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Towards Sustainable Transport Practices in a Coastal Community in Norway: Insights from Human Needs and Social Practice Approaches

Mònica Guillén-Royo, Amsale K. Temesgen,
and Bjørn Vidar Vangelsten

Introduction

This chapter draws on wellbeing and social practice theory to study the elements that support a transition towards sustainable transport practices in Vågan, a municipality in Northern Norway. Inspired by an earlier work by Guillen-Royo and Wilhite (2015), we consider that wellbeing

M. Guillén-Royo (✉)

CICERO Center for International Climate Research, Oslo, Norway
e-mail: monica.guillen-royo@cicero.oslo.no

A. K. Temesgen

Nord University Business School, Nord University, Bodø, Norway
e-mail: amsale.k.temesgen@nord.no

B. V. Vangelsten

Nordland Research Institute, Bodø, Norway
e-mail: bvv@nforsk.no

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and practice-theoretical approaches are complementary and that together, they contribute to a deeper understanding of the societal transformations required to advance towards low-carbon societies. Practice-theoretical approaches do not focus the analysis of consumption on the individual but on the lifestyles and systems of provision that shape everyday actions and make them unsustainable (Spaargaren, 2003). Wellbeing research contributes to the analysis of practice through empirical studies connecting carbon-intensive practices, such as those related to commuting by car, to low levels of wellbeing (Chatterjee et al., 2019). It also provides evidence on the positive association between quality of life ¹ and the diverse array of elements that shape sustainable consumption practices such as sharing or reusing (Guillen-Royo, 2016, 2019; Kasser, 2017).

Guillen-Royo (2020) maintains that Max-Neef's (1991) approach to wellbeing as human needs fulfilment and practice-theoretical perspectives share an analytical strategy that departs from a focus on individual behaviour and a systemic perspective on change. Both understand consumption as embedded in a variety of processes that connect socio-economic structures with cultural understandings, norms, actions and the natural environment. At the same time, whilst practice-theoretical approaches focus on the detail of particular practices and the elements that detract or contribute to their reproduction (Sovacool & Hess, 2017; Watson, 2012), Max-Neef's perspective on human needs takes a look at the socio-economic system in which practices operate. Through a methodology based on participatory workshops, communities or local groups are encouraged to discuss how specific practices linked to need fulfilment, such as cycling to work, are interlinked with other practices, their constitutive elements, socio-economic factors and the natural environment in which they are enacted (Guillen-Royo, 2016).

This study analyses the results of needs-based workshops implemented in Vågan. This is a municipality with a population of about 10,000 in the Lofoten Islands, one of the most touristic regions in Norway with a relatively high percentage of people employed in the primary sector (5% compared to 1.3% nationally). At the time of the study, the municipality was engaged in the design of a sustainable development plan for the locality and the local Public Health Coordinator (PHC) collaborated with

researchers from Nord University to recruit local stakeholders as participants in needs-based workshops.

The focus of the analysis presented in this chapter is on transport practices. Car driving, cycling, ride-sharing, carpooling and bus riding were widely discussed in the workshops. In addition, sustainable transport was a key concern for local authorities as the increasing levels of road congestion and the escalating CO₂ emissions from road transport were reportedly affecting people's quality of life and harming the local environment (Vågan Municipality, 2019a). Thus, the general research question this study is set to answer is as follows: what are the interrelated elements that could support the consolidation of sustainable transport practices in Vågan? We draw on human need theory and practice-theoretical approaches to answer the question.

The next section describes Max-Neef's Human Scale Development (HSD) approach to needs and satisfiers and the associated participatory methodology. The third section briefly discusses the social practice approach to the study of local mobility and relates it to the HSD perspective on needs and need satisfiers. Section four introduces the particular features of local transportation in Vågan and elaborates on the workshop methodology, describes the characteristics of participants and the type of analysis. The fifth section presents the results of the study. First, it introduces transport practices as interconnected with other satisfiers that either hamper or promote need fulfilment locally. Second, it analyses the resources, norms and infrastructures likely to support sustainable transport practices in Vågan. Section six discusses the conceptual implications of the study and the relevance of the findings for sustainable transport policies in the municipality. We conclude by reflecting on the suitability of using a human needs perspective to study sustainable consumption practices.

Human Needs and Satisfiers

The Human Scale Development (HSD) approach is a proposal for development practitioners put forward by Chilean economist Manfred Max-Neef during the 1980s. It emerged at a time when development

perspectives focusing on industrial advancement and export-oriented programmes had failed in providing a good quality of life for the majority of the population in developing countries (Max-Neef, 1991; Smith & Max-Neef, 2011). HSD postulated that socio-economic development should revolve around: (1) community centrality, (2) balanced relationships (e.g., across governance levels) and (3) human needs fulfilment (Guillen-Royo, 2016).

HSD views human needs as both drivers for action and requirements for a good life, unlike other theories of need that focus on either of the two conceptualizations (Gasper, 2007). Thus, need fulfilment is not only understood as a normative prerequisite but as a goal pursued through everyday actions. In the HSD framework, needs are non-hierarchical, universal and change only with history. Societies, communities, groups and individuals (attempt to) fulfil their needs through *satisfiers*.

Distinguishing between human needs and satisfiers is one of the key contributions of Manfred Max-Neef to need theory (Gough, 2017; Guillen-Royo, 2016). Whilst needs are considered universal, satisfiers vary across cultures, traditions and socio-economic groups. As Max-Neef put it: ‘satisfiers might include, among other things forms of organisation, political structures, social practices, subjective conditions, values and norms, spaces, contexts, modes, types of behaviour and attitudes, all of which are in a permanent state of tension between consolidation and change’ (Max-Neef, 1991, p. 24).

Max-Neef represented his approach to needs with a matrix where the first column featured the nine fundamental human needs (FHN) of subsistence, protection, affection, understanding, participation, leisure, creation, identity and freedom. The first row included the four existential categories of having, being, doing and interacting. As illustrated in Table 10.1, the intersection between FHN and existential categories defines satisfiers, which are conceptually different from economic goods or artefacts. The latter contribute to or detract from the capacity of satisfiers to meet needs depending on the way society is organized.

Given the extent of environmental destruction of current models of economic development, not all satisfiers are equally efficient in meeting needs. Max-Neef (1991) identified five types of satisfiers and qualified them with respect to how effective they were in meeting needs. Two

Table 10.1 Matrix of needs and satisfiers (template)

	Being (individual or collective qualities)	Having (resources, tools, institutions, norms)	Doing (personal or collective actions)	Interacting (settings and environments)
Survival				
Protection				
Affection				
Understanding				
Participation				
Idleness				
Creation				
Identity				
Freedom				

Source: Max-Neef (1991)

types, *synergic* (meeting more than one need) and *singular* (meeting one need) were considered positive for societies. The other three, *inhibitors* (over satisfy one need whilst hampering others), *destroyers* (frustrate meeting the need they aim to) and *pseudo-satisfiers* (seem to satisfy a need in the short run but obstruct its satisfaction in the long run) were considered detrimental for need fulfilment. For example, Max-Neef (1991, p. 33) suggested that censorship and bureaucracy should be categorized as destroyers. He considered that by attempting to meet the need for protection, they hindered meeting the needs for understanding, participation, creation, identity and freedom.

The type of satisfiers that predominate in any given society define the extent to which needs are fulfilled. However, attention must be paid to the fact that Max-Neef did not consider one-to-one relationships as describing the link between needs, satisfiers and economic goods. His approach to needs is better understood as systemic, where path-dependency, co-evolution and disruptive events frame the emergence of satisfiers and shape their relationship with needs and economic goods (Guillen-Royo, 2020).

Despite the challenges associated with capturing complex and systemic relationships, Max-Neef suggested using the matrix of needs and satisfiers presented in Table 10.1 to organize participatory workshops ‘for purposes

of diagnosis, planning, assessment and evaluation' (Max-Neef, 1991, p. 37). Workshops often follow three phases where: first, a *negative matrix* with detrimental satisfiers (destroyers, inhibiting and pseudo-satisfiers) is completed, second a *utopian matrix* with positive satisfiers (singular and synergic) is filled and third endogenous and exogenous *synergic bridging satisfiers* are discussed (Centgraf, 2018; Guillen-Royo, 2016; Guillen-Royo et al., 2017). Several studies have drawn on the FHN approach to investigate particular satisfiers such as housing, energy services and transportation (Brand-Correa et al., 2018; Mattioli, 2016; Mitchell, 2001). Concerning the latter, Mattioli (2016) described car dependency as connected to a sequence of infrastructures and socio-cultural factors that render the satisfaction of human needs energy-demanding and, consequently, unsustainable.

Social Practice and Sustainable Transport

Following Max-Neef (1991), need satisfiers are conceptually close to the meaning of practices and their constitutive elements as understood by social practice theorists (Guillen-Royo, 2020). Social practices are generally defined as 'routinized type of behaviours' such as shopping, commuting or cooking that are shaped by a wide array of elements associated with people's lifestyles and existing socio-technical structures (Reckwitz, 2002; Spaargaren, 2011). The elements that are considered to constitute practices often encompass individuals' internalization processes, the material components of daily behaviours and the cultural and knowledge-based factors that shape them.

Shove and Pantzar (2005) consider materials, meanings and forms of competence as the elements that integrate practices, whilst, for example, Warde (2005) stresses the role of understandings, procedures and engagements. Conversely, Wilhite (2016), in his research on habitual behaviour, follows Bourdieu (1990) in emphasizing the importance of embodied knowledge (the way that mind and body interact) as the basis for the creation of habits defined as entrenched practices. Similarly, Koch (2020, p. 6) draws on Bourdieu to emphasize the difficulty in breaking established 'habitus' ('a system of structured and at the same time, structuring

dispositions in terms of thoughts, perceptions, expressions, and actions’) that form the foundation of unsustainable lifestyles.

Despite the many perspectives on the constitutive elements of practice and the emphasis different authors put on any of them, what is common to most practice-theoretical approaches is the fact that the analytical focus is on the elements’ interconnection and dynamics (Halkier, 2013). This resonates with the systemic perspective of the HSD approach as interactions between needs and satisfiers, and between satisfiers, are not explained in terms of one-to-one relationships but considering complex dynamics based on co-evolution, trade-offs and simultaneities (Guillen-Royo, 2016).

The co-evolution of elements of practices characterizes the reinvention of old practices and the diffusion of new ones (Shove & Pantzar, 2005). Nevertheless, practices do not usually change in isolation, but often do so as other related practices change. Watson (2012) illustrates this point with the example of the practice of driving, which he argues depends ‘on a wide range of other practices, from those of transport planning and road building to fuel providing and maintaining’ (Watson, 2012, p. 491). Watson introduces the term ‘systems of practice’ which considers in addition to the co-evolution of practices, the systemic relationship between its components (norms, meanings, rules, infrastructures, technologies, etc.). This is of particular interest in our study, as we consider that the concept of *need satisfier* includes many of the constituent elements of practice.

Transport-related practices involving cars, motorbikes and bicycles have been widely analysed using practice-theoretical lenses (Hansen, 2017; Kent & Dowling, 2013; Warde, 2005; Watson, 2012). For example, Hansen (2017) studied mobility practices in Hanoi, specifically motorcycling and car driving, considering the interplay of Sahakian and Wilhite’s (2014) three pillars of practice: *the material*, including infrastructures and technologies, *the social*, accounting for institutions, values and norms and *the body*, encompassing both cognitive and physical experiences. In his analysis, Hansen emphasized how everyday mobility practices co-evolved with structural changes in Vietnam. Since the economy was liberalized in the 1980s the motorcycle industry experienced a rapid expansion, working and everyday life increased their pace and shopping

malls and high-end restaurants mushroomed throughout the city, all shaping urban mobility practices.

How elements of practice co-evolve is also addressed in Kennedy et al.'s (2013) study of sustainable transportation in Edmonton (Canada). The authors follow Spaargaren (2003) and Southerton et al. (2004) and study practices from the interplay of the *resources*, *norms* and *infrastructures* that shape them. Concerning resources, they find that skills such as fixing bicycles enable the establishment of social networks (social capital) among individuals interested in cycling as a mode of sustainable transport. Norms as unwritten rules and expectations diverge across neighbourhoods, and the researchers find that when people move to areas where unsustainable value systems are prevalent, mainstream norms of unsustainable practices are adopted. Finally, the study points to the fact that access to infrastructures such as public transportation or cycling trails and the distance to points of interest (schools, work, cafes, etc.) influence the degree to which individuals opt for sustainable forms of transport.

A social practice analysis provides a detailed understanding of the social, cultural, economic and infrastructural factors that shape practices whilst giving a particular attention to materiality and bodily performance. However, this attention to the micro-level might limit the usefulness of practice-theoretical approaches in informing systemic change. Whilst Watson (2012) suggests studying 'systems of practice' in order to bypass this limitation, Brown et al. (2013) maintain that an alliance with other related theoretical perspectives might be desirable, and that new economics, social practice theories and socio-technical transition studies can be used simultaneously to enrich each other's analyses.

Understanding HSD as a perspective within the 'new economics' paradigm, Guillén-Royo (2020) argues that social practice theories, socio-technical transition studies and HSD are complementary as they share several paradigmatic dimensions concerning a focus on analysis, systemic relationships and a view on change as reconfiguration. Koch (2020) adds that needs-based workshops could work as arenas where insights and inspiration can be gained to find ways to break the lock-in characterizing unsustainable habitual behaviour. The complementarity between practice-theoretical approaches and HSD will be explored further in this study with the example of transport practices in Vågan municipality.

Studying Transport Practices in Vågan

Vågan Municipality

Vågan municipality is located in the Lofoten archipelago in Nordland county. Its administrative centre is the city of Svolvær, the largest city in the Lofoten region with a population of about 5000 people. Its key business sectors are tourism, fisheries and aquaculture, fish processing and mechanical industry, in addition to typical urban sectors like finance, insurance and other services (SSB, 2020b). About one fourth of the jobs in the municipality are in the public sector (Hjelseth et al., 2016). Traditionally, the Lofoten region is renowned for winter fishing. In recent years, the relative importance of fisheries, as measured in number of jobs, has been steadily falling, whilst the tourist sector has experienced a rapid growth, both in jobs and revenue.

After a dip during the early 2000s, the region's population has been increasing since 2008 as a result of net positive immigration (Hjelseth et al., 2016, p. 18). The recent growth in population and tourism has led to an increase in housing prices and a change of land use that have both triggered intense local debate. During the peak tourist season, the local population faces challenges with inadequate waste management, pressure on natural resources and overcrowding (SG Henriksen, personal communication, 5 June 2018) (Fig. 10.1).

Contrary to the positive trend in population growth in the region, Vågan has experienced a steady outflow of young people. In an attempt to counter this tendency, the municipality established a project aiming to produce new knowledge on how children and young people can live 'the good life' in Vågan. But lack of sufficient dialogue and mobilization of young people led to poor results and a lack of follow-up projects (Vågan Municipality, 2017, p. 11).

Most municipality residents live in the neighbouring towns of Svolvær and Kabelvåg and the rest are spread out in small villages and hamlets (see map below). Car ownership in Vågan is slightly below the national average (0.48 privately used person cars per capita compared to 0.51 nationally) but in the past decade it has experienced a 23% growth, which is



Fig. 10.1 The Lofoten Islands and Vågan municipality (outlined in red colour). Source: ©norgeskart.no

more than double the national average of 11% (SSB, 2020a). The road network is characterized by narrow, curved roads that give poor overview. Despite the infrastructural and geographical constraints, congestion and high speed driving are increasingly the norm in Vågan, as in the rest of Norway (Vågan Municipality, 2019a, p. 65).

Recent resident consultations undertaken by Vågan Municipality (2019c, p. 4) show that citizens are demanding better transport solutions. Particularly, a better public transport service, more facilitation for pedestrians/cyclists, good ferry connections and improved roads. There are public bus services between Svolvær-Kabelvåg and Henningsvær, but there is otherwise little public transport to other areas in Vågan. In particular, young people call for improved public transportation options that harmonize with opening hours for culture and leisure activities (Vågan Municipality, 2019d, p. 14). In 2019, only 3.3% of municipal roads had cycle lanes, which is less than a quarter of the national average (SSB, 2020c). The municipality has expressed its intention to both improve quality of life (reportedly lower than the Norwegian average (Vågan Municipality, 2017,

p. 11)) and contribute to reduce transport-related GHG-emissions. An overarching aim of municipal transport planning is to move towards a municipality with robust infrastructure, sustainable land use and viable transport solutions (Vågan Municipality, 2019b, p. 10). This includes facilitating an increased use of bicycling and walking in everyday life, as well as effective public transport hubs (Vågan Municipality, 2019d, p. 4).

Methods and Data

In September 2018, a one-day participatory activity was organized in Svolvær. Fourteen stakeholders representing different sectors and age groups were recruited directly by the Municipality's Public Health Coordinator (PHC). The PHC distributed a flyer informing about the workshops to various local organizations, the local chamber of commerce, sports' council, tourism school, a research institute, the municipal cultural school and various volunteer organizations in addition to other areas frequented by residents. Those who participated in the workshops were in the age range from 15 to 78 years old. Four of them were pensioners (aged over 70 years), one business leader, a taxi chauffeur, a community development project manager, a school principal, a head waiter, a nurse, a researcher and three students. Nine of the participants were male and five were female. Otherwise, the group was relatively evenly distributed across educational background and occupation with three people having only completed elementary school, three with high school education and seven with higher education (college and university level).²

The participatory activity started with a plenary presentation where two of the authors of this chapter introduced the methodology and the aims of the project to workshop participants. During the first half of the day, participants were divided into two groups through a mix of a voluntary and lottery systems. One group participated in Workshop 1 identifying negative satisfiers that were hampering need fulfilment in the municipality resulting in a matrix filled with 'negative' satisfiers (see Table 10.2 in the Appendix). Another group joined Workshop 2, where the ideal situation where needs are optimally fulfilled was addressed and a utopian matrix was filled (Table 10.3 in the Appendix). Each of the two workshops lasted three hours. After the two parallel workshops, the

researchers made a preliminary analysis of the two matrices and produced *consolidated negative and utopia matrices* by eliminating repetitions and overlaps.

Workshop 3 took place in the afternoon of the same day and lasted three hours. Participants were given printed copies of the two matrices and the opportunity to discuss them openly. Later, they were divided into four groups and each group was assigned one existential category out of four (Being, Having, Doing and Interacting) and were asked to identify *synergic bridging satisfiers* for each FHN. That is, satisfiers that would bridge the negative and the utopian matrices for each of the nine FHN. In this process, they identified the role that communities (endogenous) and higher governance levels (exogenous) played in moving towards the ideal situation. At the end of this session, participants were gathered in a plenary session and each group presented the results of their deliberations. The summary table with endogenous and exogenous satisfiers was projected onto a power point screen so that everyone could see how it was being filled and discuss whether they agreed or disagreed with the outcome (see Table 10.4 in the Appendix).

Participants gave their consent for the workshop discussions to be voice recorded (by signing a consent form that guarantees anonymity). Despite the municipality being involved in the recruitment of participants, they were not given access to the data (no representative was present during the morning workshops although one attended the last 15 minutes of Workshop 3). General access was granted to research outputs in the form of an article featured in the 54th ISOCARP Congress³ proceeding (Temesgen et al., 2018) and the current book chapter.

The analysis of workshop data was done in two phases. The first focused on analysing the negative and utopian matrices and the table of synergic bridging satisfiers (see Appendix) studying the interconnections of satisfiers and going back to the researchers' notes and recordings for a deeper understanding of the relationships. The second was based on the analysis of the transcribed workshop discussions. Transcript analysis was performed using the software Nvivo 12 Pro (QSR International, 2018). Descriptive and concept coding were used to sort and summarize workshop discussions (Miles et al., 2020). Descriptive coding was intended to account for themes not initially considered in the research question but

that were dominant in people's discussions, for example concerning the role of tourism or the characteristics of synergic satisfiers such as non-commercial meeting places. Concept coding was used in order to establish a correspondence between workshop discussions, human needs, types of need satisfiers and elements of practice. Categories were also developed to account for different transport modes.

Results

The Negative and Utopian Matrices: Transport Practices as Interlinked Satisfiers

Workshop discussions were articulated around the three phases of the HSD methodology described earlier. Regarding transport practices, participants brought up the unsustainability of the current transport system in the first workshop, whilst sustainable transport practices, revolving around ride-sharing, the deployment of an extensive cycle-path network and an efficient public transport were discussed in Workshops 2 and 3. Figure 10.2 summarizes the satisfiers brought up by participants in the three needs-based workshops. Satisfiers related to mobility practices are highlighted in bold.

As illustrated in Fig. 10.2, elements of transport practices in Vågan were discussed as satisfiers characterizing the negative and utopian matrices and as synergic bridging satisfiers identifying potential policy strategies or community action. Although Fig. 10.2 presents them as independent factors, they were generally referred to as being interlinked with other satisfiers and depending on them for their negative or positive effect on needs fulfilment.

The negative satisfiers discussed in Workshop 1 described a socio-economic and cultural system characterized by reduced social interaction opportunities for minority groups, where the young experience excessive social pressure to conform, and where low economic resources together with deficient public services were reducing the capacity of the population to meet needs. A deficient transport system was considered to have negative implications for several FHN. An analysis of workshop discussions unveils

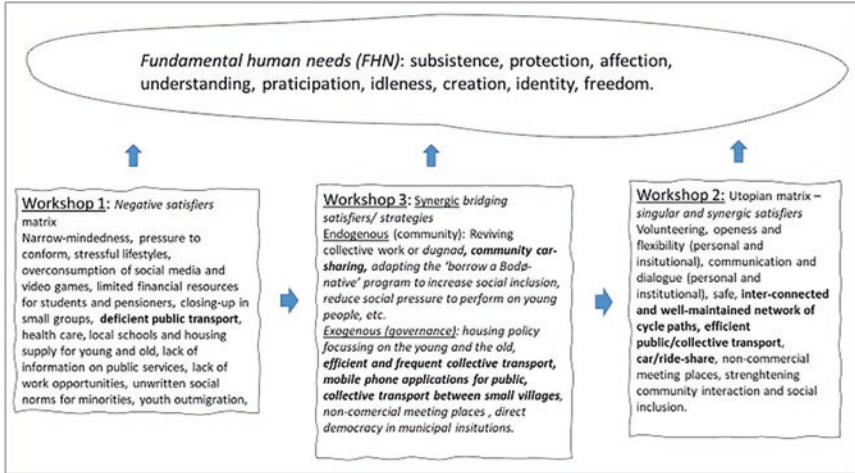


Fig. 10.2 Human needs, satisfiers and transport practices in Vågan. Note: This illustration is a partial representation of the satisfiers discussed in the workshops. It only includes a selection of the satisfiers that emerged in workshop discussions (for full synthesis matrices see the Appendix)

that underprioritizing public transportation was connected, among other negative satisfiers, to an endemic underinvestment in public services in the region, a lack of civil society's influence in municipal decisions and a lifestyle perceived as stressful that required access to rapid fixes for everyday challenges. The latter was explicitly connected to private mobility as driving was seen as a practice intended to beat time pressure. The following excerpt from a workshop discussion illustrates the relationship between a hasty daily pace, a deficient public transport network and the use of private transport.

C: In my current circumstance and with the way I function in my everyday life, it does not fit well to take a bus when I [head to town], then I drive. So I have to ... well, that's what it is ... I believe that when you live in the city center you can be a contributor and think about the environment more.

Workshop 2 addressed satisfiers that should be in place in Vågan in an ideal situation where needs were optimally fulfilled. In general, many of the satisfiers discussed, such as volunteering and having non-commercial

meeting places open to all, were directly or systemically linked to strengthening the local community. There was a strong emphasis on the development of a safe, interconnected and well-maintained network of cycle and walking paths that could foster cheap, convenient and low-carbon transport in the municipality. This was seen as a complement to a better strategy concerning public and collective transport, including rideshare, from the more distant villages to the main urban centres.

The presence of suitable low-carbon transport opportunities was expected to have synergic effects on needs as it would contribute to the needs for understanding, participation, protection and subsistence. It is interesting to note, how satisfiers identifying sustainable transport practices were linked to satisfiers characterizing a well-functioning community. The latter was discussed in terms of institutional flexibility and cooperation, volunteering schemes and social integration programmes, and the availability of easily accessible meeting places for young people, minority groups and the general population. The following excerpt illustrates how participants viewed sustainable transport solutions as connected to greater collaboration across local actors.

E: And then we are back [to] community development. There should then be someone in charge of coordinating community development schemes ... such types of schemes should not draw only on voluntary solutions. In a way, the municipality [should] develop a plan to facilitate such types of solutions, whether it is ride-sharing or there may be other things that require some planning. An app needs to be developed. ... Maybe this is related to volunteering and knowing about what's happening locally. Maybe there should be an overview online where you could get information about such initiatives.

A: Yes, it has also come up before, that we lack a way to facilitate bottom up initiatives to emerge, right?

Singular and Synergic Satisfiers as Elements of Sustainable Transport Practices

Sustainable transport practices in Vågan were discussed in Workshops 2 and 3 where singular (contributing to the realization of one need), synergic (contributing to more than one need) and synergic bridging

(providing instruments to advance towards the utopian scenario) satisfiers were the focus of the deliberations. As indicated earlier, sustainable transportation was associated with the use of buses, cycle and walking paths and ride-sharing schemes but also to a reduction for the need to commute. Resources, norms and infrastructures were commented on as directly or indirectly connected to everyday transport practices. The fact that the HSD methodology encouraged deliberations on satisfiers that were currently missing in the society, enabled identifying the potential interconnected elements that could break with lock-ins and render practices sustainable.

Resources

Cultural, social and economic resources are considered to shape everyday practices. Concerning cultural orientations, participants suggested a return to the 'dugnad' tradition or the *spirit of voluntary community work*,⁴ which is an important element of Norwegian culture and identity. They linked the recent turn to a more individualistic culture in Norway to the weakening of local networks and a focus on the nuclear family. Households with young children were the ones for whom the individualistic turn resulted in an intensive use of private vehicles. The following excerpt illustrates how participants linked the rise of individualism, hasty lifestyles and the use of private transportation in Vågan.

D: I think we're talking about exactly the same thing all the time. But it is clear that the way things are now, people are so busy with themselves, parents and kids, that they have no time for anything. And we did. I don't think my kids are raised wrong, but we had time for community. They don't have that today. Absolutely none! This, I will believe, until proven otherwise.

S: Our children had legs. My children grew up in Svolvær and could walk everywhere. My children do not live here, and their children cannot go to all the activities on foot. They feel they have to join every activity, so then dad and mom have to spend all afternoon transporting them and can't do much else.

Economic and social resources were also conditioning transport practices in the municipality as it was considered that in addition to the low frequency of buses, the price of a single ticket was too high for students and pensioners. High fares did not always result in less journeys as people, particularly the young, would try to find someone driving in the same direction to share a ride. Interestingly, participants agreed that *strengthening community interaction*, would increase the likelihood of rideshare or carpooling among parents driving children to extracurricular activities. Some virtual solutions already existed, as some football clubs used Facebook and other internet platforms to promote ride-sharing among their practitioners. However, this did not seem to exclude the need for face-to-face communication, as not all children attended the same activities but most needed a ride at similar times to close-by places.

As a young participant in Workshop 3 put it, promoting ride-sharing could help overcome limited economic resources and strengthen social networks.

F: that parents don't just say 'no you can't play football or play drama in Svolvær because it costs too much to take a bus'. So if they are 5 parents from Henningsvær then they can take turns [to transport the kids].

Norms

Mainstream norms concerning mobility practices in Vågan seemed to differ across age groups, household types and neighbourhoods. Young people were expected to take the bus, cycle or ask for lifts in their daily commute to school and after-school activities, as well as when they were meeting friends and/or commuting to their summer jobs. Pensioners were also frequent users of local buses, even if they considered them expensive and ineffective. Cycling and ride-sharing were more common amongst the younger generations, but the purpose of the trip and timing were limiting their use. Young participants argued that parties, gatherings and summer jobs at hotels often finished after 11 pm. At that time, there were no more buses from the municipal centre, Svolvær, to the nearby villages, and parents would not feel it was safe for their children to cycle

home. Parents would feel safer by fetching their child by car, reinforcing carbon-intensive transport practices amongst a group that would otherwise have chosen to cycle home or take the bus.

The use of private vehicles had become the norm in households with small children as in the rest of the country, except for some districts in Oslo (Nordbakke, 2017). This was explained by the deficient public transport and cycle-path network, the hard weather conditions, the spread of the population and the ‘fashionable’ busy lifestyles discussed earlier. A *slow daily pace* or å ‘senke skuldrer’ (literally to lower one’s shoulders) was identified as a synergic bridging satisfier that would help parents, children and the society in general to break with the dominance of busy lifestyles. But this was not easy at the individual level as participants considered that they were living in a ‘prestasjonsamfunn’ or achievement-focused society and that extracurricular activities were essential for children’s success. Young people had internalized this definition of success and they understood it had negative impacts at the collective level. As a teenager put it:

S: And you see the results now as we begin to grow up. I’m 18 years old, I’ll start college soon and then comes work and then the whole package. And then you can easily see that one may not meet up for voluntary community work because the focus is on myself, that I should do well, than to focus on ... the collective. But it is very difficult, because it is difficult to counteract something that is already going on.

Despite this feeling of lock-in, some participants considered that the *Norwegian society was increasingly concerned about climate change* and sustainability issues and that this general trend could lead to a normative change in the near future. As a participant in Workshop 3 said:

C: It might also be more legitimate to do it [ride-share] now than it has been [before] because of environmental thinking. ... Before, everybody drove their own car. At least on a nationwide basis, there will be less and less of it. I think maybe we can get some help from this environmental thinking.

Infrastructures

The deficient cycle-path network, the low frequency and high cost of bus fares, and a spread-out population supported the use and overuse of private vehicles in Vågan. Participants highlighted the differences in transport needs between those living in Svolvær, the municipal centre and the nearby villages and towns. They also reflected on the implications for the local society of concentrating the population in few locations and leaving the more remote areas, many of which were already in decay due to the progressive disappearance of fishing activities, as locations for summer houses. They perceived that society was rapidly changing and that investments should focus on *flexible public transport solutions*. The excerpt below illustrates what participants meant by it.

H: If you need walking and cycling paths, it's usually from A to B. And how many A to B situations should one have before ...? It can be a delicate balance between having a local pedestrian and bicycle path as you mentioned and having a well-developed, flexible public transport for those who may not be driving. After all, pedestrian and cycling roads cost quite a lot of money, you get quite a lot of public transport for that money. But it may be that places are evolving and people move to new places and ... after 10 years then maybe the need is different and then it is easier to change a public transport route than to move a pedestrian and bicycle road.

Flexibility at the personal and institutional level was considered an important synergic need satisfier. It was brought up when participants discussed mobile phone applications or internet sites supported by the municipality that could articulate flexible public transport solutions and carpooling or ride-sharing. Nevertheless, internet-based solutions were not considered a replacement for face-to-face interactions, and participants stressed the importance of having access to *non-commercial meeting places* to strengthen community life. Ideally, these infrastructures would be low-threshold, multi-functional and organized in collaboration with the municipality and local charities or volunteers. Participants considered that everyone in Vågan needed access to such a flexible meeting place, as weather conditions and current lifestyles made it difficult for people to

meet casually. It should be open for groups to organize activities, such as language courses for immigrants or leisure activities for teenagers, but it could also serve as an information point and a place to engage in participatory democracy deliberations. The latter needed a formal support by the municipality, and people considered this support necessary to strengthen collaboration across local stakeholders.

Finally, participants considered that to reduce the amount of commuting to secondary and high schools, the housing market needed a stricter regulation. Students were currently prevented from renting a room near their schools due to high rental prices. Homeowners preferred to rent their spare rooms, studios or apartments through the more lucrative Airbnb platform than renting them to the local youth. Participants suggested that *increasing the availability of residential facilities for students* would contribute both to wellbeing and to the sustainability of transport practices in the municipality.

Discussion

This chapter drew on Manfred Max-Neef's FHN approach to wellbeing and social practice theory to investigate the elements that might support the emergence and consolidation of sustainable transport practices in Vågan municipality. We applied a social practice lens to analyse workshop discussions in order to identify the elements shaping transport practices. We used the FHN perspective to emphasize the systemic relationship between the factors defining sustainable mobility practices and those contributing to human need fulfilment. As presented in the previous section in a situation where needs are optimally met, sustainable mobility would occur in association with singular and synergic satisfiers such as a socially inclusive society, direct democracy structures, collaborative values and efficient basic services concerning health, housing and transportation, among others.

Figure 10.3 summarizes the answer to the study's research question on the set of elements of practice that would support sustainable mobility practices in Vågan and would break the current lock-in characterized by the use of the private car. The consolidation of sustainable transport

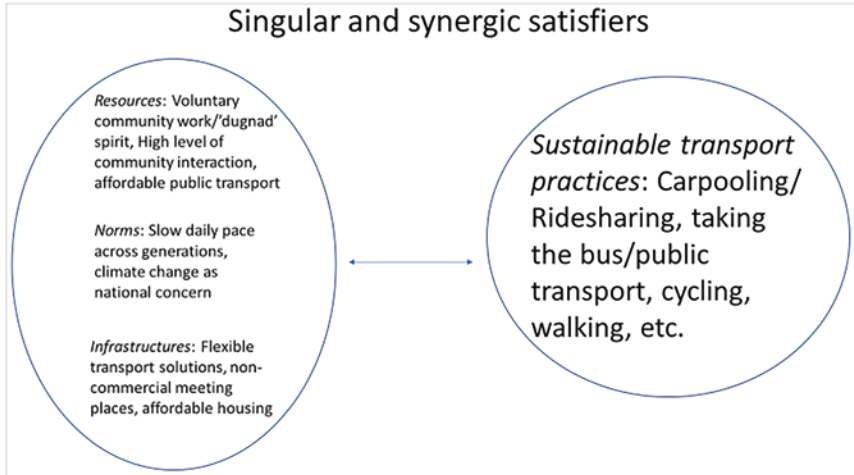


Fig. 10.3 Synergic satisfiers as elements of sustainable transport practices in Vågan

practices demanded first, strengthening collective values or the 'dugnad' spirit, and promoting a high level of interaction and communication between community members. Second, it required a transition from a society perceived as competition-oriented to a slow-paced one, where outperforming others is not considered a requirement for success. A national-level commitment to mitigating climate change was also seen as a normative supporting element. Finally, flexible transport solutions that could adapt to changing transport needs, a policy of affordable housing for the young and old population and the provision of non-commercial meeting places, were seen as reinforcing resources and norms in consolidating sustainable transport practices.

Despite the fact that most satisfiers might appear as 'only' locally relevant, it is interesting to note how many of the elements that might support sustainable mobility in Vågan are shared by distant communities such as Edmonton in Canada. Kennedy et al. (2013) study showed the importance of a social network for people to engage in sustainable practices and the role of the authorities in providing communities with safe and secure options. We found a similar situation in Vågan where participants emphasized the need for the municipality to provide a platform

(physical and/or internet-based) to engage citizens in discussions on sustainable transport alternatives, and to share information by sponsoring a non-commercial community centre.

Public interventions to support sustainable mobility in Vågan are essential to maintain a thriving local community and to fight against population decline and the associated reduction in state funding. The findings of our study concur with the results of previous research in the Lofoten archipelago. For example, Kaltenborn et al. (2017) emphasized the important role transportation services play in the Lofoten archipelago by connecting public services, securing 'community survival' (p. 170), and linking the islands to the mainland. Amundsen (2013) highlighted the importance of enabling mobility in coastal communities in Northern Norway as centralization trends and closure of crucial services were leading to an increase in the distances school children have to travel to come to a 'centralised' school on possibly nature-exposed roads.

Our study acknowledges the socio-economic imperative to secure mobility in the area and focuses on the cultural, social, normative, material and infrastructural elements that could facilitate a transition towards low carbon mobility alternatives. We contend, for example, that public interventions directed to expand cycle path networks might not succeed in reducing the amount of driving if the community is not engaged in the design of collective transport initiatives. It might well be that an internet platform to foster car-sharing, with contributions from villagers, schools and those organizing leisure activities, could be initially preferred by the population than spending funds and effort on a well-connected cycling route. Moreover, given the synergies associated with improving communication and collaboration among residents, an internet platform could also support group cycling from home to school, for instance, and engage a critical mass of practitioners in sustainable transport practices (Kent & Dowling, 2013; Watson, 2012).

Concerning collaboration, it is worth noting that reinforcing intrinsic values, or 'the collective spirit' as discussed by workshop participants, emerged as a supporting element to break the lock-in of unsustainable mobility practices. Tim Kasser's (2017) review of empirical studies on wellbeing and pro-environmental behaviours concluded that: (1) prioritizing intrinsic values (concerning community engagement, affiliation

and personal growth) over extrinsic values such as popularity or financial success is related to higher levels of wellbeing and greater engagement in sustainable practices such as walking or cycling; (2) the same factors that contribute to psychological needs fulfilment are linked to a greater engagement in sustainable consumption practices. This resonates with the conclusions of workshop participants that identified values associated to collective work, slow daily pace and community interaction with sustainable mobility practices and needs fulfilment. Individualism, haste and busy lifestyles were associated with car use and low quality of life.

There are, of course, limitations of using an HSD framework to address consumption practices. Here we raise two main concerns. The first is associated with the limited detail on the micro-level that the HSD methodology provides. The second links to the uncertainty around the effects on wellbeing and environmental sustainability of implementing singular and synergic satisfiers. With regard to the first limitation, a focus on linkages between satisfiers might have failed to provide a detailed enough description of everyday commuting practices and/or leisure travel in the locality. An alternative or complementary research design based on in-depth interviews could have been useful to capture this information. Concerning the second limitation, the results of needs-based workshops are interesting at the analytical level but difficult to assess whether the set of interlinked satisfiers discussed would have the environmental or quality of life effects identified by participants. We believe that future research would do well (a) to include participatory action research designs that allow for the implementation of satisfiers and enable an analysis of processes and (b) to engage in the study of communities of practice. The latter could be done by studying groups of people that adopt low-carbon habits and analysing the interdependent elements that prompt them to do so as suggested by Hal Wilhite (Guillen-Royo & Wilhite, 2015; Wilhite, 2016).

Conclusion

This chapter has analysed the elements that might support sustainable transport practices in Vågan municipality in Northern Norway drawing on Max-Neef's approach to needs and satisfiers and practice-theoretical

perspectives. Brown et al. (2013) suggested that the analytical power of social practice theory should be complemented by other social science approaches such as new economics and socio-technical transitions in order to understand how to break with current lock-ins. Drawing on Guillen-Royo (2020) and Guillen-Royo and Wilhite (2015), we considered that HSD, as a framework included in the new economics perspective, complements and aligns both with practice-theoretical approaches and social-technical transition studies. We claim that the participatory methodology associated with the HSD framework gives an opportunity to communities, stakeholders or civil society in general to engage in discussions on the interlinked satisfiers that promote need fulfilment and sustainable practices in a particular location. The fact that satisfiers include elements of practice such as norms, resources and infrastructural arrangements provides, we believe, the systemic perspective required to engage societies in low-carbon transformations.

Appendix

Table 10.2 Negative matrix

	To be	To have	To do	To interact
Subsistence	Unrealistic (expectations regarding work) Sceptical of the unfamiliar (towards foreigners' education and work experience) Ageism Insecurity (seeking security in small closed groups)	Limited financial resources (income, study grant) Limited health infrastructure (specially for acute needs) Isolating subcultures Lack of integration Too low thresholds for being assigned to special education Special education isolates and stigmatizes Limited capacity in elderly care Time squeeze/crunch Body-image and work pressure Too many activities for children (no free-time)	Not learning Norwegian Seeking security in small groups Dominating others Bullying Weak Norwegian skills before school	Limited labour market Scarce apprenticeship positions Limited housing Housing not fit for physically disabled and the elderly Age composition in schools Pressure from social media regarding appearances, success, etc.
Protection				
Affection	Feeling rushed all the time Feeling of inadequacy (because there is too much to do)		Too much to do for counsellors in schools Emigration leads to loneliness for the elderly Not enough follow up on integration of immigrants	Isolating institutions for the elderly Exclusionary student environments

(continued)

Table 10.2 (continued)

	To be	To have	To do	To interact
Understanding	Closed-mindedness Conformity (demanding conformity by the majority) Homogenous groups	Too little time for a good talk Decentralized school systems Lack of information sources for immigrants	Lacking social skills of communication, understanding norms and unwritten rules	Small schools (make bullying worse, are isolating and uninspiring for students) Too large schools create at-risk groups
Participation	Lack of determination, perseverance Not curious (not actively seeking out information about activities)	Too few opportunities for free-time activities Lack of information (for physically and mentally disabled) Too fast technological changes (exclude the elderly) Not enough money Minimum pension for elderly	Not seeking out opportunities Lack of commitment or political engagement by youth Limited opportunity for political participation for committed youth	Isolating institutions (for physically disabled) Segregated schools (some immigrant students are separate from Norwegian students) Old buildings do not have facilities for the physically disabled
Idleness	Limited time in nature Stress (one needs to destress through games) Overstimulated (youth have no capacity for anything else) Addicted to games (youth to decouple from stress)	Too little money Limited free-time activities Limited information regarding free-time activities, free pass and the like	Spending too much time on games Engaged in too many activities	Expensive travel costs Inadequate public transport system Inadequate school infrastructure (especially for free-time activities)

Creativity	Parochialism Afraid to stick out	Too many organized activities Too much focus on natural sciences in school Too little money Focus on status symbols in schools	Too much time on video games	Small schools Lack arena for youth to express their creativity Lack of youth clubs
Identity	Group identification	Isolating small groups	Bullying and abusive behaviour on social media	Small schools Social media
Freedom	Meanness, oversensitivity Abusive	Time squeeze Too little money Strict laws and regulations	Bullying and abusive behaviour on social media	Inadequate public transport system Inadequate school infrastructure

Table 10.3 Utopian matrix

	Being	Having	Doing	Interacting
Subsistence	Flexible (local council), dynamic	Jobs in the villages, basic needs covered, a clear strategy for real estate development, good infrastructures, assurance that the village/hamlet will survive	Talking about ideals and values, listening to the marginalized groups, reducing variations in food prices across the region, demanding local development initiatives	Good public transport, sufficient access to housing, good network of cycle and walking paths
Protection	Flexible (local administration), openness	Little red-tape, simplicity, infrastructures adapted to the climate, better conditions for old people	Contributing, adapting infrastructures to the amount of tourists	Police availability, upgraded water drainage, flexible public transport, good network of cycle and walking paths
Affection	Responsible, resourceful	Less structured daily life, a culture that supports initiatives, someone (institution) that supports the creation of meeting places	Taking initiative, making everyone responsible, appreciating voluntary work	Non-commercial places for young people to meet, centralized volunteering service
Understanding	Open, inclusive	People in the field (business, administration, schools), value participation	Making people responsible, showing openness, listening to other perspectives	Person-to-person communication, better public transport, sustainable solutions

Participation	Responsible, ready to take responsibility	Possibility to contribute with specific things, focus on disseminating opportunities to engage (internet, etc.)	Being open to people trying, keeping voluntary work	Dugnad and other opportunities to participate. Public/collective transport adapted to young people's needs
Idleness	Engaged, idle	Less material things, non-materialistic values, cheaper public transport	Buying and having less	Non-commercial meeting places
Creativity	Inclusive, curious	Openness, institutionalized bottom-up led solutions, dialogue	Allowing others to try, breaking with the dependency on being paid	
Identity	Flexible, proud of being from Lofoten	Measures to preserve cultural traditions	Volunteering (lively community), being proud of Lofoten	Local population out in nature
Freedom	Responsible	Basic needs coverage, solidarity, unity, focus in the collective	Taking responsibility for the collective, addressing aggressive behaviours such as bullying	Little pressure to perform and compete (for young people)

Table 10.4 Synergic bridging satisfiers

	Being	Having	Doing	Interacting
Endogenous (personal and community levels)	Curios and inclusive Open to other groups of people (newcomers, refugees, etc.)	Better interaction between civil society, volunteers, public sector, business Limiting tasks and extracurricular activities to encourage spontaneity Active engagement in politics	Strengthening the resilience among victims of mobbing Putting less pressure on adults and children to perform Young people changing attitudes in social media Launch an initiative similar to 'borrow a Bodo-native' in Vågan	Unused homes rented to students and not through Airbnb Car-sharing among parents taking children to weekly activities Meeting places to learn Norwegian culture and language for newcomers
Exogenous (governance level)	Proactive institutions to increase curiosity and creativity	Better organized housing market Better housing policy Well-functioning youth council More information for older and immigrant citizens Free (gratis) spots on sporting and leisurely activities for people with weak economy	Volunteer cafes or volunteer centres Welcoming committees to newcomers Awareness about videogames Support neighbourhood associations Participation in the forming of Vågan's community development plan (in the form of particular tasks given to organized citizen groups) Organizing workshops on community development regularly to increase citizens' engagement	Better collective transport More frequent buses Transport apps Meeting venues for youth and the general population Centralized schools Transport possibilities between small villages

Notes

1. This section uses the concepts wellbeing and quality of life as interchangeable.
2. One participant did not report educational background.
3. <https://isocarp.org/2018congress/>
4. In this section, concepts encompassing singular and synergic satisfiers are highlighted in italics.

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