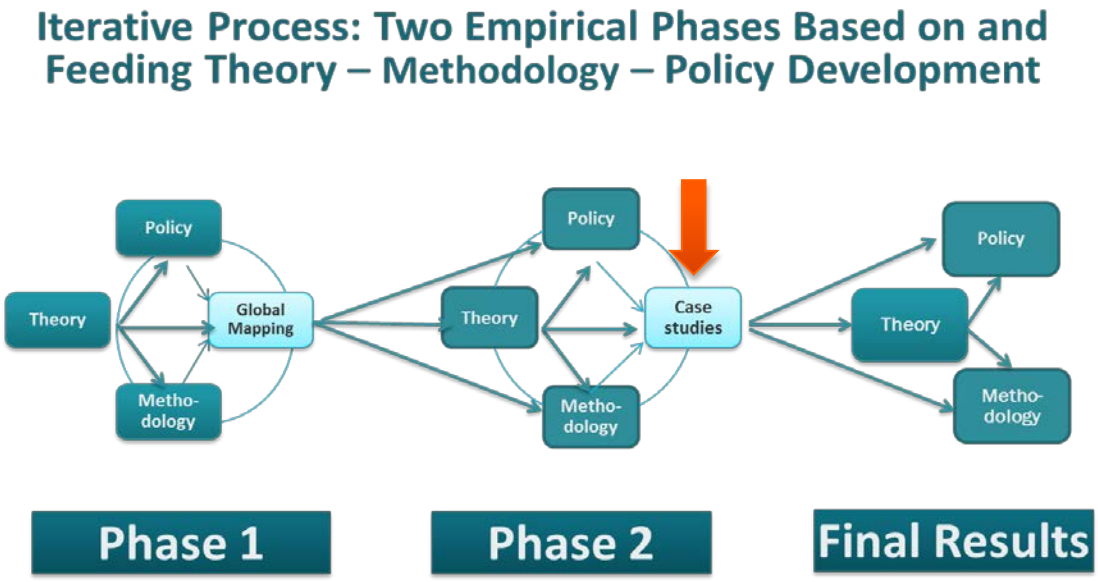


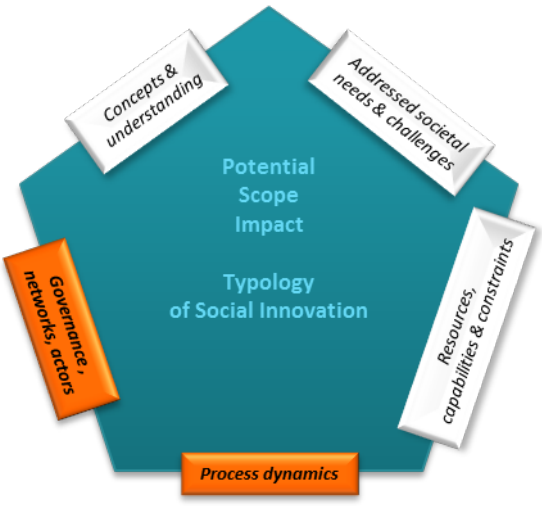
Figure 1: Continuously Updated Research Cycle

So, this report is summarizing and analyzing the case studies conducted in the policy Field Education and Lifelong Learning, delivering a further depiction for the final comparative analysis within the policy field at the end of the project.

1.1.1 Background and Central Questions of the Case Studies

The focus of this qualitative research is on the dynamic **interrelation between social innovation, the practice field and various mechanisms of social change**. Therefore the guiding meta-question for the case studies of SI DRIVE is focusing on **mechanisms of social change**:

Does Social Innovation actively use, reflect or contribute to the defined mechanisms of social change (see annex)? Can we identify other, additional mechanisms?



All these mechanisms are reflected in the five key dimension, but putting a focus on social change. Related to the five key dimensions of SI-DRIVE the main focus of the case studies is on **Governance, Networks and Actors** as well as on **Process Dynamics**, mainly asking which changes appear and are driven by what/whom (see also the research foci in the Annex). Within these focused key dimensions and mechanisms of change **factors of success** (and **failure**) are of high importance as well.

The **degree of social change** is also considered: **diffusion** in society, degree of **institutionalization**, and **importance of the practice field / initiative** for everyday life and local communities.

Therefore, the main objectives of the case studies are aiming at a better understanding of

- the **processes and dynamics** of social innovation in relation to social change (institutionalization, diffusion and imitation of social practices)
- the **functions and roles of actors and networks** for the development, diffusion, imitation and institutionalization of social innovations
- including the identification of **critical success (and failure) factors**, leading to social change.

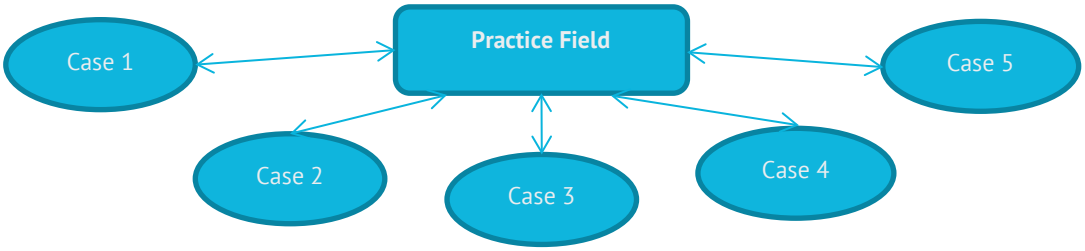
1.1.2 Methodological Design

The methodology is consisting of two levels for the selection and analysis of cases:

- Selection of the relevant **practice fields** (about 2 or 3 in each policy field)
  Main criteria: Importance for the policy field, already leading to social change
  Main interview partners: different kind of representatives of the practice field, e.g. associations, interest groups, politicians, leaders, etc. - representing the Social Innovation Ecosystem or sectors (**public, private, civil society, and science)**
  additional documented material, documents analysis.

- Selection of social innovation **initiatives related to the chosen practice field** (about 4 to 5 cases)
  Main criteria: Connection and contribution of the initiatives to a practice field.
  Main interview partners: people who were *actively* involved in developing the social innovation initiative, project organisers/participants/actors, users and beneficiaries – representing the Social Innovation Ecosystem or sectors (**public, private, civil society, and science)**
  complemented by additional document analysis.

Because there might be only limited information for the chosen **practice field**, the results of the case studies with the single initiatives will be used as a background for the practice field examination and analyses (**hybrid approach**).



All in all about ten cases were conducted within each policy field, ending up at 82 case studies. The cases were selected on the background of given framework and the partners' knowledge and experience. Beneath practical points like access to and willingness of social innovations to participate and a general regional variety the following aspects were taken into account:

- For the **selection of the practice field**: The (strategical) relevance for the policy field, the differentiation/ spread of single cases, and an advanced development phase (cases that are already in the implementation, impact phase).
- For the **selection of the related cases**: The selected cases should be already highly developed (implementation or better impact phase, embedded in networks, movements or umbrella organizations), and be representative for the practice field showing its variety in terms of social demands and regions.

Against this background the cases were **selected from the existing mapping data base**. If there was a new important case of high interest (not in the database) there was the possibility to add at least **one additional case** per policy field. Because the global mapping stressed that social innovations often comprise more than one policy field **overlapping cases** were taken into account and finally assigned by the policy field leaders.

The template developed for the case studies had a **common, but flexible structure**. This means that the main topics and the related main questions have to be reflected, additional questions helped to structure the deepening of topics appearing as relevant from the interviewees or interviewers perspective, and from the particular context of the initiatives, the actors of the social innovations or practice fields.

While the case study inquiry followed the context and perspective of a single initiative, the structure of the reporting document is starting with the practice field as the overarching context for the related case studies, bundling and summarising the results of the different related cases, illustrating the practice field, summarizing the given topics (reflected in the single case studies).

Therefore the structure of the template for the case study inquiry is the other way round as the template for the reporting:

1. The **case study inquiry** (**bottom-up:** initiative perspective as the starting point) started with the perspective of the initiative, leading to the overarching perspective of the related practice field in the end: focusing on the context of the concrete initiative (starting with the idea, passing the development process and ending with the impact perspective) → leading to and completed by the practice field context (integration of the initiative in the broader practice field background, conclusions, institutionalization).

2. This **reporting document** (**top down:** context of the practice field as the starting point) is structured the other way round starting with the overarching practice field perspective, activating the overall on social change oriented perspective as a context at the beginning and reflecting the social innovation initiatives from this background.

Already given and available information from the mapping and internet/documents were integrated in the interview template first, including information of the practice field. The practice field information already gathered in the case studies (earlier) were updated continuously in the case study guide.

For the field work and the analysis a common and obligatory structure across all the seven policy fields was developed (case study template, QCA questionnaire, reporting template). The following procedure is characterising the case study performance:

1. Extraction of the given information from the mapping database and integration into the reporting template, interview guide for the specific initiatives.

2. Search for additional documented materials (internet, literature, etc.) and integration of the results in the template as well.

3. Selection and inquiry of key persons for the practice field and the related cases.

4. Interviews, group discussions, site visits etc. (of **all the relevant actors** of the initiative, **including if possible the users, beneficiaries**)

5. Reporting within the given template (integrating all the information of the database, interviews and group discussion in one template).

6. Qualitative Comparative Analysis (QCA)

7. Summarising reporting document (done by the work package leaders).

Within the case study template the questions did not vary a lot between social innovation projects and social practices, but the answers relating to the questions are expected to vary to the different levels of uptake. For instance, in a more mature case/practice field there may be a wider set of competitors as a context feature (e.g. car sharing), whereas in a case that is still in its infancy (although it should be well implemented and show dimensions of success as well) competition may be very different in quality or limited in total. We speak of a social practice when there is already a set of different initiatives, when the original initiators of first social innovation projects (sometimes) are already difficult to identify, variation of the original initiatives have already been applied, maybe a bundle of initiatives exist (institutionalized in a practice field), they have different business models (if any), their services vary, accordingly users vary, incremental differentiation between various offerings.

1.2 ENVIRONMENT AND CLIMATE CHANGE: PRACTICE FIELD AND CASE SELECTION

Within this policy field of Environment and Climate Change the partners agreed on two practice fields exemplified by 10 cases. The chosen practice fields are representing the following practice fields:

1. **Repairing, reusing and recycling**: This an important issue around the world, which accounts for a substantial number of mapped cases (17 cases within the mapping database)

2. **Alternative and sustainable food production and distribution**: This is a heterogeneous field, ranging from farming practices, via food cooperatives to activities attempting to reduce food waste. (24 cases within the mapping database)

The following table gives an overview of the distribution of practice fields and related cases between the partners and global regions / countries.

Table 1: Final distribution of in-depth cases and practice fields between partners and regions

Practice Field Partner/Country	(1) Case No.	(2) Case No.	(3) Case No.	Cases in Total
AIT / Austria	1 Austria	1 Austria		**2**
TUDO / Germany			1 Germany	**1**
ARCF / Bulgaria	1 Bulgaria			**1**
IKED / Northern EU	1 Sweden	1 Iceland		**2**
UDG / Romania	2 Romania			**2**
ITU / Turkey		2 Turkey		**2**
Cases In Total	**5**	**4**	**1**	**10**

The tables below are listing the selection of cases and basic information:

Table 2: Practice field (1): repairing, reusing and recycling

Case No.	Name	Country / City	Partner	Description, Criteria
1.	Myrorna	Sweden	FORNENINGEN IKED	Facilitates reuse through effective collection, repair and re-sale at low cost, always using environmentally friendly practices, reaching out broadly at low cost so as to support
2.	Workshops without frontiers (AFF)	Romania	UNIVERSITATEA DANUBIUS	ICT equipment reuse and refurbishment; supports campaigns which aim at bridging the digital divide in Romania by providing disadvantaged communities with donated devices.
3.	Application of Industrial Ecosystems Principles to Regional Development (ECOREG)	Romania	UNIVERSITATEA DANUBIUS	ECOREG is a pilot project aimed at testing the applicability of Industrial Symbiosis in Romania, reuse of resources and by-products used in one production cycle into another.
4.	Collection and recycling of hazardous waste	Bulgaria	ARC FUND	BalBok engineering together with Sofia Municipality has developed a solution for separating hazardous waste from the normal waste of households including: mercury and mercury-containing devices, lacquers and varnishes.
5.	Repair and Service Centre (RUSZ)	Austria	AIT	RUSZ, offers repair services for electronic devices in order to reduce waste from electrical and electronic equipment (WEEE). It employs and trains formerly unemployed people.

Table 3: Practice field (2): alternative and sustainable food production and distribution

Case No.	Name	Country / City	Partner	Description, Criteria
6.	North Atlantic Salmon Fund	Iceland	FORNENINGEN IKED	The NASF Campaign attempts to restore salmon stocks. Nothing beats common sense, the right priorities and ABUNDANCE as the target.
7.	Agricultural Marketing (Tarımsal Pazarlama)	Turkey	ISTANBUL TEKNIK UNIVERSITESI	The founder is building a platform of information technologies to act as an enabling architecture for Turkey's three million farmer families.
8.	Organic Agriculture via Turkish-German Collaboration (ETO)	Turkey	ISTANBUL TEKNIK UNIVERSITESI	The project involves education and training of Turkish farmers and other responsible parties on organic agriculture in order to significantly improve the export opportunities.
9.	Iss mich (Eat me)	Austria	AIT	Iss mich (eat me) prepares vegetarian dishes from healthy veggies that did not meet retail standards - not due to quality but due to aesthetics.

Table 4: Individual case: Social innovation in a smart city context

Case No.	Name	Country / City	Partner	Description, Criteria
10.	dynaklim	Germany	Technical University Dortmund	With the establishment of a sustainable and reliable regional network and a roadmap process, dynaklim wants to empower the region and its actors for the development of an improved climate change adaptation and innovation strategy.

B. PRACTICE FIELDS AND EXEMPLIFYING SOCIAL INNOVATION INITIATIVES

In the following chapters social innovation initiatives are compared on the level of practice fields in order to be better able to detect patterns and particularities over a larger number of cases. A practice field includes social innovation cases that address similar social practices. A social practice is seen here a collective behavior visible in some form of social entity (see SI Drive Critical Literature Review).

2 PRACTICE FIELD A: REPAIRING, REUSEING AND RECYCLING

A large set of activities within the policy field of environment and climate change aims at repairing, re-using or recycling different products. These are, for instance, repair-cafés where people meet and exchange knowledge and help each other to repair broken products. Generally, there is a focus on electrical and electronic equipment (EEE), but there are many other subjects as well, such as clothes, furniture or toys. In some cases, social innovation projects in this practice field combine the aim to repair and re-use articles with other societal impacts, for instance in the field of employment by hiring people who have difficulties to get a job on the 'regular' job market. Concerning societal challenges, this practice field primarily addresses the challenge to achieve higher resource efficiency, often in combination with employment and educational aspects (e.g. providing opportunities for long-term unemployed or disabled people to repair electronics).

The practice field of repairing, reuse and recycling products accommodates social innovation initiatives with different perspectives: Myrorna (Sweden), RUSZ (Austria), AFF (Romania), ECOREG (Romania) and the system for the collection and recycling of hazardous waste (Bulgaria).

Processes and dynamics of social innovation in relation to social change

Structurally, Myrorna is an arm of the Salvation Army, an NGO, focusing on the reuse of clothing, furniture and household items. RUSZ (a social enterprise in the legal form of a limited company) and Ateliere fara frontier (AFF, a non-profit association) both have a focus on the reuse of electrical and electronic equipment (EEE). In Bulgaria, the system for the collection and recycling of hazardous waste was implemented by a public-private partnership of Sofia Municipality and Balbok Engineering, a private company.

Myrorna from Sweden is a very mature case, 125 years old. Founded by private ladies in Stockholm for reasons of altruism, and then taken over by a charity. Over the long time span it has achieved diffusion of its various services and institutionalization in that it is Sweden's largest retail chain of second-hand goods today. Starting from Stockholm it has established a country-wide system of collection and sorting points from where all donated goods are further distributed and processed.

Myrorna achieved institutionalization because it applied to Swedish values of helping the disadvantaged and protecting the environment. It made re-use attractive and socially acceptable. Social innovation in this field is closely associated with social change as to whether people allow for their goods to be re-used, as well as to whether people accept to use second-hand goods. Furthermore, Myrorna achieved institutionalization in that it participates in a voluntary certification system "Nordic Textile reuse and recycling commitment".

In Austria RUSZ, in contrast, has been founded in the 1990ies, in response to new labor market policies under the title of "Experimental Labor Market Policy", to help long-term unemployed people return to the labor market. In general, circular economy as a topic is important in many social enterprises founded as a result of these new labour market policies. The RUSZ founder came out of the public sphere, he had previously been active in organizations close to the Vienna municipality.

RUSZ achieved institutionalization in the form of further firm foundations, in the form of newly established networks of repair service firms, locally (Vienna Repair Network), nationally (REPAnet) and EU-wide (RREUSE), and in the form of

promoting standards for durable and easy-to-repair goods. Such a standard has been implemented in Austria already, it attracts a lot of attention and is currently being discussed on the EU-level.

In Romania, "Ateliere fara frontier" (AFF) was first created in 2008, initially based on the French model of the Ateliers Sans Frontieres Association. The social and professional counseling methodology and the instruments have been adapted over the years to the Romanian context and stakeholder specificities. It is a Romanian non-profit association, a social enterprise that creates jobs for disadvantaged people in workshops of social economy, with the purpose of preparing these people for full social and professional reintegration on the regular labour market. AFF expanded its impacts over time in developing additional features and services: the "ASSOCLIC National program of IT donations" which engages in the donation of computers for schools to support them in their educational purposes. AFF also initiated a further project "Remesh" - which means "socialware", a special category of fashion products resulting from the upcycling of advertising meshes and billboard banners.

AFF achieved institutionalization via its reach: in the year 2014, 7744 Remesh products were sold, 1890 computers were donated to 495 schools and associations, 99100 beneficiaries addressed through solidarity projects. AFF also tries to raise awareness and establish recycling and reuse in the culture and values of the Romanian society. In 2014, the RRR White Book was published by AFF and 6 other environmental organizations. (Annual Report 2014). Furthermore, AFF contributes to the discussion on social enterprises in Romania.

In Bulgaria, the system for the collection and recycling of hazardous waste was implemented in 2012 by a public-private partnership, i.e. the Sofia Municipality and BalBok Engineering, a private company in the field of waste management. This alliance that lay the ground for the initiative was established by the Sofia Municipality, which – upon Bulgaria's accession to the European Union in 2007 – was obliged to introduce new standards, procedures and fulfill requirements related to waste production and treatment.

The system for the collection and recycling of hazardous waste in Bulgaria intends to achieve institutionalization via a change of daily practices of people. Actually, the separation of waste is not very popular among population in Bulgaria. According to different sources, systems of separate waste collection are not working smoothly and people are still not used to separately dispose their waste. At the same time there is already a stable percentage of citizens with "green" thinking who are aware of the possible ways to protect the environment and also have the desire to be informed. Other municipalities in Bulgaria (Plovdiv, Shumen, Sliven, Veliko Turnovo, Radomir, Sredets, Levski and Bansko) have implemented the system for the collection and recycling of hazardous waste on their territories.

Relation to practice field Myrorna started early, in the late 19th century, and diffused widely across Sweden. It pioneered complementary quality-enhancing features that helped generating the practice field in Sweden. For Austria, RUSZ is clearly the most publicly visible of these social enterprises in the area of reuse and repair. And RUSZ is likely to have been the first in establishing the practice field of repairing, re-use or extending the life time of different products in Austria, in the combination of a repair service provider as a social enterprise with the aspect of the reintegration of long-term unemployed. The same applies for AFF, which also combines waste reduction and work integration of disadvantaged people, and additionally AFF also contributes to legislation improvement regarding social enterprises in Romania. It is assumed to have contributed a great deal to the shaping of the practice field in Romania. The Bulgarian system for the collection and recycling of hazardous waste is the most recent initiative, having started in 2012. It has diffused to other Bulgarian municipalities as well.

Functions and roles of actors and networks

The histories of Myrorna, RUSZ, AFF and the Bulgarian system for the collection and recycling of hazardous waste largely differ. Myrorna is over one hundred years old and was initiated by private persons for charity reasons and then taken over by the Salvation Army, which had started different social welfare projects for men, with activity refurbishment of furniture, shoemaking etc. Different types of alliances helped the strategic positioning of Myrorna: First, in hiring qualified managers, "allies" were integrated in the organization to professionalize it and make it more efficient. Myrorna in this sense shifted gradually towards building a professional and competitive organization. From the 1980s, the organization went through strategy and managerial changes which took this shift the whole way and separated from the Salvation Army. Second, Myrorna cooperates with municipalities for collecting donated goods. Collection is primarily conducted through clothing boxes, recycling centers and in stores in many cities in Sweden. Third, Myrorna cooperates with large firms in the fashion industry in order to increase reuse and recycling in

cooperation. The goal is to work broadly with the fashion industry to increase the reuse, make it easier to provide and increase awareness. Cooperation partners are carefully selected along values shared between Myrorna and the individual partner.

Through its history, RUSZ ran through different phases in seeking partnerships for its purposes. At the beginning, in the foundation phase in the 1990ies, public partners were important (Vienna municipality, Vienna waste management, Public Employment Organization AMS, etc). Once having become operational, networks of private partners have gained importance. Different networks of repair service firms have been founded on the local (Vienna Repair Network), national (REPAnet)and EU-level (RREUSE) to integrate and make accessible the services of a variety of repair service providers. Furthermore, media has always been considered as a partner, and RUSZ engages in around 300 media contacts per year to raise awareness and stay in people's minds. Today, partnerships with public actors have once again become important, in order to promote standards for durable and easy to repair goods, and counteract the issue of technological obsolescence.

Ateliere fara frontier(AFF) as a model has been transferred from France. For this reason, cooperation with the French parent and French firms located in Romania has been important from the beginning. Furthermore, the specific innovative solutions could not have been promoted without the support of two types of actors/partners: those providing used ICT equipment and those offering jobs for low qualified persons prepared by AFF for work integration. In its Annual Report 2014, AFF distinguishes between strategic and financial partners, who support with financial means and operational partners, who support with direct activities (e.g. employers, trainers) or material donations. AFF also partners with Ecotic who represents more than 500 electric and electronic equipment (EEE) producers and importers and is Romania's first scheme of producers and importers of EEE, set up in 2006. AFF with 7 other NGOs in Romania have established a national network RiseRomania – a Romanian network of social integration enterprises by economic activity.

And, like RUSZ, AFF is part of the European network of recycling and reuse organizations (RREUSE). Moreover, it is also part of the European network of social integration enterprises (ENSIE).

The system for the collection and recycling of hazardous waste in Bulgaria is based upon one crucial axis – the public private partnership between the Sofia Municipality and BalBok Engineering, a private Company in the field of waste management. The initiative for developing the system for the collection and recycling of hazardous waste has come from the Sofia Municipality. Municipalities are natural partners in the system of waste collection and recycling as national legislation on waste management requires municipalities to separately collect hazardous waste. After investigating firms in the field of waste management, the Sofia Municipality has chosen BalBok Engineering based on its expertise in the field. In 2011 the model of the system for the collection and recycling of hazardous waste was developed, and in 2012 it was completed and implemented through a pilot project between BalBok and Sofia Municipality.

Critical success and failure factors

Win-win The realization of win-win-situations lies in the heart of this kind of social innovation initiatives. What may be useless to some people, may be of high value and use to others. To organize the change of ownership that grants a second life-cycle to goods that would otherwise have been thrown away (**environmental impacts**) at the same time provides job opportunities for the less advantaged and supports the re-integration of longterm unemployed (**social impacts**).

Regulation as favourable framework conditions

In Austria, in 2005 a regulation concerning waste from electrical and electronic equipment became effective that says that all electronic devices may be discarded for free via the Vienna waste management system (The Austrian Federal Ministry of Environment, 2016). Furthermore, in the waste framework directive (Abfallrahmenrichtlinie) it says that member states have to support networks for repair and reuse, not only their foundation but also their operation. This is now also part of the AWG (=Austrian law of waste disposal) which says now that if local organizations of waste disposal do not take care for the reuse of appliances themselves, they have to accept partner organizations, with a priority on social enterprises, that acquire devices directly on their locations in order to refurbish and reprocess them.

In Sweden, the national waste plan "A Strategy for Sustainable Waste Management" had a positive impact on the development of this practice field, by setting standards for good behaviors, increasing awareness, help build a community of professionals, and so forth.

Media and communication Generally, networks and media are used to gain attention and attract people as suppliers, as well as customers (section on networks and alliances). Media contributions about repair services often may raise awareness and demand, before this latent, becomes then apparent and materializes. Furthermore, craftsmen exist to carry out necessary repair services; however, they are often small businesses in backyards, not visible to the public. To organize them in a network and make them visible through media contacts and marketing activities supports the diffusion of repair services and reuse of second-life products. For RUSZ, media are a very relevant partner, newspapers as well as talk shows. Presence in Austrian media results in a higher number of donated appliances. One of Austrians daily newspaper with a very wide reach published 5 contributions in 2012/13, since then around 1200 washing machines are donated to RUSZ annually.

For the Bulgarian system of separate collection of hazardous waste, media are an extremely important partner as well. The accompanying information campaign for promotion of the system for the collection and recycling of hazardous waste is well considered and carried out consistently. It is focused on the following: promotion of the system in various TV programmes; reportages in news and specialised programmes of all major TV channels; publications in mass media; articles in online information agencies and editions; detailed information on the websites of Sofia municipality, the 24 regional administrations and on the website of BalBok Engineering; introducing the new system to schools' eco-clubs in Sofia; presentation of the system during eco-forums and waste management conferences. Media receives current information from the PR department of BalBok Engineering and the press center of Sofia Municipality on a regular basis. A strong relationship with the most active media and journalists in the campaign was developed, which contributes to the good image of the project. The PR department of BalBok works successfully with environmentalists from regional administrations that actively help in dissemination of the new system's information leaflet and informing of citizens.

Latent demand is a critical factor for this kind of social innovation initiatives. Although there often is a strong social demand (unemployment) for one service, the latter (repair) is of a more assumed or latent nature. Although it is perceived by the initiators of the social innovation initiatives as a tension or societal challenge (often kickstarted by statistics on amounts of waste), little is known at the time of foundation about how the new offerings will be taken up by users. Although the sustainability aspects are more and more in the focus of discussions and offerings, many social innovation projects promoting sustainability aspects operate on an agenda which is beyond concrete and local demands. Initiators of such projects start on the basis of assumed or latent demand that may become explicit and – in case of success -translate into actual demand as soon as service offerings take concrete form. Thus, social innovation initiatives have an important role as they provide real feasible alternatives to the existing ways of doing things.

Complementing transport services seem to be a further factor of success. Myrorna as well as RUSZ implemented additional transport services to make it easier of people in Sweden and Austria to donate goods or have them repaired without having to carry heavy loads over wide distances.

Mechanisms of social change

Learning:

In Sweden and Austria, and more recently also Romania and Bulgaria, learning takes place on a collective and cultural level, social awareness, environmental awareness, appreciation for recycling and reuse. For Myrorna, over time, it was realized that success requires working on people's attitudes, achieving efficient collection and distribution of 2nd hand goods, and adding value to the products.

In order for the practice field to develop, necessary insights were that people are actually unwilling to dispose of goods because of minor damages. Culture and values of preserving nature, avoiding waste and prolonging the use of goods exist, but shrivel without the necessary supply of services. Media contributions about repair services immediately raise awareness and demand, before this latent, becomes apparent. A further insight is that craftsmen exist to carry out necessary repair services, however they are often small businesses in backyards, not visible to the public.

In order for single initiatives to develop in the field of repairing and reuse learning takes place on the basis of personal experiences (private belongings broken), via professional background (well networked in local scene of actors responsible for environmental issues in municipalities and ministries), and via factual knowledge (statistics on waste, see for example Box below for waste from electrical and electronic equipment (WEEE), causes and consequences).

Box 1: Statistics of electronic waste

In 2014, people worldwide discarded all but a small fraction of an estimated 41.8 million metric tonnes (megatonnes – Mt) of electrical and electronic products — mostly end-of-life kitchen, laundry and bathroom equipment like microwave ovens, washing machines and dishwashers. And the volume of e-waste is expected to rise by 21% to 50 million Mt in 2018.
The e-waste generated in 2014 contained an estimated 16,500 kilotons of iron, 1,900 kilotons of copper, 300 tonnes of gold (equal to 11% of the world's total 2013 gold production), as well as silver, aluminum, palladium plastic and other resources with a combined estimated value of US$52 billion (48 billion Euro). Toxins in that e-waste, meanwhile, include 2.2 Mt of lead glass — more than six times the weight of the Empire State Building — 0.3 Mt of batteries, as well as mercury, cadmium, chromium and 4,400 tonnes of ozone-depleting chlorofluorocarbon (CFCs).
The escalating global e-waste problem is driven by the rising sales and shortening life cycles of electrical and electronic equipment (EEE — essentially, any device with a battery or an electric cord).

Taken from: United Nations Report (Baldé et al. 2015)

Variation

The variation to the existing most widespread practices is to offer *reverse logistics services*. These are services which comprise the acquisition of used products (=supply), subsequent disposition decisions and reprocessing and finally remarketing of reprocessed products (Lechner & Reimann, 2015). This is combined with the re-employment of disadvantaged job seekers so they can develop vocational experience, capabilities and know-how in the employment relationship (The WISE project, 2009). On the practice field level, the variation is to offer manifold of such repair services, not only to avoid waste from electrical and electronic equipment, but to avoid waste of any kind through minor damages which can easily be repaired.

As was pointed out for Romania, and most likely true for all four countries, there are more initiatives existing that follow the two different goals separately, either recycling/reuse or work integration. For Romania examples are: reciclo.ro (for collecting and recycling of WEEE), OCEAN association (professional integration of the unemployed). However, the combination is of course an additional quality and variation.

Another aspect of variation is that societies on the whole change fundamentally over time. E.g. The Swedish society has changed significantly over the past 125 years. It went from a class society in which there was huge need of "give-aways" from rich to poor into a situation in which there is much more social support for the poor, and where income differences have declined as well. This has influenced Myrorna but did not fundamentally alter the rationale for its unique approach and service. It relies on building awareness and positive attitudes to re-use, as well as on offering professional service and "value-for-money". In recent years, the arrival of many new refugees has warranted special campaigns directed to these people to have them link up to Myrorna as clients.

Selection

On the practice field level, selection takes place because repair services are labour-intensive and hence often not able to survive on a completely private basis. In practice, the form of a social economic enterprise enables businesses to be eligible for public support of labour cost. This is why an ecological tax reform would help to make labour-intensive businesses like the ones in this practice field more competitive: as labour is taxed high, labour –intensive services like repair services appear expensive and hence have difficulties to survive on a purely private basis.

Furthermore, not all campaigns for „environmentally branded products, processes or practices have had a great following. It is necessary that users can have trust and rely on the information they are provided with, that re-use and related practices are handled and reported correctly.

Conflict

A basic conflict inflicting upon the practice field of repairing and reuse is contempt for re-use and social stigma which impedes associated developments. In Sweden, Myrorna helped in reducing the boundaries between social classes in this context.

Another conflict lies in the conditions for financing, in case of seeking public support to reduce the burden of high labour cost in repair. As labour is taxed and hence expensive, the remedy within the practice field of repairing, re-use or extending the life time of products is often to seek eligibility for a Work Integration Social Enterprise (WISE) support scheme. RUSZ as well as AFF consider themselves as WISEs. Here, labour cost are subsidized because the target is to place long-term unemployed, difficult-to-place people into unsubsidized employment after a transit phase at the WISE. However, conflicts seem likely as WISEs have primarily goals of social stabilization and inclusion, whereas operative businesses have goals of providing high-quality services which often require skilled personnel. Hence, they are "picky" in terms of personnel acquisition. In Austria, this basic tension resulted in open conflicts and finally resulted in RUSZ falling out of the WISE financing scheme.

Tensions and adaptations

Systemic tensions are relevant in several forms in the practice field of repairing, re-use and extending the life cycle of products.

- problems with poverty and the need of making available affordable necessities
- unwillingness to discard items because of minor damages
- users do not take advantage of the full lifetime of a product. The term re-use refers to products being granted a "second life" by other consumers.

Myrorna and RUSZ differ in their views of the donors, which reveals additional tensions in the systems. For Myrorna, donors are affluent, they can provide products. Myrorna provides convenient services to these affluent people who are willing, or have become aware of, the possibility to donate used clothes and other accessories through a socially acceptable network of collection points and pick-up from homes. RUSZ views donors rather as needy themselves, at the mercy of large producers and retailers who provide as part of their assortments weak and defunct products, which –without adequate standards and labels – cannot be distinguished from high-quality goods by the customers.

Furthermore, especially RUSZ openly engages in and contributes to the public discourse on planned obsolescence and market failures in the area of repair services. In the wording of the present report these are tensions that are addressed with the social innovation initiatives in this practice field.

Box 2: Tensions: planned obsolescence - excursus

"Purposeful obsolescence exists whenever manufacturers produce goods with a shorter physical life than the industry is capable of producing under existing technological and cost conditions; or whenever manufacturers or sellers induce the public to replace goods which still retain substantial physical usefulness." (Gregory 1947, cited in Hübner (2013)). For Slade (2006) planned obsolescence is defined an "assortment of techniques used to artificially limit the durability of a manufactured good in order to stimulate repetitive consumption" (Anderson 2007).
Conceptually, a basic ingredient to planned obsolescence is asymmetric information (Akerlof 1970). At first, only manufacturers know about differences in quality of features unobservable to the buyers of goods.
Reliable repair services prolong the cycle by introducing repair services that postpone the date of withdrawal, the cycle now being buying-using-repairing-withdrawing-buying. Repair service technicians are also the most likely to be able to detect (purposefully) in-built technical weaknesses.

Source: Authors, where not cited.

Box 3: Tensions: Negative externalities - excursus

The subsector of repair services is often populated by service suppliers affiliated to large producers or retailers of these goods. Hence, in terms of prices repair services do not only compete with other repair services, but to a high extent also with the purchasing price of buying a new device. As repair services are inherently labour-intensive, whereas production of new devices if often less labour-intensive, repair is often less attractive to private firms.

An accelerated cycle of buying-using-discarding a product inflicts additional cost upon society in terms of increased waste, energy and environmental cost of production and transport of products. As (at least) parts of these cost are not paid for by the producers and covered by the prices new devices can be bought for. These are external cost that have to be carried by others than the producers (*negative externality*), which is termed a market failure.

Negative externalities are overproduced when only private returns are considered

The overall effect of this is that due to individual rationality, negative externalities are overproduced when only private returns are considered in decisions and not at the same time costs incurred by others. In contrast, from a societal perspective, maximization of private instead of social returns leads to underproduction of the good or service with positive externalities, as for example repair services (see textbook economics).

Source: Authors

Awareness of the costs of excessive consumption coupled with mismanagement and accumulation of waste. There has been the realization that resource use outpaces the ability of the world to recover, which has made re-use stand out as an act of social responsibility. At the same time, a growing realization that the need of the poor can be met not just through charity, but through new opportunities arising from better organization and resource use, helped support the part of the practice field (such as Myrorna) which combines environmental and social objectives. More recently the practice field was influenced by a strive for professionalism, effective processes, quality management and the offering of quality goods at affordable prices.

Cooperation

For repair services, networks on various levels (local, national, EU) have been implemented (local, national) and joined (EU) in order to become more visible, exchange knowledge and information, and provide mutual support among like-minded organizations. (Vienna repair network, REPAnet Austria, RREUSE).

In Sweden. the Salvation Army has a network of different social welfare projects and engages both public and private organizations to reach out the people in the all parts of the country. It also cooperates with other business entities who want to support the cause of repair and reuse.

In Romania, AFF is transferred from the (international) French organization Ateliers sans Frontieres. The parent organization offers the methodology for work integration of disadvantaged individuals, but the waste collection activities are matters of local opportunity. However, it is now also part of various European level networks (RREUSE, ENSIE).

Box 4: RREUSE

RREUSE represents social enterprises active in reuse, repair and recycling. They want the EU and national governments to move from promoting just recycling and waste management to putting secondhand first. Approximately 77,000 employees and over 60,000 volunteers and trainees work within 30 member networks across 17 EU countries and one in the USA. The main activities of our members include collection, sorting and redistribution of used textiles and clothing, collection, repair and reuse of electrical and electronic waste (WEEE), furniture and other bulky waste, home and community composting projects, charity and second hand shops, collection and recycling of paper, cardboard, wood, plastics, paints, metals, books and toys, awareness raising campaigns, international projects, exchange of best practice and business support.

Source: Taken from RREUSE (2016).

Competition

In the practice field of repairing, re-use and extending the life-time of products, competition is weak among repair service providers. Actually, firm entries are often welcome in case they provide independent and reliable repair services. Protection of intellectual property hardly occurs. Although names of organizations are trademarked, knowledge and practices are rather spread among the like-minded.

However, competition is fierce with producers of new goods and retailers. They are seen as the real competitors because due to differential taxation of labour and energy, new appliances may be supplied at low prices that hinder (labour-intensive) repair services systematically.

And competition plays a role on the sub-initiative level, for the individuals who were trained in the work integration companies: Once they are prepared for the job market, they face competition from other job seekers who apply for a position.

Role of technology

Technology can play an important role in some initiatives in this practice field, but not in the classic sense. First, in the perspective of the practice field reuse, repair and an extending the life cycle of products, technology is something that can break, in which case the original utility of the product is reduced or zero. Hence, the diffusion of repair services means remedy to broken technology. Whatever technology diffuses, it can break as well, in which case it needs repair. Technology is not an enabler, but it is weak and may be defunct.

A second role within the practice related to technology, is that of informing an interested public about in-built technological weaknesses of devices and about easy-to-repair product designs. This is important know-how that is inherent to repair service providers. Consumers can only tell when something is broken, they normally do not have the expertise to realize if it is designed to be broken sooner than necessary.

A third role of technology, which was mentioned by the Romanian AFF case in particular, is that advancements in technology have an impact on the necessary skills and competences in dismantling and recycling methods. This may be challenging in terms of human resources.

However, not in all social innovation initiatives in the practice field does technology play a role. For e.g. Myrorna, technology was not essential. However, now Myrorna is becoming open to and interested in using modern ICT tools for improved services and reaching out.

The system for the collection and recycling of hazardous waste – although being completely new for Bulgaria - did not require technological innovation, but a new architecture to implement the service and make it widely available for the Sofia population. So it did not require technological innovation but system innovation.

Planning and institutionalization of change

Nationally, different directives and laws had an influence on the practice field in the various countries. Furthermore, on the EU level the EC published an Action Plan Circular Economy (European Commission, 2015) which aims at coming to a circular process and deviate from linear processes of taking, making and disposing.

Furthermore, Article 11 of the EU Waste Framework Directive (2008/98/EC) calls for Member States "to take measures, as appropriate, to promote the re-use of products and preparing for re-use activities, notably by encouraging the establishment and support of re-use and repair networks […]"

Especially for Romania and Bulgaria, it seems that the national policy context in the area of environment (and sometimes employment) is driven mainly by the EU strategies in the area, thus the development of the social innovation project follows and uses the new regulations that appear. This attributes a crucial function to EU policy and legislation in the area of environment for these more recent Member States because is an important driver for changes in legislation in new Member States which in turn motivates social innovation initiatives.

Additional Results: Ambivalence
Is new technology efficient to an extent that the repair of old technology becomes inefficient?

Of course, there can also be disadvantages associated with prolonging the life cycle of goods that are of lower environmental standards. Complex models try to determine the net effects of different decisions. In general, if consumers decide for a "timely replacement", i.e. higher frequency of purchasing and disposing, a significantly higher efficiency improvement between the old and the new machine is needed to make the timely replacement worthwhile when more comprehensive indicators are applied (Steiner et al. 2005).

One uncertainty that undermines the energy efficiency of more recent goods is consumer behavior, i.e. the rebound effect. The direct rebound effects, which consist of the substitution and income effect, seem to be most relevant and tangible in our case. The substitution effect means that energy cost savings due to the increased energy efficiency trigger consumers to actually use more energy. Taking the example of washing machines, consumers might do more wash cycles with less load if he or she thinks that the new machine is more energy efficient than the old one. When the disposable income increases due to a lower market price of energy, consumer might spend more money on other energy-consuming devices (Font Vivanco, Kemp, and van der Voet 2016; Greening, Greene, and Difiglio 2000).

Other studies show as well that the short-term reduction in energy consumption (10-20%) through the adoption of more energy efficient appliances are off-set by an increased consumption level which is triggered by even a low growth in income of 1-2% per year (Herring and Roy, 2007 in Alfredsson (2004)).

2.1 SOCIAL INNOVATION INITIATIVES RELATED TO THE PRACTICE FIELD

2.1.1 Case A1: Austria: Repair and Service Centre (RUSZ)

Description, development of the Social Innovation Initiative

RUSZ (acronym for Repair and Service Centre) is a social enterprise aimed at saving of resources and preventing waste from electrical and electronic equipment (WEEE) (*ecological goals*). RUSZ provides independent and reliable repair services for electronic household products of all sizes, ranging from radios to washing machines. RUSZ also adheres to *social goals* in that it creates jobs for disadvantaged persons. Furthermore, RUSZ operates on the market and wants to ensure financial stability (not for profit), create places of work and contribute to regional added added (*economic goals*).

The founder of RUSZ was employed at Eco-Counselling Vienna. This is an organization that provides independent and customized practical information about the many dimensions of a sustainable life-style for private households, enterprises and communities. From his employment at the Eco-Counselling Vienna he knew that the fastest growing type of waste was waste from electrical and electronic equipment (WEEE). The idea of repairing electrical and electronic appliances was then hinged to a social mission, i.e. re-employing longterm unemployed, so that the final concept serves ecological as well as social goals with a business operating not-for-profit on the market.

This concept was attractive to the AMS (=Public Employment Service Austria) and corresponded to the financing scheme of social-economic businesses (SÖB). RUSZ grew in significance over the years – other organizations were founded (DRZ) and networks established, on the local (Vienna Repair Network) and national (REPAnet), additionally the RUSZ founder is very active within the European level network (RREUSE).

Within 10 years RUSZ grew from 15 employees to 140 employees. By the end of 2007, the AMS contract ended. After the end, RUSZ became independent in the form a combination of association (today merely for project handling) and a limited company for the operative business. This end of contract with AMS had severe consequences in terms of loss of employees, closing down business for half a year and consequently loss of customers. However, in May 2016 RUSZ has 23 employees who have repaired 9000 devices in 2015.

In 2016, RUSZ has established itself as a social enterprise with 23 employees, still active in its networks and active in institutionalizing technical standards and labels for longevity of products on the national as well as the European level.

Actors, partnerships, alliances, networks

In the first ten years RUSZ was a project by the **Vienna Adult Education** without own legal personality. During this time, the founder was managerial director of RUSZ and still employed by Vienna Adult Education.The founder and main promoter of RUSZ was involved in the foundation of the Eco-Counselling Vienna, which was also a project by the Vienna Adult Education. By education he is teacher for geography and English, but had never been active in teaching. This involvement in the Eco-Counselling Vienna was relevant as it provided the founder 1) with in-depth knowledge of environmental issues and problems, and 2) with contacts and networks in various organizations, **city administration departments and ministerial offices with an environmental agenda**.

RUSZ entertains several types of relationships with **universities** and other research organizations, peer-like, mentor-like, object, subject. First, there is a peer-like relationship with different university members in Austria, also in Germany. Secondly, the RUSZ founder mentors diploma theses, mainly on the topic of planned obsolesence. Thirdly, studies by universities and other research organizations are the object of interest, e.g. Steiner, Faist Emmenegger, Jungbluth, and Frischknecht (2005). Fourthly, RUSZ as an undertaking is the subject of scientific studies (SI DRIVE, but see also (Lechner & Reimann, 2015)).

Media are a very relevant partner, newspapers as well as talk shows. Presence in Austrian media results in donated appliances.

The **Vienna Repair Network** was founded in 1999 in order to strengthen repair as a service and thus avoid waste. Interested customers should quickly and easily find a qualified repair shop able meet their repair request. In 1999, the Vienna Repair Network was launched with 23 companies and meanwhile counts around 80 specialist companies.

Innovative solution

New services RUSZ offers reverse logistics services, which comprise the acquisition of used products (=supply), subsequent disposition decisions and reprocessing and finally remarketing of reprocessed products (Lechner & Reimann, 2015). RUSZ also offers Product Service Systems (PSS) to customers who do not want to own their devices (e.g. students). RUSZ owns and maintains these first-hand washing machines, 26 at the moment (2016). An annual check ensures technical functionality of the device. In case of breakdown, RUSZ offers repair (or renewal) within three working days (Interview E). Furthermore, the repair and service center RUSZ offers repair cafes every Thursday, in order to give the opportunity to repair devices for which it would not be economical to offer repair services. Guests can fix toasters, blenders, irons, hairdryers, coffee filter machines, lamps and other electrical devices that can be carried in one hand.

Process innovations are for example transport services. RUSZ collects and delivers appliances from and to private households. Delivery includes a short on-site information about the device on part of the technician. Moreover, training on the job is offered. In the first 10 years, implemented as a SÖB, employment at RUSZ was limited to 12 months. During this time transit employees were trained and coached to be able to cope with the requirements of a regular jobs. In 2004, the training of 44 transit employees was done by 15, 25 key employees (Eisenriegler 2004, cited in Meissner and Pladerer (2005)).

Energy upgrading of devices can be considered a technological innovation. RUSZ developed an energy saving method “Tuning washing machines”, which increases the energy efficiency category of washing machines from C to A. This is achieved in reducing the total water consumption in the process of washing, which in turn limits the energy demand for water heating (Lechner & Reimann, 2015). It is technically possible to adapt this technological innovation to dishwashers (R.U.S.Z. GmbH, 2016a).

Standardization: RUSZ together with the Austrian Standards Institute and other partners, has issued the eco-design label for durable and easy to repair new electrical appliances (ON Rule ONR 192102). The first appliances distinguished with this new label of excellence are already on the market. (R.U.S.Z. GmbH, 2016a) Beside repair

service, RUSZ is active as a competence center for consumer protection, social economy and sustainability. (R.U.S.Z. GmbH, 2016a)

As an organizational innovation, a social pedagogic department was implemented with a focus on crisis intervention, debt settlement, vocational training and appraisal interviews (Meissner & Pladerer, 2005). Basically, a social pedagogic department belongs to the structural characteristics obligatory in SÖBs contracted by the AMS (hence, new to the firm, not new to the market).

Gaining momentum

Networks and multiplicators Relevant networks developed during the whole work life of the RUSZ founder, from his employment at the Vienna Adult Education to the foundation and evolution of RUSZ and its affiliates. Furthermore, the diverse networks and customers via the Vienna repair network and the repair café every week results in a network of allies who carry the culture and values further.

Financial support The present undertaking was eligible for several political support schemes, which are treated in the chapter on role of policy.

Regulation 2005 a regulation concerning waste from electrical and electronic equipment became effective that says that all electronic devices may be discarded for free via the Vienna waste management system (The Austrian Federal Ministry of Environment, 2016). Furthermore, it provides that the reprocessing of whole appliances has absolute priority. And it is now part of several other regulations (Elektroaltgeräteverordnung, Abfallbehandlungspflichtenverordnung).

Media and Communication More generally, networks and media are used to gain attention and attract people as suppliers, as well as customers (section on networks and alliances).

Conflicts of goals From the viewpoint of the public employment service, RUSZ is a measure to re-integrate job-seekers with special hindrances on the jobmarket (Wiener ArbeitnehmerInnen Förderungsfonds (WAFF) 2001). These hindrances often include low qualification, a long phase of unemployment and patchy employment histories in general. But qualification was a crucial point for RUSZ because when repairing electrical appliances employees need minimum qualification in order to know about high voltage parts of the device in repair (Interview E).

Complementary innovation

To consume independent repair services has low entry barriers in terms of knowledge and capacity on part of customers. Hindering factors are distance and size of appliances to be transported for repair. However, transport services offered by RUSZ partly balance these.

Impact, diffusion and imitation

Waste avoidance and reintegration of unemployed RUSZ gets around 1200 white goods and 2000 brown and grey goods donated per year which are repaired and reprocessed (R.U.S.Z. GmbH, 2013).

Firm foundations In 2003 a new firm was founded (Dismantling and repair centre, DRZ), which is a specialized organization disassembling and recycling appliances or sending them to RUSZ in case of possible reuse (Meissner & Pladerer, 2005).

New networks –The Vienna repair network was founded in order to be able to draw on the distributed competences of repair service providers and thus be able to repair not only white goods, but all kinds of goods. In 1999, the Vienna Repair Network was launched with 23 companies and meanwhile counts around 80 specialist companies. (Reparaturnetzwerk Wien, 2016) The establishment of the Repair Network Vienna was followed by the creation of 3 other repair networks in Austria (www.repanet.at). RepaNET was part of a development partnership within the EQUAL Community Initiative, part of the European Union's Structural Funds. (RepaNET, 2016). RREUSE has an office in Brussels and wants to exert influence so that a second life of devices becomes standard (RREUSE, 2016).

Institutionalization One pathway is the Austrian standard (ONR 192102) for durable and easy-to-repair goods which was implemented in Austria, also promoted by the RUSZ founder. This standard is rather unusual so that it gained a lot of attention in Europe.

Role of policy

RUSZ has received various policy support in active and in passive forms. The concept of RUSZ corresponded to the contract scheme SÖB, i.e. social economic business, of the AMS (=Public Employment Service Austria). It was contracted without problems and within short time. A SÖB corresponds to the definition of a WISE (Work Integration Social Enterprise) on the European level (see also The WISE project, 2009). Furthermore, the concept was eligible for two years of financial support through the EU Community Initiative URBAN ("URBAN VIENNA - Belt Plus"**).**

Connectivity to the practice field

RUSZ is likely to have been the first in establishing the practice field of repairing, re-use or extending the life time of different products in Austria, in the combination of a repair service provider as a social enterprise with the aspect of the reintegration of long-term unemployed. This was confirmed in an interview with the CEO of arbeit plus (Interview P, p1).

2.1.2 Case A2: Bulgaria: Collection and recycling of hazardous waste

Description, developmentof the Social Innovation Initiative

BalBok Engineering (which is a Bulgarian company that works with hazardous waste) together with Sofia municipality is applying since 2012 a completely new for Bulgaria, "System for separate collection of hazardous waste from the households". Hazardous waste is collected free of charge – because paid for by the municipality - from the households by request, and every month in a mobile collection point.

The core idea of the social innovation is to ensure clean and safe urban environment by providing opportunities for separate collection of the hazardous waste generated by households. A major advantage of this innovative service is the fact that waste could be collected directly from the homes of citizens by request from their side. It also disseminates information about the meaning of different signs for danger on the packaging of the products and thus helps households to limit the formation of hazardous waste.

The system for separate collection is implemented in Sofia and in other municipalities in Bulgaria. The free collection of waste from home addresses is done through a request on a universal phone number. There is also an option the citizen to bring the waste to a mobile collection point in the particular city. Most often mobile collection points are placed near district administration buildings of which citizens are well aware. They are serviced by trained personnel that sorts the disposed waste. Thus, safety and strict accountability is ensured. Furthermore, the personnel is responsible for answering citizens' questions and facilitating the process of identification of hazardous waste. BalBok provides packaging for safe transportation.

The System ensures compliance with national and European environmental legislation in the field of waste management and provides comfort and safety for the population. It guarantees the separation of hazardous waste from the mainstream domestic waste, as well as from the separately collected fractions of paper, metal, glass and plastic.

Actors, partnerships, alliances, networks

The initiative for developing the collection and recycling system of hazardous wastehas come from the Sofia Municipality. Municipalities are natural partners in the system of waste collection and recycling as national legislation on waste management requires municipalities to separately collect hazardous waste. After investigating firms in the field of waste management, the Municipality has chosen BalBok Engineering based on its expertise in the field. In

2011 the model of the System was developed and in 2012 it was completed and implemented through a pilot project between BalBok and Sofia Municipality.

BalBok Engineering operates in the field of waste management for more than 25 years. At the beginning the company's main activity has been cementation of radioactive waste. The practical activity of the company has been based on serious research that helped to solve environmental problems. Consequently the company widened the field of its activity and included hazardous waste, such as pesticides.

From 2014 onwards, BalBok Engineering started implementing the collection and recycling system of hazardous wasteon the territory of other cities in Bulgaria – Plovdiv, Veliko Turnovo, Sliven, Sredets, Radomir, Levski, and Bansko. Several large companies and chains in Bulgaria implemented a similar approach, thereby contributing to public awareness.

Innovative solution

The solution is innovative in that it offers a truly innovative service that did not exist before on national level and ensures compliance with national and European environmental legislation in the field of waste management. It is a cost-effective solution based on existing capacity in which the collection and recycling system of hazardous wastecan be implemented immediately without the need for investment and at the same time covers the entire life cycle of waste.

The collection and recycling system of hazardous wasteof BalBok Engineering and Sofia Municipality is considered to address different forms of innovation. On the one hand, it addresses service innovation by providing a new type of service to citizens – separate collection of hazardous waste from households.

It is also a process innovation since the founders had to develop a new process of collecting waste (through mobile collection points). And also an organizational innovation – BalBok had to train employees that will take part in the implementation of the system, how to handle hazardous waste, how to store it, how to transport it. They should also be trained on giving instructions to citizens about issues related to hazardous waste.

It could also be categorised as addressing a system innovation since it addresses the societal need to create an environmentally sustainable economic system. The system for separate collection of hazardous waste from households is not an integrated but a separate system in the field of waste management, as hazardous waste is a subject to specific requirements regarding its collection, transportation and disposal included in the Law on Waste Management.

Gaining momentum

Legal requirements, inflicted upon municipalities through Bulgaria's becoming a member of the European Union. The System was introduced as a response to the measures of the Programme for waste management of Sofia Municipality and the legal obligations of municipalities to organize separate collection of hazardous household waste, outside the scope of regulations regarding widespread waste. The current national and European ecological legislation in the field of waste management has influenced the development of the System in a positive way, giving motivation to the founders to offer a new service that complies with this legislation.

Increasing environmental awareness The inclusion of waste with hazardous characteristics in the mainstream households' waste has negative effect on human health, causes environmental pollution and affects the normal exploitation of the depots.

Specialization of private partner The initial partner BalBok Engineering is specialised in the planning and implementation of activities in hazardous waste management, with extensive experience in the field and highly qualified and experienced team who is aware of the situation with waste in Bulgaria and of best world practices in the field.

Barriers However, there are some barriers related to the social innovation. A barrier related to the implementation of the system for the collection and recycling of hazardous waste in municipalities is the lack of interest on behalf of official municipal administration and the population as a whole, keeping in mind the fact that such systems have never

existed before. Lack of budget for information provision and the attempts for direct application of practices from other countries that do not reflect different realities in society (e.g. frequent change of residence, change in infrastructure, etc.) are also barriers related to the System's development and implementation. The System could be improved and could reach more households if the number and depth of awareness-raising campaigns, and the number of mobile collection points available, were increased.

Complementary innovation

What needs to be done in order to benefit from the System is to overcome the mistrust and to build habit among citizens to treat hazardous waste with priority. Citizens need to become active. This could be achieved by organising different information campaigns to raise citizens' awareness and to motivate them to manage their waste in a more sustainable way.

Learning on part of users is important for the System to the extent that citizens should be able to understand the provided information related to, for example, the meaning of different signs for danger on the packaging of the products.

Impact, diffusion and imitation

Quantities of hazardous waste collected within the System from 2012-2014 have reached 5 473 kg. Also, an increasing number of households are participating in the System and are learning to properly dispose their waste, along with the municipal workers who oversee this process.

The pilot project for the system for the collection and recycling of hazardous waste was reported as very successful. In 2014 around 300 citizens had taken advantage of it and had submitted around 1 ton of waste. The numbers for 2015 are almost doubled number of citizens and four times more submitted waste. Since the beginning the System reports continuous increase in separately collected quantities of waste.

The most important success reported by BalBok is that the system for the collection and recycling of hazardous waste has its regular customers – households that regularly transmit their hazardous waste. What is also important is the amount of the waste collected which increases annually. Since 2012 nearly 12 tones hazardous waste have been collected only in Sofia.

There are also a lot of companies that want to join the System by financing campaigns for collection of certain types of hazardous waste in mobile collection points and thus to inspire "green" thinking of the employees and customers.

Role of policy

The current national and European ecological legislation in the field of waste management has influenced the development of the System in a positive way, giving motivation to the founders to offer a new service that complies with this legislation.

Although Eurostat data shows that no material and organic recycling of municipal waste was reported by Bulgaria from 2001 to 2010, it is believed that some initiatives taken after 2010 by the Bulgarian government (the Waste Management Act, adopted in July 2012; the National Waste Management Programme for the period 2009-2013; the National Strategic Plan for diversion of biodegradable waste going to landfills 2010-2020; and Decree No 207/16.09.2010 on landfill tax, adopted in January 2011) will contribute to improving the recycling rate in the country. However, in order to achieve the 50% recycling target for municipal solid waste by 2020 exceptional efforts will be required.

Connectivity to the practice field

According to the Waste Management Act, industry and big producers are obliged to separately collect and dispose hazardous waste generated by their activities. With regard to hazardous waste generated by households, there are not many initiatives in Bulgaria that facilitate its separate collection and safe disposal. Therefore, the System developed and implemented by BalBok Engineering contributes to configuring the practice field "Reducing waste of raw

materials and recycling" on national level to a high extent. By targeting households it motivates people to dispose their waste in a sustainable way and make them think of taking part in and benefiting from other initiatives related to recycling and safety waste disposal. This in turn results in organization of more activities in the field and in the development of more projects in the field of recycling on national level.

2.1.3 Case A3: Romania: Ateliere fara frontiere (AFF)

Description, development of the Social Innovation Initiative

Ateliere Fara Frontiere (AFF) is a Romanian non-profit association, a social enterprise that creates jobs for disadvantaged people in workshops of social economy, with the purpose of preparing these people for full social and professional reintegration on the conventional work market.

AFF was first implemented in 2008, initially based on of the French model of the Ateliers Sans Frontieres Association. The social and professional counseling methodology and the instruments have been adapted over the years to the Romanian context and stakeholder specificities. Initiator and present director of AFF Romania is Patrick Ouriaghli, who also initiated "Ateliers sans Frontieres" in Morocco. He followed the French model of "Ateliers sans frontiers". It is a best practice adoption in Romania of the type of association existing in France.

Actors, partnerships, alliances, networks

The innovative solutions needed the support of two types of actors/partners: those providing used ICT equipment and those offering jobs for low qualified persons prepared by AFF for work integration.Initial partners were Autoritatea Nationala pentru Tineret (National Authority for Youth), APANOVA (state company for water distribution in Bucharest), Lafarge Romania, Microsoft Romania, Petrom.

In its Annual Report 2014, AFF distinguishes between 1) Strategic partners: APANOVA, Carrefour and BRD Bank, 2) Financial partners, who support with financial means, and 3) Operational partners, who support with direct activities or material donations (Vodafone, Auchan, Microsoft, Vaillant, Complete Training, DHL etc). Partners interact with AFF on the specific matters of the moment (e.g. partner providing used computers, AFF offering jobs for disadvantaged working in Reduce, Reuse, Recycle activities).

AFF also partners with Ecotic who supports their reuse activities through a monetary donation gained from the visible fee of new products in order to help AFF in its reuse and refurbishment of ICT equipment. ECOTIC represents more than 500 EEE producers and importers and is Romania's first scheme of producers and importers of electric and electronic equipment (EEE), set up in 2006. Ecotic supports access to potentially reusable products by occasionally letting AFF know whether clearances from consumers are likely to yield a high proportion of reusable equipment. (RREUSE, 2013)

AFF with 7 other NGOs in Romania have established a national network RiseRomania - Romanian network of social integration enterprises by economic activity. AFF is also member of the European networks RREUSE and ENSIE.

Innovative solution

The new solution proposed by AFF refers to (1) workshops for collecting and reuse/refurbish discarded computers, monitors, printers, scanners, faxes, phones, audio and video devices, refrigerators, microwave machines, light units and other electrical or electronic devices, combined with (2) social & work integration – through AFF as a social enterprise, not for profit in nature, serving the disadvantaged communities, and combine the efforts and expertise of voluntary and paid workers. AFF delivers a range of goods and services and, in the process, creates training and employment opportunities for long-term unemployed and other marginalized groups. Both issues are met separately in various initiatives but AFF proposes a symbiosis of the two.

Gaining momentum

Strategic network partners Along AFF's lifetime, a key factor for success was the relationships of the initiators with French companies located in Romania and with companies aware of the social responsibility they have (for example APANOVA).

Networks in general AFF is concerned in having links all over Romania but maintaining the headquarters in Bucharest. Due to good relations with French companies located in Romania, those links are easily established and cooperation started. NGOs and companies support the initiative even state support was not provided. The actions taken to secure successful progression of the project refer to new links with actors involved in the two main areas of the AFF (environment and employment) as needed for the activities envisaged (for example cooperation with ECOTIC NGO for ASSOCLIC action). All the actions are taken by the leading team and based on personal or institutional relations of the team, so, the actions are internal, and mainly the leadership contributed to success of AFF. New partners came over time, usually at the initiative of the leading team of AFF and occasionally from partners themselves due to credit of AFF in the area or activity in which the cooperation was requested.

Reputation The reputation of AFF as an organization with altruistic motives – supporting people in need despite the lack of interest and support on part of the central and local administrations – motivated partnerships with sympathizing organizations.

Social entrepreneurs within AFF The evolution of AFF projects is entirely controlled by the leading team, and opportunities appear to the extent that team and partners close to the project find means to sustain the initiative.

There is also support from beneficiaries– for example schools, which support the project due to their interest of getting PCs (as donations) refurbished by AFF. AFF actually compensates for (missing) public procurement in this respect.

Individuals, culture Drivers of the initiative are persons eager to allocate time and effort to maintain the cycle of collecting / reusing PCs based on work integration of individuals from disadvantaged groups.

Critical events in the AFF project are those when gaps or unacceptable delays appear in the cycle of reusing PCs – work integration. Missing public financing Many barriers had to be surpassed: financial matters, difficulties to persuade companies to cooperate on one side, and difficulties to persuade individuals from disadvantaged groups to prepare for work integration through the AFF training processes. All those barriers are more severe in the context of no support from state (government and administration).

Critical events that threatened the progress of the initiative are several delays in the financial support (coming from donations or from selling refurbished PCs). In this context, a support from government and/or local administration would be of great help to smooth the development of the social innovation project.

In general, the different partnerships are continuously extended and each partner cooperates/intervenes when appropriate or required. To mobilise these cooperation partners, charismatic leadership is important

Complementary innovation

Complementary innovation is on the one hand required by the AFF users because they are persons who try to begin or change toward a normal life, changing habits, changing the status or changing view on the working life. Hence, for each category of persons, AFF councilors and respective persons approach new and adapted solutions on the case.Impact, diffusion and imitation. On the other hand, entry barriers to start this scheme are deliberately kept low.

Furthermore, AFF has to constantly live up to new requirements. In its way of running, AFF encounters challenges and changes both in ICT equipment reuse (new technologies or diversification of recycling), and services addressing different types of disadvantaged also need new knowledge in many respects: psychological approaches, counseling procedures, formative processes, fitness to existing jobs etc. For a successful deployment of the initiative there are many capabilities required, among them for example good analysis techniques of the employment perspectives of a

certain person in certain conditions so, thus counselors and the counseling process require specific capacities and a dynamic adaptation to the current context or new developments in the field

Impacts

Only for the year 2014, facts and impacts of AFF are (according to Annual Report 2014)

- 36 employees in the work integration programme
- 4 people integrated on the labour market
- 60 partners
- 99 tons of waste collected, WEEE and advertising waste
- 47 per cent of WEE reused
- 7744 Remesh products sold
- 293 client organizations
- 42 per cent of total income of the association from economic activity
- 1890 computers donated to 495 schools and associations
- 99100 beneficiaries in solidarity projects

Role of policy

The national policy context in the area of environment (and sometime employment) is driven mainly by the EU strategies in the area, thus the development of the social innovation project follows and uses the new regulations that appear.

Policy programs play an important role in AFF innovation project. Legislation and regulations are important for the way the project deploys and extends. In this respect, together with the Romanian Social Integration Enterprise Network RiseRomania and the European networks, AFF is part of ENSIE and RReuse and contributed to making recommendations for action on policy favorable to the development of the sector at a national and European level and for improvements on legislation regarding the social economy proposed by the Romanian government in 2013.

However, no policy actors get involved directly in the AFF activity and promotion. Different policy levels (mainly at local and national levels) may get roles in stimulating and supporting the initiatives on both sides: the waste (WEEE) reduction and work integration of unemployed and disadvantaged.

Connectivity to the practice field

AFF is considered to contribute to configuring the practice field in Romania to a great extent, since no other initiative exists so far that combines the two goals (social and ecological). More than that, in close cooperation with other NGOs AFF is shaping a methodology on combining waste reduction and work integration of disadvantaged people ready to be adopted at national and international level, and also AFF contributes to legislation improvement regarding social enterprises in Romania.

2.1.4 Case A4: Romania: Application of Industrial Ecosystems Principles (ECOREG)

Description, development of the Social Innovation Initiative

The full title of the project is Application of Industrial Ecosystems Principles to Regional Development – ECOREG and its main aim is to convert wastes/by-products of one industrial firm into resources/input for another industrial firm in the region (seconday materials).

The Project aims to test in Romania the concept of Industrial Symbiosis, which has already been implemented through a governmental programme in the United Kingdom. ECOREG draws on the experience in enrolling a British partner organization that has gained experience in the UK project.

ECOREG incorporates environmental, economic and social objectives (see http://www.nisp-ecoreg.ro/default_en.aspx, last accessed January 22nd, 2017). **Environmental** objectives are the reduction in raw material consumption; reduction of waste generation and pollutant emissions; and in general, a significant reduction of environmental impact by developing result-based programmes at the level of industrial units. **Economic** objectives are the increase of economic efficiency and reduction in environmental expenditure. **Social** objectives are the creation of new jobs; the improvement of public image and of interrelation between industrial units; and the increase of the region's touristic attractiveness.

ECOREG received financing through the LIFE + programme of the European Union from 2009-11. The pilot region was Suceava County.

Actors, partnerships, alliances, networks

The initial network was formed by the Ministry of Environment, GEC Bucovina, ECOIND NRDI, and ISL.

The **coordinating beneficiary** is the **Ministry of Environment and Forests (MoEF)** which sets the national policy for environment, water and forest management.

Associated partners:

- **INCD ECOIND** is an institution of national and international interest in the field of environmental research and services, with over 30 years experience; the institute is certified by the Ministry of Environment and Forests for pollution assessment. (http://www.incdecoind.ro/en/, last accessed January 22nd, 2017)

- **Ecological Group for Co-operation - GEC Bucovina** is a non-governmental organization, scientific, specialized, non-profit, independent, non-patrimonial, with juridical personality, established in year 1997 which has the scope to protect nature through promotion of actions and socio-economic founded projects for human-nature equilibrium. (http://www.nisp-ecoreg.ro/partners.aspx, last accessed January 22nd, 2017)

- **International Synergies Ltd (ISL)** was established in 2005 to identify, develop and deliver industrial ecology based solutions for industry worldwide. ISL's best known project is the National Industrial Symbiosis Programme (NISP) – which helps business turn their waste into resources. In the UK NISP is funded by Defra's BREW programme, the Welsh Assembly Government, the Scottish Executive and Invest Northern Ireland.

- The actors of the **symbiotic network** (companies disposing and/or using waste) increased over time, at the end of the pilot project **reaching 178 participating companies**.

Innovative solution

The ideas and knowledge of the ECOREG project come from two previous initiatives in Europe: the project Kalundborg (Denmark) and NISP - National Industrial Programme Symbiosys (UK). Kalundborg united seven local companies in the City of Kalundborg to build a symbiotic network in which by-products, waste and energy produced by some partners constitute raw materials and sources of energy and utilities valuable to others. The UK NISP is recognized as the world's first initiative, related to Industrial symbiosis, operating at the state level, which already has a network of 12 regional offices.

Interested industrial firms are requested to identify any kind of resources that are needless for their own company (OFFER-OUTCOME/ "HAVE"), which are meant to leave the company and produce additional cost – e.g. wastes which can be re-used in other production cycles, by-products, excess space, unused expertise. Furthermore, they are requested to make a list with any resources that they need in their own business (DEMAND-INCOME/ "WANT"), for which they spend money and time in order to identify on the traditional markets. All the resources, Offer or Demand, are considered within Industrial Symbiosis approach (one entity's waste – another entity's resource), in a broad context. The data firms provide are further analysed by the ECOREG project team, who in turn may come up with a possible match. The service is provided free of charge for participating companies. (http://www.nisp-ecoreg.ro/how_to_join.aspx, last accessed January 22nd, 2017).

Implementing the principles of industrial symbiosis has two main components: a scientific expertise – technology component and a strategic management component. Technical skills of the participants and project partners 'specialists in their own field of activity is by no means enough. Specialists must have extensive knowledge about their area related fields and strategic skills to implement changes.

Gaining momentum

The drivers of the symbiotic network were the common interests and the economic potential of re-using waste (both for "producers" and for "consumers" of waste) due to competitive advantage and also applying principles of the ecology. So, the main stimulating factor – is the interest of the units for implementing the synergies.

The main barrier was the financial support needed for innovation and for new technologies required by the units participating in the network.

Due to the fact that the social innovation regarding industrial symbiosis is new on a global scale, the initiators' views changed over time as a result of experiment and research/discussion with ISL – NISP. On the whole, such an initiative should be stimulated continuously by a leading board at the respective geographical level or administration. For ECOREG this was the Project Coordinating Committee. A critical factor that threatened the progress of the initiative was the poor, or missing, activity of the board for some period of time. However, once the symbiosis has started, the network runs on an economic basis and does not need further impulse.

Complementary innovation

Sustaining the implementation of synergies requires establishing mechanisms to support their strategic and operational levels. This involves analyzing the results by top management implementation and integration of the synergistic approach in the company's operation, for example using environmental management system structure and its tools for continuous improvement. The symbiosis itself is often obtained through an innovation process, because reusing waste needs new technologies or complementary procedures.

Some synergies involve investment / adaptations in technologies used, hence the technology could be an important issue in some cases.

Impacts

Results: Information on 638 resources has been collected from four workshops in Suceava, Vatra Dornei, Rădăuți and Dorohoi, as well as from an additional targeted mini-workshop in Suceava. A total of 246 synergies have been identified for 638 resources, which have all been entered onto the SYNERGie database.

The impact of ECOREG as a social innovation was significant for the region: The number of 178 industrial units were included in the network, from which for 200 potential synergies were identified of which 15 have been completed. These include synergies within the following sectors: Wood, Food, Construction and demolition. 16 waste categories and other resources (space, expertise, storing capacity, technology) were tackled and 235,034 tonnes are recorded as 'have' resources on ECOREG project database. In this view, the social innovation was important and the diffusion (regarding the 178 companies in the area) was significant.

Role of policy

Policy actors have important roles in the social innovation project ECOREG. The project received financing by the progamme LIFE+ on the EU level, as well as national co-financing from the Ministry of Environment and the Ministry for the Economy. Policy programs played an important role, and it is expected that the "Plan for circular economy" expected will smooth the way toward industrial symbiosis. Of great importance are the different roles for policy on the local regional and national levels.

Connectivity to the practice field

As the area of industrial symbiosis is new in Romania and in Central and Eastern Europe, we can say that this project definitely contributed to configuring the practice field “Reducing waste of raw materials & recycling” there. Even on the Euroean level it is only the third project of its kind, after Kalundborg (Denmark) and NISP (UK).

2.1.5 Case A5: Sweden: Myrorna

Description, development of the Social Innovation Initiative

Myrorna's mission is to facilitate reuse of a range of goods, e.g. through effective collection, repair and re-sale at low cost, always using environmentally friendly practices, reaching out broadly in society. While it aims to provide the most needy with an affordable supply, Myrorna is mindful to add quality to its products, be up-to-date with fashion and be competitive in the market. It also offers job trainingforboth professionalism and a morehumaneand sustainable society.

Myrorna was founded in the 1890ies, where there was a sort of fragmentation in society and lack of response in business to the needs of poor people, because their purchasing power was low. Because of the connection with the salvation army and high integrity, Myrorna has beenable to work across social boundaries to make re-use attractive and socially acceptable, and avoid the implicit conflict caused by fragmentation.

The Salvation Army was responsible and the organization has had as its basic incentive, except for helping the poor, countering waste and stimulating re-use, to generate profit for the purpose of backing up the Salvation army’s social projects.

Actors, partnerships, alliances, networks

The history of Myrorna dates back to the late 19th century. In the early 1890s, a group of ladies in Stockholm started a charitable association, devoting themselves to collecting and repairing old furniture, clothes and household items. Around that time the Salvation army started different social welfare projects, for men with activity refurbishment of furniture, shoemaking etc. One purpose was to help released prisoners and needy men to acquire a job so they could earn an income for them and their families.In 1899, the women's business was renamed “Myrorna” and the ownership transferred to the Salvation Army, in order to lend support to its social cause.

Today, Myrorna cooperates with municipalities and regional bodies. These help with the collection of used products that are then recycled by Myrorna. They view Myrorna as a partner in countering waste, alleviating social problems and building environmental awareness.

Myrorna has actively built long-term partnerships with suitable market players, mostly as a tool to improve its business operation or its outreach. Myrorna has been careful to cooperate with those who have similar values regarding reuse of goods as well as share support a social cause (social welfare projects of Salvation army). Cooperation partners in the fashion industry are Lindex, Vanergruppen, MQ, Åhléns and Lagerhaus. Myrorna participates in a research project Mistra, commenced with Lindex for store collection from customers.

Innovative solution

Myrorna bridges between those that wish to get rid of their goods and those that have unmet needs. It combines innovation in reach of up-take and processing with similar inclusion and reach vis-a-vis customers. Myrorna further arranges with daily accessible collection points and outlets to reduce society's environmental impact and contribute to sustainable development. Using a country-wide network of combined collection points and sales outlets, Myrorna makes use of its huge reach and efficient practices to achieve low-cost recirculation of used goods at affordable prices in a socially acceptable manner and with fashion-consciousness.

Gaining momentum

Myrorna has elaborated its strategic positioning in the value proposition to customers “Our whole DNA is a sustainable business” (Sustainability report, p4), and openness of communication, value reflexion, and detailed CSR strategy. Myrorna is associated with high integrity (p1). It sets itself ambitious goals “We therefore aim to double our textile collection 2018.” (Sustainability report, p14)Systematic strategy work helped grow an organization capable of diffusing information and generate favorable mindset change. Also, professional accounting and regular sustainability audits/reports and various evaluations have helped underpin sound strategy decisions.

The social benefit has been there and visible throughout. On the social side, awareness creation and reaching out in society has always been key.

Later on, strategy decisions reducing costs, making transport and logistics more efficient, increasing investment, providing professional training to staff, achieving growth and hiring qualified managers, have attained high priority.

The offering of stylish quality goods along with comprehensive quality and sustainable processes support the concept and the goodwill associated with Myrorna.

Complementary innovation

To donate household items has low entry barriers in terms of knowledge and capacity on part of the donors. Hindering factors are distance and size of appliances to be transported. However, transport services offered by Myrorna partly balance these.

At the beginning, there was contempt for re-use and social stigma which worked as a barrier. People had to get used to estimating reuse as something positive and environmentally friendly. Gradually, attitudes and practices changed, with Myrorna playing a role in reducing the boundaries between social classes in this context.

Impact, diffusion and imitation

- Myrorna is Sweden's largest retail chain of second-hand goods and the largest collector of used goods.
- Annually 30 million SEK (3.3 million euros for the Salvation army welfare projects.
- 34 stores across Sweden
- Around 2000 Job trainees on regular basis)
- Increased awareness to reuse stuff
- Impact on daily practices and routines: Myrorna made re-use attractive and socially acceptable
- Myrorna arranges job training for the less qualified/skilled people who have had limited experience in the labour market or been out from there for some time, and and trains them to start work again and live an active and better life. Presently, Myrorna has around 2000 job trainees
- Partnerships with 123 municipalities etc (Sustainability report)
- 1,406,176 books sold
- 2,863,902 sold furnishing products
- 1,440,887 sold clothing and textiles
- Certification project:Myrorna participates as the only player in the collection in Sweden in a pilot test of the voluntary Certification System "Nordic Textile reuse and recycling commitment ". The project is part of the Nordic Council of Ministers' initiative for green growth. It has been initiated by Nordic waste group, and led by, among Another IVL Swedish Environmental Research Institute.
- The Salvation Army has similar projects in other countries i.e. Salvation army in Norway has started the same business activities in Norway to generate funds for their social projects.

Role of policy

Myrorna has a high ability to communicate across social boundaries, and build openness to accept new solutions as well as view re-use as a good thing. Myrorna benefits from policy initiatives that support this kind of mindset, at national as well as regional, local, and community level.

Policymaking has an important role to play in partly pushing and partly pulling the advance of improved resource management through re-use. In the case of Myrorna,the introduction of a national waste plan provided important impetus by setting guidelines for how to reduce waste. This provided Myrorna with a more visible edge relative to other actors in the market. Policy programmes played no role in the beginning of the project but, in recent years, national policies such as the "National waste programme" has raised awareness and provided sharp tools of measurement and also more tangible reward/management for individuals' treatment of the environment. This has had a great impact on Myrorna's activities, although the organization has retained its integrity and independence from policy.

Policies –when Myrorna was inititated in the 1890ies - relied on "charity" culture, through which solidarity served as an important basis for people's willingness to contribute to the less fortunate, and where ethics and regulations were key to improving environmental practices. Gradually, policy has shifted towards providing economic incentives and promoting better measurement, transparency and behavioral responses to environmental and social issues. Myrorna was ahead of the curve in this respect, and has thus helped pull the change in government policy. Conversely, the change in policy helped reward Myrorna's approach and facilitated for them to adopt a more professional approach.

Connectivity to the practice field

Myrorna started early, in the late 19th century, and diffused widely across Sweden. It pioneered complementary quality-enhancing features that helped generate the practice field in Sweden.

2.2 PRACTICE FIELD CONCLUSIONS

The practice field of repairing, reuse and recycling products accommodates five social innovation initiatives with different perspectives on social change. Considering social change, the SI DRIVE approach puts emphasis on social practices which are a rough proxy for a set of behaviors within an unspecified social entity in an unspecified period of time. For our purposes we consider them as collective regularities that diffuse in some form of social entity (maybe a small group, maybe larger society) in a longer run (as most shortterm changes are difficult to interpret). The approach is based on the assumption that the relationship between social innovation and social change occurs via a change in social practices. Social practices are repeated and newly-created regularities, which are public and thus observable (SI Drive Critical Literature Review, p 13).

In the present practice field, social practices analysed in the different social innovation initiatives are rather homogeneous in that four out of five refer to **household practices of repairing, reusing and recycling**. All four social innovation initiatives realise opportunities and achieve substantial service and organizational innovations in order to either grant a **second life to household goods or have them disassembled for reuse** of parts where possible. With this, the social innovations respond to the societal challenge of achieving resource efficiency and aim at introducing and spreading new household practices that deviate from widespread existing household practices of consuming and discarding, thus increasing the amount of waste.

Although the four (out of five) social innovation initiatives in this practice field are homogeneous in terms of addressing household practices of repairing, reuse and recycling, they could not be more heterogeneous in terms of their histories. Myrorna from Sweden is a very mature case, 125 years old, founded by private ladies in Stockholm for reasons of altruism, and then taken over by a charity. In Austria RUSZ, in contrast, has been founded in the 1990ies, in response to new labor market policies under the title of "Experimental Labor Market Policy", to help long-term unemployed people return to the labor market. In Romania, "Ateliere fara frontier" (AFF) was first created in 2008, initially based on the French model of the Ateliers Sans Frontieres Association. The social and professional counseling methodology and the instruments have been adapted over the years to the Romanian context and stakeholder specificities. In Bulgaria, the system for the collection and recycling of hazardous waste was implemented in 2012 by a public-private partnership, i.e. the Sofia Municipality and BalBok Engineering, a private company in the field of waste management, in response to Bulgaria's accession to the European Union in 2007, where municipalities are obliged to introduce new standards, procedures and requirements towards activities related to waste production and treatment.

The above social innovation initiatives have to be seen in relation to the discussions on the **circular economy**, especially driven by the EU-level. "The circular economy is rapidly rising up political and business agendas. In contrast to today's largely linear, 'take-make-use-dispose' economy, a circular economy represents a development strategy that enables economic growth while aiming to optimise the chain of consumption of biological and technical materials." (Institute for Environmental Studies and Policy Studies Institute at the University of Westminster 2014) In this respect, it is especially interesting that in the above report, **from the five activities associated with the circular economy, repairing and maintenance is least diffused and also least planned for the future.** "At present, all five circular economy activities are considered important, however, 'Business models for resource efficiency' stand out followed by 'Recycling', 'Sustainable design' and 'Re-use'. Interestingly, 'Repair and maintenance' is considered as the least important. In the future, the most important circular economy activity is expected to relate to changing business models for resource efficiency." (Talmon-Gross, Miedzinski, and Technopolis Group 2015) From the results of the above case studies, we would attribute this to **high labour cost in many counties which particularly negatively affect labour-intensive activities as repair and maintenance**.

Incentives The strength of the practice field of repairing, reusing and recycling lies in the realization of win-win situations, i.e. the combination of social and ecological goals allows for the realization of win-wins which help to address different societal challenges. What may be useless to some people, may – once repaired - be of high value and use to others. To organize repair and change of ownership that together or separately grant a second life-cycle to goods that would otherwise have been thrown away (environmental impacts) at the same time provides job opportunities for the less advantaged and supports the re-integration of longterm unemployed (social impacts). And repair service themselves, prolong the life of goods and, if carried out by people with difficult employment histories, serve social goals of inclusion and re-integration.

Empowerment Another strength of the practice field lies in its empowerment function. Citizens (in ECOREG: industrial firms) are empowered to manage their waste in a sustainable way and to mitigate their negative impact on the environment. The notion of empowerment has gained interest in several disciplines. As a general concept, it is characterized by following a strength-oriented perception in contrast to a deficit-oriented perception. In social work, empowerment presumes active, collabo-rative roles for client–partners, instead of viewing clients as weak, passive and inef-fectual (DuBois & Krogsrud Miley, 2005). Although empowerment has several dimensions, they all refer to informing about otherwise hidden features (which is crucial for informed decision-making), viable options and consequences, provide feasible alternatives.

However, there are different types of difficulties which social innovation initiatives apparently have to be overcome:

- One, although all four cases attempt to function as businesses and to a great deal **integrate business rationality** into their undertaking, they all do rely on other forms of income as well, except for revenues from products and services. They are all of a hybrid form, with **either public partners forming a pivotal axis, or charities**.

- Two, there is a need for **complementary services** to keep entry barriers low, Transport services often complement repair services, or even collection services, because people do not want to or cannot carry heavy loads in order to have their household goods maintained or recycled.

- Three**,** still, **demand is latent**. Latent demand is a critical factor for this kind of social innovation initiatives. Although there often is a strong social demand (unemployment) for one service, the latter (repair) is more assumed or latent demand. It is often perceived by the initiators of the social innovation initiatives as a tension or societal challenge (kickstarted by statistics on amounts of waste). Although the sustainability aspects are more and more in the focus of discussions and offerings, many social innovation projects promoting sustainability aspects operate on an agenda which is beyond concrete and local demands. Initiators of such projects start on the basis of assumed or latent demand that may become explicit and – in case of success -translate into actual demand as soon as service offerings take concrete form. Thus social innovation initiatives have an important role as they provide real feasible alternatives to the existing ways of doing things.

- Repair, re-use and recycling services are **easy to opt-out** of. There is a variety of actions that can be taken instead of having devices granted a second life, which makes **competition** tough in the field. (discarding, buying a new device, storing at home, disposing of illegally etc)

Diffusion

Keeping in mind the increasing negative effect of human actions on environment, it could be claimed that the diffusion of any initiatives/projects (in the field of environment) related to mitigating this effect is quite desirable. Furthermore, the increasing number of initiatives in the field and the increasing number of citizens that want to take part in them show that the diffusion of social innovations in the field of environment is quite feasible.

Social innovations in the practice field support social change in

- **Realizing opportunities** in terms of win-win, organizational architecture and financing models (public, charitable), complemented by business rationality. (*Variation*)

- They act as **entities of change**. In the Policy field of environment and climate change, social innovation initiatives are quite easily delimited from the institutional and organizational landscape around. (in contrast to, e.g. health, where multi-faceted organizational innovations occur at the same time that different layers of the whole landscape change, and it is all interlinked. So on the whole the edges of social innovations may not be clear). (*Variation)*

- **Accelerate introduction of new services** in taking over tasks that call for policy action conceptually (market failures) (*Variation*)

- **Point to systemic tensions,** on the basis of experiences and statistics in the field (*learning, tensions*).

- **Find and adapt their strategic positioning** to be able to offer new services addressing the challenge, in order to counteract conflicts and selection processes (*conflict*, *selection*)

- Institutionalize change, in **impacting on standards, norms and regulations (***planning and instituztionalization of change***)**

- Diffuse and raise awareness, with the help of **media, in order to stabilize demand and supply (***diffusion***)**

3 PRACTICE FIELD B: ALTERNATIVE AND SUSTAINABLE FOOD

The practice field sustainable food production and distribution encompasses different types of social innovations aiming to produce food in a more sustainable way with regard to the environment, society and health. Some social innovations address primarily organic farming or develop strategies to reduce contamination of food supplies through ecologically unfriendly agricultural and food processing methods. Another dimension of food production is the goal to reduce food waste and waste around food. Many of these social innovations do address additional societal challenges such as employing handicapped people.

The case studies included in this practice field are as heterogeneous as the whole practice field description above. The North Atlantic Salmon Fund (NASF, Iceland) and Tarimsal Pazalarma(Turkey) share some similarities and are thus analysed together. The third case in this practice field is ETO (Association of Ecological Agriculture, Turkey). The social practice they address can be seen as “sustainable farming and fishing”, or “sustainable primary production”. A further case, Iss mich (Eat me, Austria) is an Austrian case addressing the reduction food waste – in some aspects it resembles more the cases that are analysed in the previous practice field on upcycling and recycling, except for that it addresses actually trade and industrial practices and not so much household practices.

For the purposes of analysis, the practice field of alternative and sustainable food production and distribution is divided in sub-practice fields: 1.) Sustainable primary production for food production and distribution and 2.) Reducing food waste.

SUB-PRACTICE FIELD: Sustainable primary production for food production and distribution

The North Atlantic Salmon Fund (NASF) and Tarimsal Pazalarma are both social enterprises. The goals of the social innovation initiatives in this practice field are to avoid practices that make farming and fishing unsustainable because they lead to the exploitation of nature in terms of degrading soil and endangering wild species (ecological goals). Furthermore, they want to improve standards of living for families in agriculture and fishing businesses, allowing them to stay on the land (socio-economic goals).

Sectorally, these social innovation initiatives address producers in the primary production sector that act as basic suppliers for the food industry. The long-term question is how to make fishing and agriculture viable so that farmers and fishermen can profit from their products without eroding the basis. Tensions arise particularly because these food suppliers are traditional family businesses, which have existed for generations. Selling fish in maritime regions and agricultural production have been important economic activities for mankind from very early on. Exploiting natural resources in terms of decimating salmon stocks or deteriorating soil quality are a social andeconomic problem, as much as an ecological one.

Processes and dynamics of social innovation in relation to social change

Around 20 years ago NASF was started in Iceland by an entrepreneur, Orri Vigfússon. At the time, severe overfishing was a main cause of reduced salmon stocks in the North Atlantic water streams, in whose ecosystem salmon flourished since ancient times. Over the years, salmon stocks were declining or disappearing from more and more rivers. There was no specific initiative or project which could address the issue. Public authorities did not take any decision to restore the salmon stocks. Further, there was no international commitment/ agreement in place to secure Salmon.

NASF achieved vast impacts and institutionalization over the years, in several countries and continents. Originally, Vigfússon pursued the idea to buy commercial salmon quotas from fishermen in the Faroe Islands. A quota buyout was subsequently agreed with fishermen in Greenland in 1993. Gradually more agreements have been made on both sides of the North Atlantic through the work of NASF and its coalition partner organizations and the governments of Canada, USA, the United Kingdom and Ireland. The North Atlantic Salmon Fund, NASF, has thus grown into an international coalition of voluntary private sector conservation groups which have come together to restore stocks of wild Atlantic salmon to their historic abundance. The commercial conservation agreements established this way has eventually come to cover 85 percent of the waters which the Atlantic salmon inhabit. On this basis, his movement has been able to secure withholding 5 to 10 million salmon from capture by the fishing industry, Further, Drift-netting has been eliminated entirely and all fishing on the high seas has stopped. At present, NASF is working on an international Salmon treaty aimed to secure its currently protected population for the future.

Agricultural Information and Communications Technologies (TABİT) is a social enterprise and social innovation company founded in 2004 in Southwest Turkey. Its project “Tarımsal Pazarlama” (Agricultural Marketing) is an effort to bring information and technological solutions to Turkish farmers. Awareness of best practices is not believed to be high, nor is access to technology in rural Turkey. The organization reaches out to farmers directly as well as their children through their website (www.tarimsalpazarlama.com), at agricultural exhibitions and congresses as well as in the villages directly with their “truck for training”. The organization also operates a model farm in Kasaplar, Aydın, Turkey using modern best practices and advanced technology called “AkıllıKöy” (Smart Village), giving tours to educate farmers and members of rural communities.

It has achieved institutionalization via growth and outreach. The project has grown rapidly since that time to now cover 300,000 fee-paying premium members of the Farmers Club and a further 1,200,000 limited members.

Both initiatives have unique features and pioneering roles in some respects. However, if we consider the practice field to be “alternative and sustainable food production and distribution” they cannot be seen as having configured the practice field and their role on this rough level is hard to define.

Functions and roles of actors and networks

Orri Vigfússon from NASF and Tülin Akın form Tarimsal Pazalarma represent a new breed of environmental change agents who utilize business skills and negotiation tactics to engage stakeholders and effectively protect precious

natural resources. Both provide solutions where everyone stands to gain economically from collaboration; to create a win-win situation.

NASF engages, governments, works with nets men, and the land owners to conserve Salmon stocks. NASF chose partners/ experts based on the specific regions and expertise available, as needed for finding solutions for the conservation of the salmon ecosystem and make sure that the salmon stocks are sustainable. Buyouts are not just payoffs. Vigfusson tries to help the fishermen convert to a more sustainable activity. Therefore, he supports them to realize new economic incentives for ongoing conservation. (see also https://www.ashoka.org/en/fellow/orri-vigfusson, last accessed December 1st, 2016)

For Tarimsal Pazalarma, partnerships were crucial to enable the truly innovative aspect of the social innovation initiative, namely the creation of an entire IT-related "ecosystem" in which www.tarimsalpazarlama.com is able to thrive. Agricultural businesses were not interested in buying web ads because they had no websites to redirect to. Agricultural Marketing has created websites for them as part of a sponsorship package. Agricultural businesses cannot profit from e-commerce because farmers cannot buy online. Agricultural Marketing has partnered with Şekerbank to provide farmers with the means to make online transactions. Farmers aren't interested in websites because they lack home internet connections. Agricultural Marketing partners with Vodafone to deliver their information services via text message. The project Agricultural Marketing has had to devote relatively little time to the creation of a website where farmers could get valuable information and vastly more to creating a system in which farmers are able to access this information and where both firms and farmers receive enough value from the site to be willing to support it financially.

Orri Vigfússon from NASF and Tülin Akın from Tarimsal Pazalarma have both been appointed Ashoka fellows, in 2004 and 2012 respectively.

Critical success and failure factors

In both SI initiatives, the initiators understood from the very inception that if farmers and fishermen themselves did not feel a sense of ownership of the projects or of their participation in it and did not wish to pursue it for their own benefit the initiatives could not succeed.

Charismatic leadership is a factor in both initiatives, in combination with insights and talents by the individual entrepreneurs and innovators, as well as their closest supporters.

Both initiatives may be seen as a substitute for a policy-driven solution. NASF is a response to the absence of policy action, and the inaction of administrators even in the face of disaster. With respect to TarimsalPazalarma.no specific policy has positively influenced the development of the project.

As part of its strategy, NASF engages people to assume a direct role in working out new solutions and new ways to addressing the problems at hand and their solution is a continuous process. Further, the ambitions of the organization have kept growing, with much more still needed and also strived for, at international level and, presently, in the US and at EU level. Power and influence, specific background, financing, geographical proximity (local or distant).Many wealthy and well-placed people for whom fishing is a leisure activity. "From the start, Vigfusson saw an opportunity to enroll them in the fund's activities, as contributors but also as volunteers, lobbyists, and allies. Fly-fishing lawyers help the fund map out its legal strategy, while prominent American diplomats have opened doors in the United States and Europe." (https://www.ashoka.org/en/fellow/orri-vigfusson, last accessed Dec 1st, 2016)

Mechanisms of social change

Learning

In general what was crucial for both solutions was knowledge about actors in the field, laws/regulations, scientific knowledge, facts from media, statistics, etc.

For Tarimsal Pzalarma the fundamental realization addressed through Agricultural Marketing was the lack of access to information among Turkish farmers that has led to environmental degradation in rural areas (chiefly due to overuse of water and chemical fertilizer) and made the rural way of life unsustainable. Competition with global agribusiness has made it progressively more difficult for small farmers operating traditionally to maintain their business and way of life. As some farmers leave the land, the traditional agricultural "ecosystem" (which requires beekeeping and livestock raising for fertilizer) is disrupted. Attempts to maintain or increase productivity overuse water resources and fertilizer, contaminating the local environment and the farmland itself in pursuit of temporary gain. Better information can solve this by providing farmers with better prices, allowing them to stay on the land. The need for environmentally destructive farming techniques is reduced while education on better methods is provided.

In terms of NASF, it was basically the realization that salmon stocks have been diminishing over the last decades. Forthe WWF, salmon is a priority species which needs special protection. It is among the footprint-impacted species – species whose populations are under severe threat because of unsustainable hunting, logging or fishing. (http://wwf.panda.org/what_we_do/endangered_species/, last accessed December 1st, 2016).

The problem of diminishing fish stocks has been well documented by scientific evidence, with new revelations on the seriousness of the situation made public around the time that NASF started. Elinor Ostrom published her seminal book titled Governing the Commons: The Evolution of Institutions for Collective Action in 1990. Conceptually, fish stocks are considered a "common pool resource", which attributes special requirements for the definition of property rights to find a solution which does not lead to the extinction of species. Ostrom received the Nobel prize in Economic Sciences in 2009.

Common pool resources have the characteristic that limiting the catch in one country would have little effect on salmon preservation. Countries that had banned the salmon harvest were seeing no improvement in their river stocks, while those that kept fishing reaped the benefits. (https://www.ashoka.org/en/fellow/orri-vigfusson, last accessed Dec 1st, 2016)

Variation

In "alternative sustainable food production and distribution", there are a variety of important barriers to the success of social initiatives that may not be present in other sectors or communities. It is necessary for primary producers like farmers and fishermen, and members of rural communities in general, to make big changes in the way that they think about their profession, technology, education and their community in order to be able or willing to adopt the new business models, tools or techniques. These can be thought of as complementary innovations required of primary producers. They must come around to the understanding of their rural business model as something fluid, potentially subject to progress rather than only mired in tradition. They must begin to see technology and education as things also important, not exclusively for urban communities. They must begin to see the impacts of personal farming and fishing practices on the greater community.

Over time more awareness and realization has embodied the general public, which has started to play a major role in supporting the conservation of our natural environment and, as part of this, the conservation of species. Related to this, most people have started to display positive attitudes to environmental preservation generally, which holds up potential benefits from those that move in to assume first-mover advantages in countering environmental threats, while those that lag are tarnished and may be subjected to costly negative campaigns. This helps shape a practice field where sound information exchange a brokerage of benefits becomes feasible.

Selection

In general, many efforts to counter the preservation of nature and the extinction of species were defeated by the vested interests that benefits from destroying the resources. The reasons have been the absence of political support or outright political resistance, and failure to awaken the attention of the masses.

Conflict

Conflict was at the core of the challenge, including conflict between short-term exploitation and long-term sustainable usage and benefits. This translated into continuous conflict between those who wish to continue to exploit nature for short-term benefits against those who work for realizing the long-term benefits.

In a general sense, lower prices and/or declining natural resources put pressure on farmers and fishermen to increase activities and output in order to pay their bills and support their families. When the stocks of a declining species or commodity diminish, prices tend to rise inducing even greater effort to keep quantities up. In the North Atlantic, there was a gradually worsening situation of this sort. Fishermen engaged in even more heavy fishing of salmon to compensate for dwindling capture in order to make a living, which accelerated the decline of Salmon in Icelandic waters as well as in the ocean generally. Pressures induced them to follow ill-advised practices for short-term benefit with long-term environmental and financial cost, such as over-fishing, over-reliance on chemical fertilizer and on irrigation. In agriculture, a major reason for low prices has been the excessive power of middlemen in setting agricultural product prices, due to farmers' lack of information regarding prices. Providing farmers with accurate, up-to-date information regarding who is selling what, where and for how much can improve their bargaining position with middlemen and mitigate some of the pressure to pursue ill-advised practices.

Tension and adaptation

We are all disadvantaged by the ongoing destruction of environmental assets, as gains are exploited by a few while the general public is loses in the long-term. Attempts to maintain or increase productivity, overuse water resources and fertilizer, contaminating the local environment and the farmland itself in pursuit of temporary gain have detrimental effects on nature. Better information can solve this by providing farmers with better prices, allowing them to stay on the land. The need for environmentally destructive farming techniques is reduced while education on better methods is provided.

Cooperation

Cooperation means bridging of different interests among the different stakeholders, first of all related to primary production. Consequently, also to stakeholders that are not part of the primary production system, but may find an interest there banks and IT providers in case of Tarimsal Pazalarma, rich and established hobby anglers coming from other professions and influential positions in case of NASF.

Competition

Competition plays a variety of different roles in the two social innovation initiatives:

- Competition in primary production globally (fishing, as well as agriculture) is a framework condition, as it has made it progressively more difficult for small family businesses operating traditionally to maintain their business and way of life. Agribusiness as well as commercial fishing is only marginally profitable.

- Concerning NASF, at first there was no competition. Presently, fisheries departments in some government offices see NASF efforts as a threat to their policies and work effort. As a consequence, some responded to the rise of NASF by starting to come up with their own ideas for how to arrange with salmon conservation. However, as they could not demonstrate any significant results matching those of NASF, there was no real competition.

- Concerning Tarimsal Pazalarma, competition between farmers certainly plays a role in their support for Agricultural Marketing. The platform is created to provide concrete advantages to the farmer. However, competition with other projects has not played a role as no one else had been doing anything similar during the initial developmental years of Agricultural Marketing.

- Further aspect of competition: Competition in terms of getting the upper hand in capturing people's attention and also by way of influencing policy makers and regulators one way or the other. This is an unorderly playing field where communication and mis-communication are competing neck-to-neck. Innovations capable of raising attention and managing to reach out to stakeholders and individuals with correct messages and motivating them to care and contribute are of essential importance.

Diffusion of technological innovations

The role of technology is opposite in the two projects, being of no importance in the NASF case and of essential importance in the case of Tarimsal Pazalarma. In NASF, technology has no primary role in the project. However, it engages in gathering data, sharing information, and communication purposes, taking advantage of state-of-the art ICT solutions. In Tarimsal Pazalarma, technology has an enabling function.

Agricultural Marketing is, in essence, both a technological solution and an information platform educating about other technological solutions to social and environmental problems in rural communities. The technology itself is necessary if not sufficient component of the overall project, without these prior innovations or inventions Agricultural Marketing could not exist. A part of the importance of Agricultural Marketing has been to bring these technologies and literacy about these technologies to underserved communities. The project has not been on the global leading edge of technological innovation. However, at certain points during the project significant changes have occurred triggered by adoption of new technologies by Agricultural Marketing in order to disseminate these technologies to rural communities.

A nearly complete ecosystem necessary for diffusion of technological solutions in agriculture has been created through this initiative, down to discounted phones and computers. The diffusion of platform access and membership and the diffusion of agricultural best practices that are taught to more farmers and more communities is a critical aspect of the initiative.

Planning and institutionalization of change:

With growing experience, social innovations in this practice field have increasingly put focus on how to awaken and galvanise public support, through innovative practices in communication and shaping community support. NASF specifically could take advantage of the firmly embedded concern for salmon and the long-term sustainability of the fishing industry in Iceland. Once the national base had been consolidated, NASF had the credibility and muscles to grow internationally as well. Along the way, NASF is working hard to bring about international policy support and regulation, but this task has proven very hard and success is still far off. In other words, institutionalization within public policy has not yet been the answer, due to too weak and too weakly engaged governments, but social innovation riding on public awareness and despair thus far remain the answer.

3.1 SOCIAL INNOVATION INITIATIVES RELATED TO THE PRACTICE FIELD

Description of the cases in detail, for each case a distinctive summary based on the interview template, following the structure of the case study template

3.1.1 Case B1: Iceland: The North Atlantic Salmon Fund (NASF)

Description, development of the Social Innovation Initiative

The NASF initiative was launched for the purpose of restoring salmon stocks and salmon population to the level which is needed for preservation of the wider highly sensitive ecosystem of ocean and rivers that surround the salmon. In the early 1990s Orri Vigfússon started an innovative, multinational initiative to buy out the fishing rights of commercial

salmon fishers whose over-fishing was causing the decline. Through his work, Vigfússon has succeeded in preventing the seemingly inevitable decimation of wild North Atlantic salmon populations[1].

Actors, partnerships, alliances, networks

NASF brings together experts from specific regions for specific projects to address core issues related to salmon stocks, and overcome the main challenges by finding and implementing the best solutions possible.

As NASF brought together river owners and fishermen, they were motivated to take part of the great effort to sustain salmon stock so everyone´s rights and interests were protected. In relating to partner organizations, NASF tries to provide solutions where everyone stands to gain economically from collaboration; to create a win-win situation. As a consequence, NASF has established a situation in which river owners and net men are working together to find a sustainable solution which is beneficial for the partners in the region and also play a vital role in eco sustainability which has a great impact on the environment as well.[2]

NASF engages, governments, works with nets men, and the land owners to conserve Salmon stocks. NASF chose partners/ experts based on the specific regions and expertise available, as needed for finding solutions for the conservation of the salmon ecosystem and make sure that the salmon stocks are sustainable. Buyouts are not just payoffs. Vigfusson tries to help the fishermen convert to a more sustainable activity. Therefore, he supports them to realize new economic incentives for ongoing conservation. The new message to the local population having depended on commercial fishing for generations is suddenly that a live salmon is of higher worth than a dead one. While commercial fishing is only marginally profitable, catch-and-release sport fishing can boost incomes. A fish destined for the food market might gain the netsman US$25, but the same fish maintained and protected in its home river can earn hundreds of dollars in value for the local economy. (see also https://www.ashoka.org/en/fellow/orri-vigfusson, last accessed December 1st, 2016)

As the scheme gradually evolved from national to international, major international organizations and interests have been taken on board.

Orri Vigfússon was appointed Ashoka fellow in 2004.

Innovative solution

Orri Vigfússon, belongs to a commercial fishing family and a successful businessman. He has been a fisherman himself and knows that if he persuaded the fishermen to stop salmon fishing, all income they would lose would have to be replaced by cash and the equipment to develop other kinds of sustainable fisheries. (http://www.nasfworldwide.com/about-nasf/chairman-orri-vigfusson/, last accessed Nov 10th, 2016)

The key knowledge and information of Salmon stock and fishing in a specific area are very important to find new solutions. NASF hires a team of local experts who gathers information of salmon stocks, regeneration, climate vis-à-vis fishing ratio and economic interests. The new information and knowledge stock paves the way to find new solutions which are acceptable to all relevant parties.

The solution to achieve the targeted result was a committed, innovative, multinational initiative to buy out the fishing rights of commercial salmon fishers whose over-fishing was causing the decline, utilizing business and negotiating skills as well as campaigns, media and social networks.

Parts of the innovative solution were
- Promote authentic conservation
- Respect historic rights of nets men
- Pay the net men not to fish for salmon
- Help arrange alternative sustainable fishing for the net men

[1] http://www.nasfworldwide.com/about-nasf/
[2] Interview with Orri Vigfússon on 27th of Oct, 2016

- Work with net men to make the North Atlantic environment a showcase example of bio-diversity and sustainable development.[3]

The solution is highly innovative and unique as it went for identifying the root causes of environmental destruction, clarifying how lack of coordination and concern for the long term led to destruction and losses for all, and put this insight into practical concrete action which led to the engagement of local stakeholders. It was complemented by the gathering of local statistics and analysis to find solutions which are economically beneficial, and also ensure that the salmon stocks are sustained.

System innovation is strongly present as well. One of the key elements of the innovative solution is to rebuild the wild-salmon economy by linking the fish's survival to sustainable rural enterprises. These sustainable rural enterprises are created through designing of new business model solutions. (see https://www.ashoka.org/en/fellow/orri-vigfusson, last accessed Dec 1st, 2016).

Organizational innovationis initiated a lot as commercial fishermen are incentivized to re-orient their activities towards more sustainable business opportunities. "Visiting fishermen have to hire guides, purchase temporary permits, put up at lodges or hotels, buy provisions, and rent equipment. Ultimately they often return their catch to the river—which means more spawners and sometimes an opportunity for another visitor to repeat the investment by catching and returning the same fish." (see https://www.ashoka.org/en/fellow/orri-vigfusson, last accessed Dec 1st, 2016)

New cultures and values, believes. Over time more awareness and realization has gained ground in the general public, which has started to play a major role in supporting the Conservation of Species. Related to this, most people have started to display positive attitudes to environmental preservation generally, which holds up potential benefits from those that move in to assume first-mover advantages in countering environmental threats, while those that lag are tarnished and may be subjected to costly negative campaigns. This helps shape a practice field where sound information exchange a brokerage of benefits becomes feasible.

Gaining momentum

Over time, NASF has learned by adopting new techniques and engaging different experts to find best solutions both at the regional level and international lever.

Since starting the project to restore Salmon stocks, NASF has applied a range of methods to engage key stakeholders to support its goals, including governments, international environmental organizations and businesses. Each of these stakeholder groups were brought on board and worked on to make their contribution to shaping an equilibrium in the Salmon population and related businesses. NASF generally designs a specific project and provides guidelines with the help of experts, to find a solution which addresses needs of local stakeholders, the recovery or maintenance of salmon stocks, and economic benefits.

Factors of success have been

- The ability to bring key stakeholders together and also arrange with many international events, including conferences and seminaries, to create awareness of the critical issues related to the Salmon population.
- The ability to bring onboard governments as well as private actors to work out a sustainable solution and way forward to ensure sustainability.
- A coordinated systematic scheme to overcome coordination problems, and understanding how to come to grips with incentive problems for each group of actors, represents a key factor enabling success.
- Successful campaigns to highlight the importance of the issues, which had been very much ignore.

Barriers have been

- Politicians' lack of interest, at least at the practical level;
- Civil servants;
- Lack of international treaties;

[3] Based on the Interview with Orri Vigfússon on 27th of Oct, 2016

- Dominance of short term interest to exploit what remained of the salmon resource, before others, and lack of coordination for everyone involved agreeing on a mutually beneficial course.

Complementary innovation

The initiative aims at instilling awareness and prompting actions by the following categories of stakeholders, first land owners (river owners), second, local fishermen, and third ocean net men. A lot of the activities address their positive engagement, and elaboration and design of incentives to refrain from unsustainable behavior (heavy overfishing) to other sources of income.

Complementary innovation by commercial fishermen is actually at the core of the whole initiative. The new message to the local population having depended on commercial fishing for generations is suddenly that a live salmon is of higher worth than a dead one. While commercial fishing is only marginally profitable, catch-and-release sport fishing can boost revenues. A fish destined for the food market might gain the netsman US$25, but the same fish maintained and protected in its home river can earn hundreds of dollars in value for the local economy. (see also https://www.ashoka.org/en/fellow/orri-vigfusson, last accessed December 1st, 2016)

Impact, diffusion and imitation

NASF further raised attention and engagements in many other counties, such as the Nordic region, France, Ireland, etc. The key feature of the diffusion strategy has been about contacting the right audiences and share knowledge about the NASF philosophy and successes, and how NASF can help find solutions in some specific region or country.

NASF efforts resulted in restoring Salmon stocks, new business models specially for the rural population, introducing new and diverse fishing knowledge which has not just secured salmon stocks but had a great impact on socio-economic values in different regions, along with an enhanced awareness among people about the problem and that it can be tackled. The achievements of NASF have been recognized by several governments. At present, NASF is working on an international Salmon treaty aimed to secure its currently protected population for the future.

Role of policy

The influence of policy has been the lack of effective action, including EU policies that contributed to a "race to the bottom". NASF is a response to the absence of policy action, and the inaction of administrators even in the face of disaster. No specific policy has positively influenced the development of the project

NASF carefully studied all rules and regulations and worked out solutions which are not contradicted bylaws.

NASF attempts to impact on policy in that it is advocating an international Salmon treaty to preserve salmon but, in its absence, it has taken action into its own hands and worked out pragmatic solutions that brought the key players on board in terminating over-fishing.

Both national and international policies and treaties could play a role in facilitating and promoting social innovation. Different types of policies, such as policies related to environment, conservation of endangered species, and economics, influence the room for social innovation. Measures impacting general awareness and attitudes matter as well. For NASF, no significant policy support can be highlighted.

Connectivity to the practice field

The NASF configures the practice field of sustainable salmon fishing in Iceland, not of alternative and sustainable food production and distribution as a whole, neither of the sub-practice field sustainable primary production for food production and distribution.

Through its success and spread internationally, it is definitely a flagship initiative.

3.1.2 Case B2: Turkey: Tarımsal Pazarlama (Agricultural Marketing)

Description, development of the Social Innovation Initiative

Agricultural Marketing is a project for education of farmer and their families, operating primarily (though not exclusively) through the website www.tarımsalpazarlama.com since 2004.The fundamental problem observed by the founders and addressed through Agricultural Marketing is the lack of access to information among Turkish farmers that has led to environmental degradation in rural areas (chiefly due to overuse of water and chemical fertilizer) and made the rural way of life unsustainable.

From 2004.the initial phase of growth of the organization was focused on spreading information to farmers, firms and government entities through agricultural exhibitions around the country.2006 marked a major expansion in the service that Agricultural Marketing was able to provide to farmers and particularly to the firms advertising and sponsoring. . In 2006 the founders approached several Turkish banks, ultimately negotiating a deal with Şekerbank, to provide farmers with credit cards through Agricultural Marketing. By 2008, Agricultural Marketing had attracted many members, particularly through direct outreach, and gathered data on those members. It was at this time that they opened a new form of interaction with those members, through mobile phones.In 2015, TABİT began a new phase of their outreach program creating a model farm in the village of Kasaplar called "AkıllıKöy" (Smart Village).Agricultural Marketing brings farmers from other villages to see AkıllıKöy for educational outreach and also organizes workshops there. In the future, they plan to organize exhibitions around AkıllıKöy, making it the centerpiece of outreach efforts.

Actors, partnerships, alliances, networks

The two founders of the organization met through the initial creation of the website, as the founder, Tülin Akın, sought a partner with the necessary technical skills to carry out her vision for www.tarimsalpazarlama.com and found computer teacher to work with.

Şekerbank has been a key partner and sponsor since 2006. Şekerbank has funded outreach activities, provides revenues and a service to attract members through credit card offers for farmers. They also enable further commercial activity involving www.tarimsalpazarlama.com as well as its advertisers and sponsors through providing a means of payment.

Vodafone has been a key partner since 2009. Vodafone until recently has funded certain outreach activities involving the "truck for training". As importantly, by helping Agricultural Marketing to disseminate information to members by mobile phone they greatly increase the accessibility of the service that they provide, as many farmers have no internet connection in the home.

Tülin Akın was elected to Ashoka fellowship in 2012.

Innovative solution

The founder of TABİT began in 2004 with the idea to improve lives in rural communities by creating a website with information needed by farmers that she had (as a college student) observed farmers to be generally lacking. At that time the only website in Turkey with information related to agriculture was that of the Ministry of Agriculture, which had information related to the bureaucracy rather than the practice of farming. The founders wished to create a platform where farmers could learn about farming practices, about grants and to give them greater bargaining power vis-à-vis buyers and middlemen.

Agricultural Marketing creates and provides several services that had not existed for the agricultural industry and for farming communities in Turkey. However, these are not services that existed in no other industry or for no other target population in the world. Agricultural Marketing is an application of technology in order to provide these services which had not been provided to these communities before and a program to educate farmers on new technologies to use in their fields, but these did not represent new technologies invented for the purpose by Agricultural Marketing. Rather the core of the innovative solution to the problems of rural communities in Turkey lies

in the creation of a system and in the organization of that system to enable the services created and technologies used to be adopted by the target communities.

The truly innovative aspect of the Agricultural Marketing project has been the creation of an entire IT-related "ecosystem" in which www.tarimsalpazarlama.com is able to thrive. Farmers and their families were not in the habit, or lacked the ability to access information online so through direct outreach at exhibitions and in villages representatives of Agricultural Marketing have taught farmers and particularly their children about the valuable information available online and how to access it and encouraged children in particular to use internet cafes they might normally not be allowed to use for the benefit of the farm.

Gaining momentum

A key driver for growth of the project has simply been constant effort at outreach, with representatives from Agricultural Marketing traveling continually throughout Turkey to villages and exhibitions to teach farmers and their families about their platform and about best practices. This outreach effort has been greatly enhanced by special outreach sponsorship by Şekerbank from 2006 to 2012 and by Vodafone from 2009 to 2016. Now since 2015 much educational outreach is and will be focused around AkıllıKöy.

Improvements in the platform itself and in the services available there over the years since the project's inception have also been key drivers. This includes the addition of features to the site as well as information via SMS through Vodafone and the opportunities opened up for e-commerce by Şekerbank. The beginnings of sponsorship relationships with Şekerbank in 2006 and with Vodafone in 2009-10 have greatly assisted the growth of Agricultural Marketing and can be seen as milestones in their own right.

Complementary innovation

Much of the activity of project partners has been centered around encouraging complementary innovation by farmers and firms in order to increase their absorptive capacity. One such innovation has been in encouraging farmers to allow their children to act as technology officers for the family firm.

Impact, diffusion and imitation

The project reaches 1.5 million farmers through the basic SMS information service, 300 thousand of whom pay 2 Turkish Lira per month for a premium SMS information service ("Farmers Club"). Approximately 800 thousand farmers make use of the website www.tarimsalpazarlama.com.

Due to economies of scale in IT-based platforms, it is somewhat natural that Agricultural Marketing has grown dramatically in size and scope due to the success of the initiative rather than affecting change through imitation and competition. According to the founder there are now 3 agricultural websites in Turkey, of which www.tarimsalpazarlama.com is the most important.

Role of policy

Local authorities have neither helped nor hindered the success of Agricultural Marketing, as there has been limited communication and involvement throughout the development and growth of the initiative. This may be somewhat unusual for a social initiative of the scale of Agricultural Marketing in Turkey, where it is often important to get backing or funding from government entities in order to grow.

The founder argues that Agricultural Marketing, like other social enterprises in Turkey, has been adversely affected by the tax and regulatory regime in Turkey as concerns social enterprises. In Turkey, an organization is treated either as a business or as an NGO like a charity with no middle ground. For an organization like Agricultural Marketing which raises its own revenues through sponsorships, advertising and membership fees and uses these revenues to cover costs and for outreach and education, this is not desirable. It is treated as a business rather than an NGO and taxed accordingly. NGOs, on the other hand, are largely dependent on grants or donations. Were enterprises such as Agricultural Marketing treated as non-profits, their tax burden would likely decrease allowing greater outreach.

Connectivity to the practice field

The Tarimsal Pazalarma configures the practice field of IT related rural education in sustainable farming practices in Turkey, not of alternative and sustainable food production and distribution as a whole, neither of the sub-practice field sustainable primary production for food production and distribution. It has a lot of pioneering aspects.

3.1.3 Case B3: Turkey: Association of Ecological Agriculture (ETO)

Description, developmentof the Social Innovation Initiative

ETO is an umbrella organization devoted to the development of ecological (organic, biological) agriculture in Turkey, founded in 1992. 25% of Turkish organic products are exported to Germany, however there have been quality problems such as pesticide residues. Prior to the project, there were meetings between the ministries of agriculture of Turkey and Germany, which did not bring about any solid results because the Turkish government opted to do the training itself. Instead, it was proposed by Germany that a Civil Society Organization funded by Germany would take the lead. This two-year project aimed to improve both the relations between the two countries and smooth out problems related to exports prior to shipping. Training was necessary for Turkish farmers and for European importers to learn about the processes underlying Turkish exports and also for efficient and timely exchange of documentation. Then, due to its success, it was extended for two more years to expand training activities and the set of exportable products. Upon completion, the project was again extended for one more year, with a decrease in funding by 20%, in order to improve sustainability.

Major problems were pesticide residue, documentation issues, and language barriers. Also, information for switching from conventional to organic products was missing.

Actors, partnerships, alliances, networks

The first actors were the German Federal Ministry of Food and Agriculture, ETO and a German CSO, FiBL, which is "an independent, non-profit, research institute with the aim of advancing cutting-edge science in the field of organic agriculture." ETO guided FiBL with regard to Turkey's geography and products.

Then, thanks to ETO branches where the products that FiBL focused on are most common, the relationships between the ministry and research institutes have been deepened. There were ETO experts initially but every time there was new training, new partners were added, including both individuals and institutions. The main criterion in adding partners was expertise. Other criteria included recognition and reliability.

Innovative solution

Before ETO began, purchasers had a lot of power over farmers almost commanding them in terms of their production range and quality. Training the farmer/producer rather than the trader was the main strategy. Farmers trust ETO because of continuity and stability. Secondly, the real working information that enables farmers in accessing EU and BIOSWISS certification comes from ETO because ETO is a long-term player. The strategy that ETO taught to farmers can be summarized as "Act Alone but Work Together." Training sessions were free and very simple, without high technology. ETO brought the farmers to the European market more effectively. Participation of multiple stakeholders was achieved.

Gaining momentum

Initially the focus was on four products: hazelnuts, apricots, sultanas and figs. Then the project moved to honey, poultry, animal breeding, feeds for organic farming and then to the South Eastern Region Development Project GAP which has a lot of potential. Next, cooperation started with TAGEN (Association of Turkish Research Institutes for the Government, 52 research institutes) who started organic projects. Then, ETO convinced the government to create organic teams in each city, which were trained by ETO. The initial view of the government on ETO changed because their representative reported positively. The reports of the Association of Exporters as well as the Association of

Agricultural Engineers helped them gain traction in general and in the eyes of the government. The government actually saw the reduction in pesticide residue and started sending their experts to ETO's activities.

Main success factor was having a specific target and pursuing it. Rather than charismatic leadership, teamwork led ETO to success.

Complementary innovation

Farmers need to adopt these techniques in production and sales to be successful and utilize this training. Also, inconsistency of purchasers led farmers into trust issues because in such cases they do not have consistent demand. Local demand for organic food needs to increase for these farms to be sustainable and stay in the organic business.

Government is coming up with a complementary innovation: a land subsidy. ETO proposed that 50% of the subsidy go to the product to incentivize production instead of land use.

Sworn Control and Certification Bodies exist in the sector. These control bodies demanded ETO's services the most because they were able to see the residue problem but not bring up a solution.

Sample villages with organic agriculture can be used to stimulate organic production in addition to subsidies. Web sites were useful in the exchange of information, ideas, and documentation. Smart phones helped picture and communicate farmers' problems to ETO.

Impact, diffusion and imitation

ETO now has four projects including regional projects like bees, honey and one collection of valleys in North East of Turkey. According to the website "the Project has been notably successful in the 2011-2013 phase in reaching its goals on a sustainable basis. The team placed great effort in introducing and managing various tools for improving quality in Turkish organic goods. The outcome was that both the producers/exporters in Turkey and importers/clients in Europe and mainly Germany were remarkably satisfied."

Role of policy

Only funding regulations affect ETO. Indeed, ETO affects rules and regulations now by giving feedback to the government. They are now frequent partners with the government on organic issues.

SUB-PRACTICE FIELD: Reducing food waste

3.1.4 Case B4: Austria: Iss mich (Eat me)

Description, development of the Social Innovation Initiative

Every year 168.000 tons of food in Austria, equaling 40 kg food per household or 300 Euro, is discarded. (; https://www.bmlfuw.gv.at/service/publikationen/lebensmittel/lmk_fakten_tipps.html) Some proportion of the food discarded is rejected because it does not meet retail standards concerning shape or weight. As the food is of high quality concerning its freshness and nutritional values, this can be considered as a wasteful practice. With the intention to set a clear counterpoint to this Iss mich! (eat me!), a delivery and catering service based on food waste, was founded in 2014.

Actors, partnerships, alliances, networks

It is difficult to distinguish between partners, networks, alliances and supply chain within all the small collaborations, that have been established and led up to Iss mich!. In all collaborations, a strong emphasis is put on corporate social responsibility (CSR), therefore all partnerships are carefully chosen. Especially important is the cooperation with

Caritas, a charity, that cares for young mothers without previous employment and supports them to find jobs in the regular job markets by means of a first employment at Iss mich.

Innovative solution

Employees are mainly young mothers who have not had a previous employment and who are selected by the charity that Iss mich cooperates with and. These young women are unskilled in terms of certified education, but skillful in cooking and baking, not because they have the work experience, but simply because they need to ensure the primary care for their children. At Iss mich they have the chance of gaining work experience. Most employees are part-time workers, who can change their work time according to availability. These employees are selected by social workers at caritas welfare houses.

Two services are offered by Iss mich!: a catering service and a delivery service, in both mainly stews and soups are offered. Furthermore, in both services the rescue-component and message is inherent. The message delivered with the service is: With every issmich! glass, you save 300g of vegetable, and you avoid 50g of plastic waste (see http://www.issmich.at/#home) This was not clear from the beginning where there had apparently been uncertainty whether people would be worried about eating waste. To contrast the waste association, the package is distinctly high-value. Furthermore, the actual price for the Iss mich! products is not much lower compared to conventionally produced food, despite the fact that the discarded vegetables only cost a fraction of perfect organic vegetables.

Catering service, catering rescued food: Catering is provided for 25 to 200 people on the basis of food rescued from waste. Catering for less than 25 people is not regarded as profitable as the labor intense processing of the vegetables lead to a premium product. Company parties, Christmas parties, conferences, seminars or receptions have been catered for.

Delivery service, convenience products from rescued food: The second product is the range of meals prepared and preserved in little glass containers with a shelf life of 3-6 months. Mainly from vegetables that are available throughout the year.

New processes are associated with the above new services:

From waste to a premium product – through labour-intensive processing: The manipulation and processing of the discarded vegetables is a very labour intensive step which makes it actually a premium product through the amount of labour involved. Wages account for a higher proportion of production cost than is the case in other vegetable processing firms.

From waste to prolonged durability – through upcycling: Once supplied from waste the vegetables that serve as basic ingredients for soups and stews are cooked, filled in glasses and pasteurized. This means their durability is increased between 3 and 6 months through production processes, but without chemicals or substances. (Interview J, p8)

Complementing high standard processes - corporate social responsibility strategy: Processes are configured as such that all supply, be it material or in terms of services, is of highest standards in terms of sustainability and social aspects. Thus, the social innovation initiative is comprehensive in these respects.

Gaining momentum

Cornerstones of the strategy were (Interview J, p4, p11)

- Access to kitchen infrastructure through being able to use the idle kitchen of a friend's restaurant at weekends.
- Knowledge of food waste and contacts to agricultural producers through WasteCooking projects in the past
- Access to wasted food through previous contacts with producer organization (EOM)
- Access to labour through past projects and experiences with a charity organization (Caritas)
- selected partners in supply chain
- Trial and error, step-by-step growth
- Media presence
- Communicate clearly that people eat food rescued from waste because it does not correspond to trade norms.

- Just-in-time production -people order in advance, soups and stews are not permanently available.

Complementary innovation

Cultural change. There is increased awareness of environmental threats and environmentally damaging practices. "Major customers today are eager to communicate concern about sustainability and show environmental responsibility. So it is important for them to present their company as sustainable and biocompatible as possible. People ask for basic and down to earth products rather than shrimp skewer or caviar sandwiches." (Interview J)

Likely inconvenience through reduced spontaneity. From customer side a certain awareness and readiness is needed to plan their meals for the next week ahead and order accordingly (Interview J, p11). From the point of view of Iss mich! planning for production is easier, as orders have to be placed well in advance to delivery. Furthermore, the radius of delivery is depending on the cycling delivery service.

Impact, diffusion and imitation

- Employment and re-integration: "Two and a half years ago, we started with 2 part-time employees and now we employ 7 people, who are at least part-time workers, which can be seen as one of the criteria to proof our success." (Interview J, p12). One of the social goals is to employ people without much work experience and difficult background.
- Waste avoidance: Iss mich! processes about 1000kg vegetables per month that are regarded as waste. Compared to an estimated food waste in the EU-28 of 88 million tons this does not seem much, but business is picking up.
- Turnover and profits: Annual turnover has doubled from the first to the second year. Demand for catering rose from every two weeks in the first year, to every other day. Fixed costs remain quite high, so this increase and growth is necessary as profit can only be reached at a certain level of turnover.
- Existence and survivalafter two years. Most start-ups never make it to this two-year-threshold.
- New firm/ subsidiary
- New networks and customers: References cover Austrian ministries, Austrian universities, prestigious events like the Forum Alpbach, and large multinationals like IKEA and H&M (http://www.issmich.at/referenzen/, last accessed Oct, 18th, 2016).
- Positive customer feedback

Role of policy

No substantial role of policy.

Connectivity to the practice field

Although several initiatives address the topic of food waste, try to generate awareness on the topic and provide solutions (see below), Iss mich seems to be the (one of?) the first undertaking that actually has developed a comprehensive business model addressing food waste. In the meantime, through the Viktualia Award by the Austrian Federal Ministry of Agriculture we know of more undertakings that address the issue. However, they are all rather recent initiatives, and often short-term and locally limited (regional) at the same time (see Bundesministeriumfür Land- und Forstwirtschaft, 2013, 2014, 2015, 2016).

Mechanisms of social change

Learning

Food waste: definition and numbers. Problems of definition complement and shape the whole discussion around food waste. One way to define food waste is "Fractions of food and inedible parts of food removed from the food supply

chain to be recovered or disposed (including - composted, crops ploughed in/not harvested, anaerobic digestion, bioenergy production, co-generation, incineration, disposal to sewer, landfill or discarded to sea) (see EU FUSIONS project). This definition refers to both food waste and fractions not being valorized to other biomaterials or industrial uses or used as feed. The term waste here is used different from the legal EU definition of the term in that it also contains materials not ending up in waste management systems e.g. that are used as animal feed.

The sectors contributing the most to food waste are households (47 million tons ± 4 million tons) and processing (17 million tons ± 13 million tons). These two sectors account for 72 percent of EU food waste, although there is considerable uncertainty around the estimate for the processing sector compared to all the other sectors. This is due to only four MS providing information of sufficiently high quality. In addition, the differences in the normalized food waste amounts between the countries were great. Of the remaining 28 percent of food waste 11 million tons (12%) comes from food service, 9 million tons (10%) comes from primary production and 5 million tons (5%) comes from wholesale and retail (Stenmarck et al 2015).

What contributes to food waste: matters of storage. Traditionally, potatoes for example were stored in underground basements in cool storage, and before that there were stored in the earth. But harvesting practices have changes. Today, potatoes are not stored in earth anymore because this prevents detecting spots and damages. After harvesting, potatoes are cleaned from soil, so that defects become visible, and additionally they are analysed with video and other technologies. This means that the natural protection and barrier for decay, that the soil provided, does not exist anymore and the potato is thus prone to decay and must be consumed within 2 or 3 weeks. The same applies for carrots, onions, cerely or beetroot.

What contributes to food waste: Modern eating habits and life style. Over the last decades the food supply chain has become longer and progressively complex due to market globalization, higher consumer expectations regarding the variety of choices and the freshness of products as well as an increasing migration of population from rural to urban areas. This involves growing distances between producer and consumer, longer cold chains, more intermediaries and increased risks of losses. Food losses can arise at every stage of the food supply chain, for a multitude of reasons, influenced by the actions of many different players. On the level of agricultural production, losses in industrialised countries may occur due to bad weather conditions, sorting out because of rigorous quality standards and market prices that do not justify the expenses of harvesting. In food manufacturing and processing, losses may result from washing, peeling, slicing and boiling, during process interruptions or when products are sorted out as not suitable. In distribution (wholesale and retail), losses may arise due to packaging damages, non-compliance with food safety requirements, exceeding of expiry dates, inadequate stock management, marketing strategies and logistical constraints. At the stage of final consumption losses may arise due to consumer preferences, wrong purchase planning, incorrect interpretation of expiry dates, inadequate storage, cooking of oversized meals and lack of knowledge about how to reuse leftovers.

Technology

It seems likely that machine processing methods in the food industry favor standardization of food. However, this is not confirmed by all interviewees.

Tensions

When does food become waste? "The amounts of food that cannot be used for consumption, and consequently end up as biogas or fertilizer, are enormous." (Interview J, p1). Indeed, when food cannot be offered on the shelf of retailers, different forms of solution may be applied. The most sought-after solutions are represented by avoidance and donation of edible fractions to social services. Food waste is also employed in industrial processes for the production of biofuels or biopolymers. Further steps foresee the recovery of nutrients and fixation of carbon by composting. Final and less desirable options are incineration and landfilling (Girotto et at, 2015, Reisinger et al, 2012)). The US US Environmental Protection Agency has published an inverted pyramid as how to make use of food waste.

Existing retail practices. The trade class regulation stipulates in principle that everything that is sold must be harmless to health and is only about optical properties. Trade class 1 may slightly deviate from the optimal image of the trade class extra, thus slight form and development errors, slight color errors, very slight crushing, sufficient strength, but no

free liquid. For the second class (trade class 2), there may be more serious errors, more severe color deviations. It is about form and color errors, but also about spot. It is standard in food retail to only offer trade class 1 (Kaul, 2013).

Consumer protection"Another set of reasons for these standards and norms in trade classes is consumer protection, so that a perfect product reaches the end consumer. If there is a small spot on a vegetable, like a carrot, or a bite from a rodent on the field, then consumers have to cut this bit and lose a bit of a carrot they have paid for." (Interview J).Furthermore, perfectly oval potatoes are easier to peel, one particularly large carrot makes the others look small, rodent bites must not be visible, even if the rodent has been surly in the field. (Interview J).

Farmers suffer. All these practices lead to a vast amount of vegetables that are already sorted when harvested on the field, e.g. potatoes because they are too small. Farmers are facing a dilemma, as they produce ecologically for highest quality, and then a large proportion is treated as waste and ends up as fertilizer, because it is left on the field (Interview J, p8).

Variation

Novel services introducing upcycling

In principle, any products and services that introduce upcycling elements into their product and service designs – like Iss mich - introduce variation into the above practices. To shed light on this variation, the Austrian Viktualia Award has been implemented. The Viktualia Award which has been issued for the last four years now, draws attention to more undertakings that address the issue of upcycling like Iss mich.Issmich itself won the Viktualia award in 2014 (Bundesministeriumfür Land- und Forstwirtschaft, 2014), which was the year of foundation for Iss mich, and the second year of existence for the Viktualia Award. Today, also through this award, information has spread and we know

Planning and institutionalization of change

There are some initiatives on the national and EU level.

National policy level: BMLFUW Initiative „Food is precious": Since the beginning of the initiative "Food is precious!", the Federal Ministry of Agriculture (BMLFUW) has invited organizations and companies from a variety of fields to become co-operation partners of the initiative. Many have followed this invitation and have joined the initiative with their activities. All this has been reported in stakeholder dialogues, where the BMLFUW invited delegates from the areas of trade and production, catering, waste disposal, NGOs and social institutions in September 2014. One major result of these stakeholder dialogues was that measures must be taken at all levels of food production and consumption: from production to processing, transport to consumers. (See https://www.bmlfuw.gv.at/land/lebensmittel/kostbare_lebensmittel/initiative.html, last accessed 9 November, 2016).

National media: Initiative „Mother Earth" by public law broadcaster ORF: The initiative "Mother Earth" was launched in 2014 by the ORF and the leading environmental NGOs in Austria. It is sponsored by ORF, Greenpeace, GLOBAL 2000, WWF, Naturfreunde, VCÖ, Alpenverein, Naturschutzbund and BirdLife. The common goal is to make sustainability, to gather information and to collect donations for environmental protection projects. On its website, CEO Alexander Wrabetz is cited: "This year we have focused on food waste. The goal of this year's trimedial ORF program has been to raise public awareness on this important issue. We succeeded: In total, our approximately 300 contributions in TV and radio reached more than 3.8 million people who were sensitized to this important issue. "(see http://muttererde.orf.at/, last accessed 9 November 2016).

National retail: Land schafft Leben (Land creates life). Land creates life is an association of Austrian large food retailers. It intends to show to the consumers transparently and without any valorization how food is produced in Austria, how the production processes are organised at the farmer's farm, how the processing works and how the finished product ultimately lands on the shelf of food retailers. For the consumer, the information should be easily understood and elaborated, giving a new understanding of the relationships within food production and thus a higher value-consciousness for Austrian food. The association was initiated by Hofer, EOM is member. (http://www.landschafftleben.at/service-aktuelles/organization/verein, last accessed Nov. 15thg, 2016)

EU level: Research Projects

- FUSIONS (Food Use for Social Innovation by Optimising Waste Prevention Strategies)
- REFRESH (Resource Efficient Food and dRink for the Entire Supply cHain)
- STOA Technology options for feeding 10 billion people -Options for Cutting Food Waste

EU level: European Council Conclusions

Box 7: European Council Conclusions. On 28 June 2016 the European Council adopted conclusions setting out a series of initiatives to reduce food waste and losses in the future.

These measures include calls on member states and the Commission to improve monitoring and data collection to better understand the problem, to focus on preventing food waste and losses and enhancing the use of biomass in future EU legislation, and to facilitate the donation of unsold food products to charities. The Council acknowledged FUSIONS work and welcomed FUSIONS outcomes such as the Food Waste Quantification Manual.

While the Council conclusions support the current EU initiatives, they also urge the Commission to extend the scope of its action to include food losses.

Source: http://www.eu-fusions.org/index.php, last accessed Nov. 9th, 2016

3.2 PRACTICE FIELD CONCLUSIONS

The cases in the practice field of alternative and sustainable food production and distribution are by far more heterogeneous than those in the practice field repairing, reusing and recycling. So for the purposes of analysis, the practice field of alternative and sustainable food production and distribution is divided in sub-practice fields: 1.) Sustainable primary production for food production and distribution and 2.) Reducing food waste.

Incentives and latent demand

What is striking in the practice field is that all social innovators act on latent demand and provide services on behalf of nature.

- NASF The innovation plays a key role to find the most sustainable solutions based on the knowledge and cherishing of new ideas, coupled with latent demand to strike a deal for a better future with others overextending the natural resource use.

- Tarimsal Pazalarma In 2004, no direct demand for the innovative social solution was observed due to a lack of awareness and and also a lack of absorptive capacity. Prior to implementation it is likely that a latent demand for the services provided by the platform did exist. Outreach efforts by Agricultural Marketing may have done more to increase absorptive capacity than to stimulate demand directly.

- Iss mich At the time of foundation little was known about the demand for catering services based on discarded food. Demand was latent, not apparent at the time of foundation. “I did not assume it would work. I kind of saw the environmental need and the potential.” (Interview J, p5) Furthermore „people around me were rather negative telling me catering from food waste – who is supposed to be interested in that? There are enough catering services, nobody is going to buy that.” But then it turned out that the production of food in glasses, although running well, was by far surmounted by the catering services in terms of turnover growth. If I had stayed with the glass production alone, I would probably still share a kitchen and be confined to cooking at weekends. What really took off, was the catering.” (Interview J)

Empowerment

Participation and empowerment are the crucial elements in the social innovation cases. Those who contribute to the problem are empowered and equipped to carry on change, and the wider and interested public is addressed and integrated where appropriate.

- NASF In designing new business models for those whose lives depend on commercial fishing, the ones who cause the problem become actors of change. Empowerment is thus a key element of changing the social practices associated with the environmental problem, i.e. extensive salmon fishing. NASF conducts studies and engages local stakeholders to find business model solutions which are acceptable for all.

- Tarimsal Pazalarma In order to take advantage of the services provided by the Agricultural Marketing platform, it has been necessary for farmers and firms to make substantial changes in their approach to business. Because it is otherwise impossible for Agricultural Marketing to thrive, or to have the desired impact, much of the activity of project partners has been centered around encouraging complementary innovation by farmers.

- In case of Eat me, upcycling services and availability of convenience products re-introduce wasted food in food retail and empower average consumers to contribute to the reduction of food waste.

Role of technology

The role of technology varies greatly in the different social innovation cases, from no visible role, via the well-established enabler role to being a context to the problem.

- Technology as enabler. Tarimsal Pazalarma is an application of technology in order to provide new services and information to farmers which had not been provided to these communities before and a program to educate farmers on new technologies to use in their fields.

- Technology as context (Iss mich) Technology is a context for the Iss mich undertaking. One reason for the tight standardization of food is likely to be machine processing methods in the food industry which favor standardization of food. This leads to deleting non-standard food from further production processes and hence increases fodd waste, which Eat my attempts to counteract with its services.

- No particular role for technology can be seen in NASF and ETO.

4 SUMMARY AND CONCLUSIONS OF INDIVIDUAL CASES

4.1.1 Case C1: Germany: dynaklim

Dynaklim is a large participative forward-looking activity (FLA) with a regional focus (Emscher-Lippe, North Rhine Westfalia), that received financing from the German Federal Ministry of Eucation and Research (BMBF) in the years 2009-2014. According to the project coordinators, the core idea of *dynaklim* was to develop a climate change adaptation strategy for the project region.). From a social innovation perspective, the Roadmap 2020 process which was used to structure the development of a common strategy for the region and applied a participatory format involving actors from different institutional and disciplinary backgrounds was the crucial element. *dynaklim* was one of the seven projects funded within the BMBF programme KLIMZUG – climate change in regions. KLIMZUG's aim was to increase Germany's adaptive capacity by anchoring an awareness of the necessity of adaptation within society.

Processes and dynamics of social innovation

dynaklim was designed to address a so-called "wicked problem". A wicked problem is a problem that needs vast efforts to find a solution because of incomplete, contradictory, and changing requirements in the longer term. Although wicked problems need a common approach by a great number of actors, they are still difficult to translate into a clear strategy for the individual (actor/organization). In terms of climate change, the impacts of climate change realize themselves over a long period of time, the related interdependencies are complex, as climate change and other future developments, such as changes in demography and urban sprawl, are surrounded by uncertainties.

To organize a large participative forward-looking process which integrates a great number of actors in the region bears vast opportunities in terms of thinking beyond boundaries. Conventional administrative processes are not adequate in solving the problem, as different administrative organizations and departments neither cooperate with one another nor involve other relevant stakeholders. But such projects have limitations as well in terms of how far actual innovation can reach within the project's life time, and within a short time frame in general. So impacts and dynamics of social change are naturally difficult to track down in a recent, though large and participative, project like *dynaklim*. Still, the following can be mentioned:

- [impact] The project coordinators regard the diffusion of the topic of climate change adaptation throughout the whole region as the prevailing outcome of the Roadmap process.
- [impact] *dynaklim* mainly focused on establishing the framework conditions which are necessary to initiate other innovation processes by bringing a variety of stakeholders from different organizations together. Hence, dynaklim can be seen as an organizational innovation acting on a regional level and beyond administrative boundaries. This organizational innovation in turn can stimulate all kinds of other innovations (including service innovations or organizational innovations within a single institution).
- [impact] The Ministry for Climate Protection, Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia (MKULNV) is still in contact with the project coordinator and Roadmap coordinator to relate the knowledge generated in *dynaklim* to the ministry's activities. (Representatives project coordination 2016; Representative MKULNV 2016).
- [impact] In the case of North-Rhine-Westfalia's mitigation strategy, it took up parts of the Roadmap (Representative MKULNV 2016). The climate change mitigation plan was published in early 2016, i.e. two years after the termination of *dynaklim*. Yet, the only direct reference to *dynaklim* states that results from projects like *dynaklim* were taken into consideration and further developed in the climate change mitigation plan.

There are several shortcomings that make it more difficult to evaluate and analyze impacts. This does not mean impacts do not exist.

- [impact_shortcomings] The idea of the Roadmap process was that actors come together to identify fields of action, co-develop a strategy and respective measures and ultimately take these insights back into their own organization in which these measures are to be realized. Due to the high number of network partners involved, the project coordinators are not able to keep an overview who has actually realized the measures written down in the final strategy developed in *dynaklim* (Representatives project coordination 2016).

- [impact_shortcomings] Due to the fact that *dynaklim* was a project funded by the BMBF for a period of five years, later network activities and especially the implementation of the strategy had to be realized without these financial resources. Moreover, with the termination of the project and the completion of funding, the external facilitation of the participative workshop ended. This implies that the systematic discussion of climate change impacts and potential solutions came to an end with project completion, as well (Representative RVR 2016).
- [impact_shortcomings] *dynaklim* proved to be a key project for more technical-oriented project partners who had less realized that beyond the mere technical inventions they need new social relations and service architectures in the diffusion processes of their technological solutions. Via the thematic platforms and network meetings people met and interacted that otherwise would not have met in person, but only read about each other's work. Still, the impact of such activities is not tangible. (Representatives project coordination 2016)
- [impact_shortcomings] Due to the project logic that *dynaklim* had to follow (being embedded in a programme, KLIMZUG) it was not possible to implement significant changes during the project's lifetime (Cormont and Frank 2015).
- [impact_shortcomings] After project completion, it could be observed that municipalities fell back into their own institutional working routines, delaying the realization of the prior designed measures : "This is not our responsibility, we don't have funding for it". So it seems that the cooperative manner of designing the strategy during the Roadmap process, was overthrown by the prevailing more isolated- way of working in public administration. However, the relapse into a "we do it our way"-attitude does not imply that there are no follow-up activities on climate change adaptation being realized in the region (Representatives project coordination 2016).

Some impact of *dynaklim* also took the form of a roll out. In 2014, a Roadmap process was initiated in a more rural area of North-Rhine-Westphalia around the district of Siegen-Wittgenstein (ca. 150 km south-east of the *dynaklim* project area). (Representative district of Siegen-Wittgenstein 2016). However, success seemed to be more limited in the roll out project than in the original model for two reasons:

- [impact/roll out] Because of lack of funding in the roll out project, the results remained too abstract and as such useless for communicating with extraneous municipal actors or citizens. (Representative municipality of Siegen 2016).
- [impact/roll out] *dynaklim* as a process was tailored to the Ruhr region and its actors. Since the existent framework differs from city to city, it is not possible to hand on some kind of standard recipe. Hence, the knowledge and experience gained in one municipal context cannot be transferred to another context without adjustment. Taking into account that the prior experience with participative processes contributed to the Roadmap's success, the adaptation of a Roadmap process for climate change adaptation might be easier in regions having this experience.

Functions and roles of actors and networks

Given that the German ministry's funding initiative demanded a large-scale project, the consortium itself had to be of a respectable size. The consortium consisted mainly of network partners, who had been working together with the project coordinator's team for a long time which had generated a high level of trust. For example, the *Emschergenossenschaft* had been a client to the Research Institute for Water and Waste Management at the RWTH Aachen (FiW) – the project coordinator's institute - for a long time and at the same time a member of the institute's registered association. Other project partners that did not belong to this group of water experts were found via online research and invited via email. In his selection of partners stemming from the research area, the project coordinator focused on partner institutions that were not located within the university, for he experienced these university-independent organizations to conduct more applicable research which is similar to the approach taken at FIW. This core network consisting of the consortium comprised at peaks ca. 75 people (Representative project coordination, 2016).

In forming the wider network, the consortium employed a snowball system approach starting with organizations, they already had established contact with (Representatives project coordination 2016). In that sense, the *dynaklim* research consortium initially acted as the nucleus of the network during the process of knowledge transfer until a 'community of practice' emerged (Birke et al. 2015). Yet, *dynaklim's* focus was on forming an open community, i.e. the network workshops and meetings were open to anyone working with or interested in climate change adaptation and water

management. At the end of the project, 400 people formed part of the Roadmap process (Representatives project coordination 2016).

After the end of the *dynaklim* project, In terms of the network that was formed, the project coordinators noticed that a certain attraction of the network established still remained. For example, the whole community can be brought together for single workshops now without much of an effort. However, the networks that are able to exist independently of external finances are more of a personal character (Representatives project coordination 2016). In a similar manner, the business representative established one or two new partnerships via the *dynaklim*-network. Yet, as said their main motivation was to engage in two specific work areas of *dynaklim*. These sub projects were completed at one time and after completion: "we had a whole pile of different projects waiting for us". Thus, the exchange with other network members could not be pursued in that continuous manner after project completion (Representative WILO 2016).

Critical success and failure factors

While the level of participation and discussions in *dynaklim* was remarkable, these may now serve as inputs for further strategies and processes in other organizations and thus generate impact and social change. However, as it is too early now to evaluate this, what can be done now is only listing success factors of the project that has been a large undertaking, it is not yet possible to list success factors of (social) change generated by the project. However, the region's experience in inter-communal cooperation and exchange dates way back and has been pursued in an array of thematic areas. *dynaklim* has certainly contributed to a positive view of "this kind of cooperative approach, i.e. overall actors have been benefitting from participation. In addition, there is collective knowledge how to behave cooperatively in group processes: "The area is trained to participate in these learning labs."" (Representatives RVR 2016).

Mechanisms of social change

Dynaklim can be seen as a project that intends to identify, implement and spread climate change mitigation practices with different actors in a region through an inclusive and forward.looking process architecture. It is an example of why this has opportunities and drawbacks.

Learning: Knowledge about the particular impact of climate change on the region Emscher-Lippe did not exist in 2007, but was to a great extent developed through *dynaklim*. Moreover, mutual and social learning was a key aspect of *dynaklim* where actors came together, shared their views, learnt not only from each other but also got informed about climate change impacts and potential counter measures by experts.

Variation: To combine people who would otherwise not have met and confront them with the challenges that lie ahead of all of them is intended to introduce variation in their mindsets and future framing of strategies and priorities, thus introducing variation. This is conceptually at the core of all forward-looking activities (FLAs). Empowerment increases the likelihood of variation. "It can be seen as the outcome of the developments within such a practice field" (Representatives RVR 2016).

Selection: A drawback of many of such activities is that projects do not succeed in finding points of connection to political or administrative structures. Consequently, the ideas and responsibility remain with the individuals who initiated the FLA project or initiative, instead of it being passed on to practitioners. To prevent the death of initiatives, it is vital for this type of projects to involve stable communities of practice. Yet, there remains an unpredictable element in foreseeing if the respective community is able to pursue alongside the established lines without external input (Representative MKULNV 2016)

Cooperation: The membership in networks may be seen as an important precondition for the development of the practice field. Without trust in the cooperative process and facilitators, participative strategy development and cooperation in realizing the measures would not be possible. For this practice field the regional focus is of utmost importance. If the region is coined by an abundance of networks instead of a few centralized organizations, these networks have to be involved in developing a strategy (Representatives RVR 2016).

In *dynaklim*, networks and cooperation were vital and the networks were shaped by pre-existing strong regional ties. Yet, most of these networks do not span over the whole heterogeneous region. For example, administrative networks are to some extent defined by the administrative boundaries of e.g. the municipality. These networks reflect only a part of the regional networks. The Ruhr region has the advantage of being forced to form networks due to the lack of a central administration for the region. These networks go beyond political structures including chambers of trade and commerce, a variety of municipal parliaments, or churches. So there is a large variety of existing networks that can be involved for working towards a smart city or enhancing climate change adaptation activities (Representatives RVR 2016)

Diffusion of (technological) innovations: Already existing technologies or technological solutions can be employed more effectively contributing in that way to the practice field development (Representatives RVR 2016). Defining the practice field as comprising both mitigation and adaptation initiatives, both, existence and development of more resource and energy efficient technologies potentially play a big role.

Planning and institutionalization of change: *dynaklim* as a whole is an example of the intent to plan and institutionalize change. Stakeholders were invited to engage in discussions about the future impact of climate change in the region in order to be able to adapt the strategic positioning of their home organizations. Hence, a project like *dynaklim* pays tribute to the fact that a region is a complex system of actors where change cannot be ordered top down, but has to be incentivized and encouraged through learning and cooperation, and in the end be implemented through strategic decisions on the level of organizations and actors (*soft governance*). So the goal from the outset was to initiate change through *dynaklim*. However, there are inherent difficulties of implementing and measuring extent of change initiated through a project, as there are always limits to the planning and institutionalization of change in a complex setting.

It is important to deal with the issue of climate change adaptation. Given that there is no obligation to do so, the topic is underrepresented in administrative organization (Representative district of Siegen-Wittgenstein 2016). Also on the level of practitioners, firms and other organizations the topic is likely to be underrespresented because it is beyond time horizons and it is bound to dislodge current routines, in acting as well as thinking.

Difficulties in more detail can be found for the *dynaklim* project: After the project termination and with the realization of the formulated strategy within a single municipality, the city council became an important organ in adopting a decision. Since *dynaklim* was not a political project, city councils or mayors were not involved in the Roadmap process as such. The policy briefs developed within *dynaklim* as well as the *Roadmap 2020* were all presented to the cities' mayors which then had the task to take the described fields of actions to the council's respective working groups (Representatives project coordination 2016). E.g. the most important role of the State of Northrhine Westphalia was recognizing the importance of the *dynaklim* project and thereby assuring the practitioner's participation (Representative MKULNV 2016).

Institutional structures can act as potential drivers as well as barriers. Many administrative organizations are reluctant to change and foreclose benefits that might stem from social innovation initiatives prematurely. To be aware of and able to work with these barriers is a key factor for partners working successfully with administrative actors (Representative MKULNV 2016).

5 SUMMARY AND CONCLUSIONS FOR THE POLICY FIELD

Policy conclusions
This section treats the relation of social innovation and policy from different angles. It assumes that understanding the differentiated ways that policy and social innovation are related is necessary in order to find policy frames that foster social innovation.

1. **The absent role of policy: Social innovation addressing a policy vacuum**

It is in the nature of quite many social initiatives that benefits accrue to society as a whole rather than to individuals (Phills, Deiglmeier, and Miller 2008; The Economist Intelligence Unit 2016). This is also the definition of a type of market failure which motivates government intervention in theory. So where benefits accrue to society as a whole rather than to individuals, social innovation may interfere with traditional operations that governments and public policy might be expected to address. This is a worry that has been expressed on the individual level in many interviews with social innovators. The pessimistic view of the relation between promoting social innovation with public policy is that public actors, under constant financial pressures (*austerity*) as they are, use the label and concepts of social innovation to not take responsibility for tasks that – in essence – are public tasks. The following reference is one example:

> At the start, the international policy processes were in a state of paralysis. NASF acted into this vacuum and changed the dynamics. Thanks to NASF, international treaties started to be negotiated and come about. That process is still continuing, with NASF a major driver. **Thus, NASF addressed and caused policy change; it did not arise thanks to any policy.**

Source: case NASF

Also in Tarimsal Pazalarma the social innovation initiative did not arise because of policy, but on its own initiative, organization and resources, and it actually compensates for missing public action.

> Local authorities have neither helped nor hindered the success of Agricultural Marketing, as there has been limited communication and involvement throughout the development and growth of the initiative. This may be somewhat unusual for a social initiative of the scale of Agricultural Marketing in Turkey, where it is often important to get backing or funding from government entities in order to grow. Agricultural Marketing is now pushing for specific legislation, however, to provide subsidies, grants or favorable access to credit to allow farmers to purchase technology. No active or passive policy has been required to pursue this initiative at any level, nor have any policy actors been closely involved. **In fact, initiatives such as Agricultural Marketing may be seen as a substitute for a policy-driven solution.** Future policy initiatives to improve access to technology in rural Turkey may, however, indirectly assist initiatives of this type.

Source: Tarimsal Pazalarma

So on the one hand, social innovation is not to compensate for government failure. On the other hand, social innovation initiatives may be seen as **seismographs indicating necessary changes** and possible solutions where governments may not be aware of any. Viewing social innovation like this makes **policy and financing schedules necessary that are open and flexible and have the potential to fuel social innovation** initiatives wherever they benefit society. Apparently, Canada provided one early example in 1999 in Nova Scotia , Community Economic Development Investment Funds (CEDIFs) (see The Economist Intelligence Unit 2016, : 23). These allowed investors a **tax credit** on investments into local communities in a simplified application procedure in order to make local businesses and intermediaries to sign up. Another example are **social impact bonds and social impact investing**, although these have their critics as well, especially regarding the dependence on private capital to solve public problems.

In the "seismograph view" open data and research on the social innovation initiatives are key. Data on the need for and impact of social innovation initiatives should be encouraged and collected rigorously in order to shape the policy and institutional frameworks on the different levels, from local to national and international.

2. The mediating role of policy: social innovation and soft governance

Two initiatives in the above in-depth cases are the explicit result of the mediating role of public actors and public programmes. 1. *dynaklim* was one of the seven projects funded within the BMBF programme KLIMZUG – climate change in regions. KLIMZUG's aim was to increase Germany's adaptive capacity by anchoring an awareness of the necessity of adaptation within society. 2. ECOREG had the Romanian Ministry of Environment and Forests (MoEF) as the coordinating beneficiary and received financing through the EU level LIFE + programme.

Ultimately, the effects of climate change (*dynaklim*) and increasing amounts of waste (ECOREG) will be felt by individuals and organizations of the respective regions. Still, although individuals, firms and other organizations should feel affected, they are often not likely to become active themselves. Many future projections like the global average annual temperature raise by 2°C until 2050 are too abstract. General statistics on amounts of waste and its effects have no immediate impact on firms abilities to carry out their routines today. So change in a larger scale on the basis of self-organization are of reduced likelihood. ECOREG and *dynaklim* try to compensate exactly for this inertia in mediating and organising processes of exchange. With different mechanisms of soft governance, individual processes of change shall be activated that would have been less likely to unfold without the public programmes/projects.

Mutual and social learning is a key aspect of *dynaklim* where actors came together, shared their views, learnt not only from each other but also got informed about climate change impacts and potential counter measures by experts, and were thereby **empowered to initiate a change process within their own organization**. This knowledge was generated on two levels: as a collective knowledge for the whole region and individual knowledge for the participating actors

Source: *dynaklim* (Representatives project coordination 2016).

Although the mediating role is definitely an important role of policy in social innovation, one has to be aware that straightforward and measurable impacts from this kind of policy intervention are not likely. Due to the high number of network partners involved, the project coordinators are often not able to keep an overview who has actually implemented strategic decisions based upon the insights during the formal projects and in what way. After the funding periods, projects and networks newly established dry down. Later network activities and especially the implementation of the strategy have to be realized without these financial resources.

Furthermore, firms tend to react to act according to short-term horizons and daily necessities. This is illustrated by the Romanian example:

The economic crisis has affected the business environment in NE Romania (March 2009). Employees companies tended to focus on daily tasks and training a new project was not a priority. Therefore additional efforts were needed to persuade companies to join the project by presenting the advantages and benefits of involvement in the project.

Source: ECOREG

3. Social innovation as outcome of general policy frameworks

In general, governments establish formal rules and (dis)incentives through their legislative, executive, judicial powers and bureaucratic functions, as well as through the distribution of powers and functions across all levels of government. In this role, social innovation initiatives may be the result of deliberate policy shifts that do not explicity address social innovation, but rather implement directives, laws, e.g. set tighter emissions limits or enforce acts to measure the occurrence of harmful environmental and health effects. Nationally, different directives and laws had an influence on the practice fields in the various countries.

The above examples show that in New Member States, EU policy has an important function in adapting legislation, which in turn incentivizes new services to meet environmental standards. Especially for the cases in Romania (AFF) and Bulgaria (system for collection and disposal of hazardous waste), it seems that the national policy context in the area of environment (and sometimes employment) is driven particularly by the EU strategies in the area, thus the development of the social innovation project follows and uses the new regulations that appear through EU membership. This attributes a crucial function to EU policy and legislation in the area of environment for these more recent Member States.

More generally, different types of policies, such as policies related to environment, conservation of endangered species, and economics, influence the room for social innovation. Policies are needed to increase awareness, underpin orderly measurement of environmental and social impacts in all countries, and to push a combination of regulations/standards that set the limits for the market as well as economic incentives to help pull further improvement. Policy has also an important informing function and hence an important role to play in highlighting the costs of consumerism and support higher acceptance for re-use.

4. Unintended policy: social innovation compensating for "side effects" of policies

As a general framework, the high taxation of labour income (compared to e.g. capital income) leads to limiting labour as an input factor in the production of goods and services. This has detrimental effects on waste statistics because this systematically disadvantages labour-intensive activities like repair services and, with the limited option of repair, leads to growing amounts of discarded items, with waste of electrical and electronic equipment (WEEE) growing particularly fast. In order to respond to this, many repair service firms have to make extra efforts in order to be viable, e.g. take the form of a WISE, a work integration social enterprise. In a WISE, labour is subsidized because the WISE reintegrates people with difficult employment histories into the regular job market.

However, these conditions for financing can also be a source of tensions and conflicts. RUSZ as well as AFF consider themselves as WISEs. Here, labour cost are subsidized because the target is to place long-term unemployed, difficult-to-place people into unsubsidized employment after a transit phase at the WISE. Conflicts seem likely as WISEs have primarily goals of social stabilization and inclusion, whereas operative businesses have goals of providing high-quality services which often require skilled personnel. Hence, they are "picky" in terms of personnel acquisition. In Austria, this conflict finally resulted in RUSZ falling out of the WISE financing scheme.

A straightforward solution to these untended effects of policy would be a tax reform that reduces the tax burden on labour and thus has positive effects on labour-intensive services.

5. Concrete actions for social innovation

Countries with legal frameworks for social enterprises are still the exception. The Economist Intelligence Unit (2016) found only seven countries to have explicit laws for social enterprises in place. However, in various case study interviews the need for such special regulation is expressed. RUSZ argues for a value added tax exemption, or at least reduction, for social enterprises. Also in Tarimsal Pazalarma the argument goes for special regulation for social enterprises:

The founder argues that Agricultural Marketing, like other social enterprises in Turkey, has been adversely affected by the tax and regulatory regime in Turkey as concerns social enterprises. In Turkey an organization is treated either as a business or as an NGO like a charity with no middle ground. For an organization like Agricultural Marketing which raises its own revenues through sponsorships, advertising and membership fees and uses these revenues to cover costs and for outreach and education, this is not desirable. It is treated as a business rather than an NGO and taxed accordingly. NGOs, on the other hand, are largely dependent on grants or donations. Were enterprises such as Agricultural Marketing treated as non-profits, their tax burden would likely decrease allowing greater outreach.

Source: Tarimsal Pazalarma

Summary and conclusions across all cases

Incentives and latent demand

Latent demand is a critical factor for social innovation initiatives in the area of environment. Although there often is a strong social demand (unemployment) for one service, the main service (e.g. repair, or alternative food production and distribution) is based on more assumed or latent demand. It is often perceived by the initiators of the social innovation initiatives as a tension or societal challenge (kickstarted by statistics or personal experiences). Although the sustainability aspects are more and more in the focus of discussions and offerings, many social innovation projects promoting sustainability aspects operate on an agenda which is beyond concrete and local demands. Initiators of such

projects start on the basis of assumed or latent demand that may become explicit and – in case of success -translate into actual demand as soon as service offerings take concrete form. Thus social innovation initiatives have an important role as they provide real feasible alternatives to the existing ways of doing things.

Empowerment

Another strength of the social innovation initiatives in the environment area lies in its empowerment function. Citizens are empowered to manage their waste in a sustainable way or to mitigate their negative impact on the environment. The notion of empowerment has gained interest in several disciplines. As a general concept, it is characterized by following a strength-oriented perception in contrast to a deficit-oriented perception. In social work, empowerment presumes active, collaborative roles for client–partners, instead of viewing clients as weak, passive and ineffectual (DuBois and Krogsrud Miley 2005). Although empowerment has several dimensions, they all refer to informing about otherwise hidden features (which is crucial for informed decision-making), viable options and consequences, provide feasible alternatives.

Imitation, Competition

There are aspects of weak competition in nearly all cases in the policy field, which means that at least at the beginning of the initiatives there was rarely a competitor offering a similar solution. Sometimes this changed over the longer course of the initiatives and competition arose and at least elements of the strategy or solution got imitated.

In the practice field of repairing, re-use and extending the life-time of products, competition is weak among repair service providers. Actually, firm entries are often welcome in case they provide independent and reliable repair services. Protection of intellectual property hardly occurs. Although names of organizations are trademarked, knowledge and practices are rather spread among the like-minded. However, competition is fierce with producers of new goods and retailers. They are seen as the real competitors because due to differential taxation of labour and energy, new appliances may be supplied at low prices that hinder (labour-intensive) repair services systematically.

In the food practice field, concerning NASF, at first there was no competition. However, fisheries departments in some government offices see NASF efforts also as a threat to their policies and work effort. As a consequence, some responded to the rise of NASF by starting to come up with their own ideas for how to arrange with salmon conservation. However, as they could not demonstrate any significant results matching those of NASF, there was no real competition.

Concerning Tarimsal Pazalarma, competition between farmers certainly plays a role in their support for Agricultural Marketing. The platform is created to provide concrete advantages to the farmer. However, competition with other projects has not played a role as no one else had been doing anything similar during the initial developmental years of Agricultural Marketing.

Media as a success factor

Generally, networks and media are used to gain attention and attract people as suppliers, as well as customers. **Hence, media may become an extremely important partner in social innovation initiatives.** Media contributions about repair services often may raise awareness and demand that was latent before becomes then apparent and materializes. Furthermore, craftsmen exist to carry out necessary repair services; however, they are often small businesses in backyards, not visible to the public. To organize them in a network and make them visible through media contacts and marketing activities supports the diffusion of repair services and reuse of second-life products. For RUSZ, media are a very relevant partner, newspapers as well as talk shows. Presence in Austrian media results in a higher number of donated appliances. One of Austrians daily newspaper with a very wide reach published 5 contributions in 2012/13, since then around 1200 washing machines are donated to RUSZ annually.

For the Bulgarian system of separate collection of hazardous waste, media are an extremely important partner as well. The accompanying information campaign for promotion of the system for the collection and recycling of hazardous waste is well considered and carried out consistently. It is focused on the promotion in various TV programmes; reportages in news and specialised programmes of all major TV channels; publications in mass media; articles in online information agencies and editions;

The media coverage on *dynaklim* increased the awareness of the initiative in the project region instead of influencing the network's dynamic. Between 2009 and 2014 a total of 348 articles were published of which the majority comprised press articles (294) published in local newspapers and scientific journals. In addition, 24 television reports were aired and 30 online articles published. The media coverage reached a peak in 2011 with 132 articles in total and remained quite high in 2012 with a total of 88 articles. Raising awareness of climate impacts on the water sector and potential adaptive measures formed the centre of attention.

Media contacts also played an extremely important role in the North Atlantic Salmon Fund(NASF), Myrorna and Eat me who all strategically relate to media to communicate their purposes.

Role of technology

The role of technology varies greatly in the different social innovation cases, from no visible role, via the well-established enabler role to being one context factor of the problem.

- Technology as enabler. Tarimsal Pazalarma is an application of technology in order to provide new services and information to farmers which had not been provided to these communities before and a program to educate farmers on new technologies to use in their fields.
- Technology as context. (Iss mich) Technology is a context for the Iss mich undertaking. One reason for the tight standardization of food is likely to be machine processing methods in the food industry which favor standardization of food. This leads to deleting non-standard food from further production processes and hence increases fodd waste, which Eat my attempts to counteract with its services.
- Technology as a weakness. In the perspective of the practice field reuse, repair and an extending the life cycle of products, technology is something that can break, in which case the original utility of the product is reduced or zero. Hence, the diffusion of repair services means remedy to broken technology. Whatever technology diffuses, it can break as well, in which case it needs repair. Technology is not an enabler, but it is weak and may be defunct.
- A further role related to technology, is that of informing an interested public about in-built technological weaknesses of devices and about easy-to-repair product designs. This is important know-how that is inherent to repair service providers. Consumers can only tell when something is broken, they normally do not have the expertise to realize if it is designed to be broken sooner than necessary.
- Another role of technology, which was mentioned by the Romanian AFF case in particular, is that advancements in technology have an impact on the necessary skills and competences in dismantling and recycling methods. This may be challenging in terms of human resources.
- However, not in all social innovation initiatives in the practice field does technology play a role. For e.g. Myrorna, technology was not essential. However, now Myrorna is becoming open to and interested in using modern ICT tools for improved services and reaching out.

6 ANNEX

6.1 MECHANISMS OF SOCIAL CHANGE (BASED ON WILTERDINK 2014)

1. **Learning**: Evolutionary theories (Nelson and Winter 1982; Dosi 1982) in social sciences stress the cumulative nature of human knowledge. Actors realize mistakes, apply new ideas and engage in processes of learning, which results in tacit and codified new knowledge (Cowan, David, and Foray 2000).

2. **Variation**: Variation can range from 1) new (collective) ideas to 2) single innovation projects which introduce novelty and hence variation. Ad 1) Collective ideas are the cause and consequence of social change. The spread of beliefs, values, value systems, of fashions, of **religions**, of cultural symbols, of rules of behavior. Ad 2) Single innovation projects are on the one hand incremental innovation projects that innovate along a given trajectory; on the other hand, radical innovations that deviate from the trajectory and may lay the ground for a new trajectory.

3. **Selection**: This incorporates processes of adoption, diffusion and imitation, but also processes of **decline** and death of initiatives.

4. **Conflict**: Group conflict has often been viewed as a basic mechanism for social change, these **include** revolutions, but also minor conflicts. Social change in this view, is the result of the struggle between a predominant class and a dominated class which strives for (radical) change. (conflict model of society by Ralf Dahrendorf)

5. **Competition**: seen as a powerful mechanism of change as competition makes it more likely to **introduce** innovations in order to have competitive advantages.

6. **Cooperation**: Although competition as a driver dominates theories that put individualism, individual utility at the fore, where social change is the results of individuals pursuing their self-**interest**, other strands of literature have shown that cooperation (e.g. literature on innovation systems, game theory) or altruism (e.g. Ernst Fehr) also lay the basis for human action.

7. **Tension and adaptation**: In structural functionalism social change is seen as an adaption to some tension in the social system. E.g. a gap between fast-changing technology and necessary **associated** institutional change of some type (see W. Fielding Ogburn)

8. **Diffusion of (technological) innovations**: Some social changes results from innovations adopted in society, may be technological invention, scientific knowledge, but also new beliefs, ideas, values, religions, in short ideas. High uncertainty, most innovations disappear, those that survive follow an S-curve of adoption (cf. Geroski 2000).

9. **Planning and institutionalization of change**: Social change may result from goal-directed large scale planning, by governments, bureaucracies, and other large scale organizations. The wider the **scope**, the more the competencies needed, the more difficult to reach goals and the more likely that unforeseen events interfere. Planning implies institutionalization of change, but institutionalization does not imply planning (Wilterdink 2014). Included here are changes in the organization of the state, interstate relations, laws and directives, programmes etc.

   See Wilterdink (2014).

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