**Quiet sustainability: Fertile lessons from Europe’s productive gardeners**

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**Abstract**

This paper investigates notable examples of sustainable lifestyles in relation to food systems. It explores the surprisingly neglected case of widely practised and environmentally sustainable food self-provisioning in post-socialist Central and Eastern Europe. Our argument is rooted in qualitative and quantitative data gathered over a seven-year period (2005-2011). The research considers the extent of and motivations for these practices in Poland and Czechia. The very high rates compared to Western Europe and North America have generally been explained in terms of an ‘urban peasantry’ meeting essential needs. After reviewing and rejecting those accounts we present evidence for these as socially and environmentally beneficial practices, and explore how the motivations derive from a range of feelings about food, quality, capability and family and / or friendship. Rather than relate these practices to temporal signals of quality and sustainability in food (‘slow’ and ‘fast’), or presenting them as ‘alternative food networks’ we suggest that they represent ‘quiet sustainability’. This novel concept summarises widespread practices that result in beneficial environmental or social outcomes and that do not relate directly or indirectly to market transactions, but are not represented by their practitioners as relating directly to environmental or sustainability goals. These practices represent exuberant, appealing and socially inclusive, but also unforced, forms of sustainability. This case further demonstrates the severe limitations of decision makers’ focus on economics and behaviour change, and their neglect of other dimensions of social life and change in developing environmental policies.

**Keywords:** quiet sustainability, sustainable development, sharing, consumption, domestic/household food production, alternative food networks
1. Introduction

Market and consumer perspectives have long dominated sustainability research and policy in the field of food. By contrast, this paper considers long-standing forms of food self-provisioning (FSP, meaning growing and sharing one’s own food) that are extensively practised, carry environmental and social benefits, yet are little considered or acknowledged within sustainable food policy discourses or academic literatures. Empirically it focuses on food self-provisioning in post-socialist Central and Eastern Europe (CEE). Our argument is rooted in qualitative and quantitative data gathered over a period of seven years (2005-2011) on the extent and nature of, and motivations for, these forms of food provisioning in Poland and Czechia. It frames these practices in terms of the novel concept of ‘quiet sustainability’.

The system changes in 1989-1990 that saw the end of state socialism in CEE and the initiation of what has widely been figured as a ‘transition’ coincided with a high-tide mark for discourses of sustainable development within international politics. The UN Earth Summit of 1992 emphasised sustainable production and consumption as key areas for attention. This is hardly surprising: the sustainable development idiom evolved in the context of the far-reaching dominance within mainstream politics of pro-globalization / market liberalisation / pro-growth approaches to political economy (Richardson, 1997). Hence the end of state socialism in CEE and the prominence of discourses of sustainable development within international political debates through the course of the 1990s were infused with market orthodoxies that framed policy problems in terms of the challenges of market failures and of incomplete information amongst market actors (Bernstein, 2000). The agendas of the UN World Summit on
Sustainable Development (WSSD) of 2002 and the 2012 UN Conference on Sustainable Development (UN CSD, known as Rio+20) further embedded the framing of sustainability almost exclusively in terms of a market idiom (with sustainable production and consumption prominent themes of UN WSSD (UNEP) and greening the economy the most prominent theme in the run up to the UN CSD).

These prominent, often official, discourses tend to embed the notion that social science insights are late-phase contributions to a linear process of ‘analyse, diagnose, act’. They also tend to draw exclusively on a very limited field of the social sciences. For example Rockström, in a keynote speech to the UN sponsored Planet Under Pressure conference (2012) suggests that the ‘great transition to a global sustainability’ requires ‘new integrated knowledge’, but his reference points in the social sciences are exclusively, ‘behaviour change and a new economics of global environmental change’ (see also UK Science Minister’s speech on the same occasion: Willetts, 2012).

One of the consequences of such ‘official’ discursive turns is that a blind spot has emerged at almost all levels of sustainability governance wherein sustainable practices evident at the meso level of the household (as discussed by Reid et al, 2010) and/or family and friendship networks have been given little or no prominence within formal processes, or indeed research agendas. Specifically, and in step with Reid et al, we believe that focusing on interactions within and between households in relation to systems of food self-provisioning is an important place to look for lessons about how to preserve and/or progress towards a more sustainable society. Their paper proposes that the focus should be not just on what sustainable practices are undertaken at the meso (household) level, but also why they are undertaken (Reid et al, 2010, 324).
Our intention is to see what can usefully be learnt about societal transformation around food systems by looking at a context and set of practices that display ‘quiet sustainability’. This concept valorises sustainable practices that are exuberant, appealing and socially inclusive and that may derive from diverse development paths. We find it significant that the activities we consider in this paper are not labelled or valued as examples of sustainable development and hence conclude that the research and policy community should focus more closely on this and other instances of ‘quiet sustainability’ (further defined in section 4). Our evidence suggests that these practices are already making significant contributions to environmental and social sustainability without explicitly seeking to do so, but they may require some degree of protection and nurturing in future. The geographical setting for the study is the source of this rather different approach to researching sustainability, and we view the work as contributing to the recent call to ‘open up; to reveal and give voice to marginalized narratives and so enable pathways which […] take greater account of multiple dimensions of incomplete knowledge and of sustainability’ (Leach et al, 2010, 96).

As Mark Whitehead explains in his review of sustainability and post-socialism ‘a post-socialist perspective adds value to studies of sustainable development because it encourages us to think of the varied socio-cultural traditions that notions of sustainability can animate, and the different trajectories sustainable development policies may actually be on.’ They also offer a chance to ‘recognize that sustainable developments always reflect imperfect geographical fixes’ (Whitehead, 2010, 1631). It is worth noting that we also follow Caroline Humphrey (2002) and Alison Stenning (2005) in viewing the labels post-socialism and transition as indicating not a progression towards an endpoint, but rather a signaling of diverse trajectories. Hence the prefix ‘post’ should be seen as an invitation to look at social phenomena related to
sustainability in a fresh light, and crucially, in our case a positive light. Along with Kay et al we are convinced of ‘the possibilities of generating theory from within post-socialist studies’ (2012, 56, emphasis in the original).

This inductive paper has developed through close attention to food self-provisioning and sharing practices. As such it is focused upon widespread ‘actually existing sustainabilities’ (Krueger and Agyeman, 2005; Smith and Jehlička, 2007) rather than their absence or exceptional status. Our interest is not in the future promise of transformations towards sustainability, or the projection of system changes that allow sustainability. Rather we focus on the presence of what appear to be longstanding sustainable practices that the practitioners themselves, and the research and policy community, have not recognised or valorised in those terms.

Whereas in Western Europe and North America the research effort in this field has been invested in relatively sparse and exceptional cases (such as Transition Towns and other community initiatives, or the Slow Food movement) our interest is in widespread practices that appear to significantly reduce environmental impact, that are socially diverse and that seem also to bring community benefits. Hence, where Seyfang describes grassroots sustainability initiatives as ‘embodying alternatives’ (2011) and Davies suggests that they ‘in terms of absolute numbers and size, represent a small sector’ (2012, 197), we find ourselves considering what it means that so many people in Poland and Czechia are pursuing evidently sustainable food practices without feeling the need to identify them as such. Our findings offer a very direct response to Goodman et al’s questions: ‘where are those projects that are outside of neoliberal subjectivities and the commodifications of ethics/morality?’ (2010, 1792).
2. Food, sustainability and self-provisioning: beyond the ‘urban peasant’

Food systems are a prominent feature of policy and popular discourses about progress towards sustainability. The impacts associated with production, distribution and consumption and waste have all been identified as requiring urgent attention in western societies (see, for example, Foresight, 2011). Agro-industrial efficiency has long been seen within the food and agricultural sector as an important component of sustainable food systems, and the emerging concept of sustainable intensification is extending the reach of this notion. The UK Government’s Foresight report on the Future of Food and Farming, which was tasked with considering future threats to the steady supply of food to British consumers, strongly asserted in its general conclusions that ‘food security is best served by fair and fully functioning markets and not by policies to promote self-sufficiency’ (2011, 19). However in parallel there have been recent efforts aimed at the promotion of FSP as a complementary, and in some people’s eyes, alternative, form of sustainable production and consumption. Amongst other things, this has taken the form of urban food movements (Veen et al., 2012) and the revival of allotment policies in developed countries. One prominent index is the initiation of productive gardens at the White House, Buckingham Palace and Downing Street in the second half of the 2000s.

Alber and Kohler’s (2008) Europe-wide study shows that, with a few exceptions, the proportion of the population in west European countries growing their own food only rarely exceeds 10% (though we would value more recent comparative data in this area). By contrast between 35 and 60% of the population in CEE countries grow some of their own food. These practices have been ignored or met with disdain by the
environmental policy community in the region. This is clearly represented in a 2000 Czech government strategy document on rural development:

Ineffective self-provisioning habits (eggs, poultry, potatoes, vegetables, fruit) hang over from the past, which contributes to the relatively low purchasing power of the countryside (Ministerstvo pro místní rozvoj a Ministerstvo zemědělství 2000, 18).

Food self-provisioning, which provides households involved in this activity with a basic livelihood, can sometimes contribute to decline and exclusion (ibid, 43).

Such dismissive or purely instrumental framings of FSP in CEE are reflections of what Pasieka summarises as a ‘mainstream’ position by, in the case of her study, the Polish policy elite (2012). She summarises an internal ‘othering’ of peasantry and the past, and a postcolonial mentality in elites ‘detectable in their constant discontent with their own society and simplistic internalization of Western ideas’ (73). Much research on FSP in CEE has also tended to frame these practices as backward, and contrasted them with western modernity. FSP is read as an index of path dependency, an economic coping strategy or as a faintly embarrassing cultural remnant. This perspective has developed over the course of more than a century of othering of Eastern Europe but has combined with a more recent western myth of the Russian ‘urban peasant’ (see, for example, Clarke et al., 2000). Influential research in public policy, development and economics (e.g. Rose and Tikhomirov, 1993; Seeth et al., 1998; Alber and Kohler, 2008) paralleled and nourished the policy and consultancy trend to understand high rates of FSP as a survival strategy of the poor. Alber and Kohler (2008) drawing on Rose and Tikhomirov’s work (1993) used a Europe-wide
survey of 27 countries to conclude that FSP was a coping strategy with direct descent from the socialist past.¹

Despite the dominance of economistic and Western framed and focused accounts of appropriate development paths, more culturally informed approaches to understanding habits, practices and identities around food have been undertaken. These have tended to be based upon qualitative research, mostly undertaken by social anthropologists. These less deterministic approaches are showing results that contradict the previously accepted explanations, and have offered a basis for our own research.

Informal household economies including food self-provisioning and sharing of fruit and vegetables in CEE have drawn the attention of anthropological research both during (Gábor, 1979; Hann, 1980) and after the state socialist period (Sik, 1992; Skalník, 1993; Czegledy, 2002; Torsello, 2005; Acheson, 2007) and also of human geographers (e.g. Smith, 2002; Smith and Stenning, 2006; Smith and Rochovská 2007; Shubin, 2010; Jehlička and Smith, 2012). Recurrent themes across the anthropological work in particular include an interest in the balance of altruism and self-interest, as well as the relationship between such practices and attitudes to egalitarianism and some deeply rooted moral norms. These include the stigmatisation of self-centredness and the promotion of mutual help and sharing. Torsello’s (2005) research conducted in a rural Slovak village showed how food self-provisioning plays

¹ Polish and Czech food self-provisioning, both in the form of food growing in privately owned gardens and in allotments, predates the state socialist period. Bellows (2004) describes how allotment gardening arrived in today’s Poland at the turn of the twentieth century. In both countries allotment gardening, as well as the historically more widespread food provisioning in private gardens, of the non-farming population was encouraged by the authorities during the state socialist era. There were multiple reasons for the communist regimes’ support for FSP ranging from a stop-gap role in addressing the food insecurity problem in state-controlled food distribution (particularly in Poland) to nutritional benefits of fresh fruit and vegetables, healthy exercise and relaxation. In the post-socialist period the importance of the food security and nutritional benefits of FSP largely disappeared (Bellows, 2004). Yet, as this paper shows, the practice has continued, albeit on a reduced scale than was the case in the pre-1989 era.
a role in creating and maintaining strong ties between kin members and friends by establishing mutuality, reciprocity, task sharing and trust. In similar vein Snajdr’s (2008) research into the relationship between Slovak city dwellers and their access to gardens on the fringes of cities shows how, on these tiny garden plots, which were often within sight of a factory or along railroad tracks, they grew a variety of vegetables, fruits, and herbs […] Most gardens included small domčeky or chaty (cabins) that were built by the owners. Gardens […] were often quite elaborate, with trestles supporting grape vines, or rows of slender fruit trees so skilfully pruned that their curling branches formed a virtual wall along the footpath. If a family did not own a garden plot themselves, they had access to one through relatives. Whether elaborate or bare bones, these private spaces were visited frequently, to tend to vegetables, have a family cook-out, or throw a small evening party. The garden was a sanctuary, if only for a few days, that provided relief from the city and from the system (ibid., 34-35).

Czegledy’s interpretation of Hungarian food self-provisioning and sharing gives pleasure and commensality a more central role. The sharing of self-provisioned food and drink with guests and friends offers an opportunity to appreciate the time, effort and skills invested in growing and preparation. To share these goods is to enjoy a shared experience of qualities that shop-bought produce cannot offer (2002, 213). Czegledy suggests that such practices help to affirm cultural identity in the face of fast-paced changes in post socialist economies (ibid., 214).

We propose that these practices have far wider significance in pointing to some of the ways that sustainable practices might be valued and nurtured elsewhere. In order to
explore these we have combined qualitative and quantitative techniques, and have invested in gathering time series and geographically plural data (two nations and a mix of urban, suburban and rural settings) but without intending a strictly comparative approach.

The work has been informed by scholarship from a range of disciplines, including work in history and anthropology, indeed previous findings coming out of our wider project have appeared variously in geography, environmental policy, history and statistics publications. Here we seek to demonstrate the senses in which these are sustainable practices and understand better how so many people continue to engage in them. We feel that this mixed methodology approach has been productive, and managed to sustain a critical edge while directly engaging with and contributing to policy discussions.

3. Food self-provisioning as a sustainable practice: Czech and Polish evidence

We combined qualitative and quantitative methods to explore a series of questions about the degree to which food self-provisioning could be described as a sustainable practice. Researchers have stressed the hazards of unwittingly conflating certain spatial/structural characteristics, such as those associated with local and alternative food networks, and with environmentally or socially desirable outcomes (Dupuis and Goodman, 2005; Tregear, 2011). Hence we have framed the methodology and explored the data with the goal of revealing more about the environmental and social dimensions of FSP. Hence questionnaire and interview topics included the degree to which FSP is practised across social and demographic groups, the degree to which
industrially produced fertilizers and pesticides are used, the kinds of transport
required in attending to productive gardens and the degree of sharing that is practised.

The findings presented in this paper are based on several sets of data gathered in
Czechia between 2005 and 2010 and in Poland in 2011. In 2005 we commissioned the
Czech polling agency CVVM (Public Opinion Research Centre) to pose 13 questions
formulated by us as a part of one of their regular national surveys. This first Czech
polling was conducted between 21 and 28 February 2005. It was a standard CVVM
survey using the quota sampling method. The agency worked with a panel of 241
interviewers who were geographically spread throughout the country, including both
urban and rural locations. CVVM sent questionnaires to its 241 interviewers. Each of
them conducted either four or five interviews with respondents who met the criteria
set by the agency so that the resulting quota sample constituted a representative
sample of the Czech population. CVVM estimates that the response rate was between
50 and 60% (in terms of the proportion of people who met the representativeness
criteria and agreed to be interviewed out of the total number of people approached by
interviewers). These cannot be expressed with greater precision on account of this
sampling technique: it is not recorded how many people approached by interviewers
deployed to be interviewed and/or did not meet the criteria (Vinopal, 2009a). The
quota sample of CVVM respondents must match characteristics of the Czech
population over the age of 15 established by the 2001 national census in terms of
gender, age, educational level, employment, job, and geographical distribution of
respondents, which are annually updated by the Czech Statistical Office.

To guarantee the representativeness of their polls, CVVM aims at receiving at least
1000 questionnaires filled in by respondents. Their long-term experience is that to
receive back the minimum of 1000 questionnaires, the agency needs to send out
between 1150 and 1170 questionnaires as there is normally some shortfall of returned questionnaires due to unforeseen circumstances (Vinopal, 2009b). In the case of our February 2005 survey the number of returned questionnaires was 1056 out of 1150 sent out to the interviewers. The questions covered a broad range of topics related to food consumption including where respondents purchase food, whether they grow their own fruit and vegetables, the percentage of specific types of fruits and vegetables consumed in their households accounted for by their own production and motivations for growing their food.

In 2010 we commissioned CVVM to carry out a shorter (6 questions) follow-up survey focused on the social and environmental sustainability dimensions of FSP in Czechia. The respondents were asked to provide information about the motivations for growing food and about the ways they grow food, including what types of fertilisers and pesticides they use and how they travel to their gardens. Other questions aimed at establishing the extent of sharing of their harvest: whether - and with whom they share part of their produce, and what proportion of their harvest they give away. CVVM gathered the data in the same way (the quota sampling method) as in 2005, except that in this case the company sent out 1170 questionnaires out of which 1024 were returned. The polling was conducted between 30 August and 6 September 2010.

Seven months later, the Polish polling agency CBOS (Public Opinion Research Center) conducted the same six-question survey for us in Poland, following the same technique of data gathering as CVVM. The polling took place between 6 and 13 April.

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2 The focus and extent of the CVVM 2010 follow-up survey were a result of a compromise. This compromise was determined by the fact that our interest had been ignited by the results of the 2005 survey in relation to the strong sustainability potential of FSP, yet the reach of the survey was necessarily limited by the size of our research budget.
2011. The number of returned questionnaires was slightly higher than in the Czech case - 1192.

To uncover motivations, causalities and explanations for behaviour identified by these quantitative surveys we conducted or commissioned two rounds of in-depth semi-structured interviews in Czech households and one round of interviews in Poland; 35 interviews in total. The duration of the interviews ranged from 40 to 120 minutes. In Czechia we conducted 15 interviews between March and May 2005 and 10 interviews with a different set of respondents and partly in different locations in November and December 2010. As we knew from the quantitative surveys that food self-provisioning was common in both rural and urban areas, on both occasions we decided to select interviewees in three locations whose sizes would reflect this diversity. Therefore, in 2005 five interviews were conducted in the capital city Prague (over 1 million inhabitants), five in the Hradec Králové-Pardubice agglomeration (regional capitals with the combined population of nearly 200,000 inhabitants) and five in Polička (a rural town with population 9000). In 2010 four respondents were interviewed in Prague, four in a small town, Boskovice, (11,000 inhabitants) and two in a small village, Telecí (population 400). While we ourselves conducted the 2005 interviews (relying on our acquaintances living in the three locations to identify suitable respondents), in 2010 we hired a consultant to select and interview respondents in November and December. In 2011 we hired a consultant in Poland to do 10 interviews (again relying for identification of suitable respondents on her acquaintances and connections while meeting our request concerning growers’ social diversity) asking identical questions to those posed in 2010 in Czechia. The Polish interviews were conducted between March and April 2011 in four locations. Three were conducted in the national capital Warsaw (1.7 million inhabitants), and the
others were conducted in towns and a village in the north east of Poland: three in Ostróda (town with population 33,000), one in Szczytno (population 25,000) and three in Pietrzwałd (village with 250 inhabitants).

While these interviewees were not derived from a process of representative sampling, we aimed at the widest possible range of respondents in terms of age, income, educational level and employment. People with a diversity of backgrounds including the unemployed, pensioners, business people and a professional musician were selected for these interviews. All interviewees were from the ethnic majority groups - white Czechs and Poles.

It is worth pausing to explain our choice of national contexts for the research. Our initial 2005 research in Czechia yielded some really unexpected, and from the sustainability point of view, important, findings. To establish whether they were country-specific and applied to a relatively small country, or whether they had a wider currency, we decided to extend our empirical research to another and much larger post-socialist country - Poland. Despite similar recent histories the two neighbouring countries display considerable diversity in terms of some basic characteristics related to agriculture and food and the urban/rural structure of population. Czechia industrialised extensively in the nineteenth century and its farming and land uses reflect that industrialisation and consequent urbanisation and agricultural intensification as well as the legacy of collectivised agriculture during the socialist period. Today’s Czechia, with its population of 10 million, has only 23,000 agricultural holdings with an average area of 152 hectares per farm (by far the largest average farm size in the EU; Eurostat, 2011). Poland’s industrialisation took place in the twentieth century. The structure of Polish agriculture differs from the Czech one: the average size of 1,506,000 holdings is 10 hectares. Both countries are urbanised –
although Poland has a higher proportion of rural population (39\%) than Czechia (24\%). Despite these significant historical and current differences in social and economic development, the results of the Polish FSP survey mostly confirmed our findings from Czechia. It is important to state that we did not intend this to be understood as a comparative study. We also chose these countries as case studies on account of language and research competencies within the team and its collaborators. While we did not seek formal comparison, we were concerned to gather data from more than one post socialist CEE country and from a range of settings (large urban; town; rural). We are planning in future work to expand our research and collaborations to cover other European countries, both with similar and different recent histories to the two in which we have been working so far. We are also interested in expanding the range of methods applied, including the use of food and garden diaries, in order to enrich certain elements of the data.

3.1 Social diversity

The data on living standards and income levels helps us understand who is growing this food and why. We wanted to pursue these questions for four reasons: to gain data that would help to interrogate the ‘survival strategy of the poor’ claims in some of the existing literature; to consider the potential persistence of FSP into the future; to help assess the potential for the encouragement of FSP beyond post-socialist Europe and finally, to assess the degree to which these practices achieved both social and environmental sustainability goals in an integrated manner.

In contrast to the dominant framing of these practices it is economically secure rather than insecure households who are predominantly growing their own food, although the differences are relatively small. For instance, in the Czech case, 48\% of
respondents who indicated in 2010 that the living standard of their households was “good” (44% in 2005) are self-provisioning, whereas the percentage of respondents from households whose living standard was “neither good, nor bad” and from households with a poor / “bad” living standard were 43 and 33% (42 and 35% in 2005). Similarly, amongst the most affluent quartile (according to household income declared by respondents) in the 2010 data 41% were self-provisioners and in the second highest quartile the figure was 46%. In the lowest quartile, the rate of self-provisioning was 32% and in the second lowest it was 43%. Table 1 shows that in the second half of the 2000s more than 40% of Czech households were growing food to eat.

**Table 1:** Percentages of respondents growing some of their own food in Czechia.

<table>
<thead>
<tr>
<th>Country (Czechoslovakia²)</th>
<th>1991</th>
<th>2003</th>
<th>2005</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czechia</td>
<td>70%ᵃ</td>
<td>30%</td>
<td>42%</td>
<td>43%</td>
<td>43%</td>
</tr>
</tbody>
</table>


Despite the fact that the poorest in Czech society appear to be growing less, the fact that around a third of the lowest quartile are self-provisioning demonstrates that this remains a socially inclusive activity in both of the countries we have studied. This also applies to educational levels: respondents with the lowest (9 years of school attendance up until the age of 15) and with the highest (university degree) educational level were equally likely to grow their food - 35% of these respondents declared in
2005 that they did so. The percentages of respondents with secondary education -
without and with maturita (the school leaving examination usually taken at the age of
18) - growing their food were also similar: 45 and 44% respectively. There is also
fairly even distribution of the practice across urban and rural areas: of the
respondents, high rates of self-provisioning are not only in villages (65% of our 2005
respondents living in settlements with less than 2000 inhabitants grew their food) but
also in mid-sized towns (41%). Even in the capital Prague 21% of the population
grows some of their food. We know from the qualitative research that some
households do not grow food in their primary dwelling, but rather in gardens at their
recreational cabins and cottages.

The Polish questionnaire of 2011 was not directly comparable, but showed that 54%
use a garden, field or orchard to grow food, with both men and women participating
in almost equal proportions. Polish FSP is not statistically related to age (see Table 2).
The mean age of people growing their food is 46 years, the mean age of those who do
not is 46 years. For women the percentage of growers does not relate to age (it is the
same for all age groups), for men the percentage increases with age (62% of men over
60 grow food).

For several reasons, the cross-generational popularity of FSP strikes us as a
significant finding, although this is an area that invites further research. The questions
raised by this balanced cross-generational take up of FSP that require further
exploration in future research include: does this aspect increase the likelihood of FSP
as a stable and persistent everyday activity that will be practised into the future on
account of intergenerational sharing of skills and competencies, and to what degree
does it provide a platform for inter-generational cooperation, communication, sharing and skill and trust building and hence a basis for greater social sustainability?

**Table 2:** Percentages engaged in food self-provisioning in Poland by age.

<table>
<thead>
<tr>
<th>Age group</th>
<th>Proportion of the age group involved in FSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>55%</td>
</tr>
<tr>
<td>30-44</td>
<td>53%</td>
</tr>
<tr>
<td>45-59</td>
<td>59%</td>
</tr>
<tr>
<td>60+</td>
<td>56%</td>
</tr>
</tbody>
</table>

Regional differences are more marked in the Polish case, with more growers in South Eastern Poland (Lubelskie wojewodztwo: 80%) than in northern Poland (Warminsko-mazurskie: 38%). There is also a more marked difference between urban and rural FSP rates, with rural participation running at 74%, and urban ranging from 36% (towns and cities with population between 50,000 and 999,999) to 43% (towns with population between 2,000 and 49,999). There appears to be little or no correlation between educational attainment and rates of FSP: amongst those with a basic education FSP is practised by 58%, those holding apprenticeships 53%, with secondary education 51% and amongst those with university (tertiary) education rates are 5%. To illustrate this point, in rural villages our data found that 73% of people with a basic education, 71% of people with apprenticeships, 75% people with secondary education and 79% of graduates grow food. In terms of employment: 52% of students, 54% of pensioners; 61% of housewives; 58% of CEOs (but note only 24 in the sample in total), 56% of professionals (doctors, teachers, lawyers); 46% of self-
employed and entrepreneurs; 53% of skilled and non-skilled manual workers and 49% of the unemployed grow their own food.

In the Polish 2010 survey the bigger the household the greater the percentage of growers: in one-member households the rate was 32%, in four-member households it was 59% and in bigger households 63%. In terms of income per capita in a household, there is an inverse relationship between the proportion of growers and economic situation. Dividing the population into five income brackets the figures, in ascending order of income are: 57%; 61%; 56%; 54% and 49%.

The evidence supports the conclusion that this is a socially widely distributed practice. We note that the lowest income groups in these societies are less likely to be practising self-provisioning. Further work would be needed to clarify why this is, but as things stand we assume that this relates primarily to access to land and also to considerations of time and the historically low prices of supermarket goods. Our argument is not that a particular rate of FSP is or isn’t socially inclusive, but rather that the relatively even percentage of it across all social groups is notable, and reflects the fact that this is a socially inclusive practice.

3.2 Reduced environmental impacts

To be able to judge the environmental significance of FSP it is important to have a sense of quantities of food produced and consumed within this set of practices. In the 2005 Czech survey the respondents were asked to estimate the proportion of self-grown produce in their households’ total consumption of ten selected fruits and

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3 The monthly income brackets were: up to 500 złoty (up to 120 euros); 501 – 750 złoty (120 – 182 euros); 751 – 1000 złoty (182 – 243 złoty); 1001 – 1500 złoty (243 – 364 euros) and more than 1500 złoty (more than 364 euros). The size of income brackets was comparable as they ranged from 134 to 209 respondents.
vegetables. The results confirmed high levels of self-sufficiency in these ten types of fruits and vegetables (Table 3).

**Table 3:** The average proportions of self-grown produce in the total growers’ household consumption as reported by respondents to the February 2005 Czech national survey.

<table>
<thead>
<tr>
<th>Fruit or vegetable</th>
<th>Percentage</th>
<th>Fruit or vegetable</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currants</td>
<td>73</td>
<td>Carrots</td>
<td>52</td>
</tr>
<tr>
<td>Strawberries</td>
<td>68</td>
<td>Plums</td>
<td>49</td>
</tr>
<tr>
<td>Apples</td>
<td>62</td>
<td>Onions</td>
<td>44</td>
</tr>
<tr>
<td>Cherries</td>
<td>55</td>
<td>Potatoes</td>
<td>44</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>53</td>
<td>Pears</td>
<td>41</td>
</tr>
</tbody>
</table>

Ten Czech respondents interviewed in 2010 and ten Polish respondents interviewed in 2011 were asked to estimate the degree of self-sufficiency in the same ten types of fruits and vegetables. The results of the interviews broadly confirmed the 2005 Czech findings: according to the Czech interviewees, between 20% (onions) and 80% (currants) of their household consumption were accounted for by their own production. In Poland in 2011, the average degree of growers’ self-sufficiency ranged from 20% (cherries) to 69% (currants). In both countries, the average aggregate degree of self-sufficiency across the ten types of fruits and vegetables reported by interviewees was just over 50%.
The findings of the periodical survey of the selected 3000 households’ budgets by the Czech Statistical Office corroborate our discoveries. One category of data the Office gathers is “consumption in kind” – i.e. consumption of food that is not purchased but obtained either by self-provisioning, as a gift or by foraging. In 2007, consumption in kind accounted for 34% of the overall consumption of fresh fruits in Czech households, 32% of eggs, 27% of potatoes and 22% of fresh vegetables (Štiková et al., 2009). Hence FSP accounts for significant volumes of selected foodstuffs consumed in Czech households. Environmental benefits related to the high volumes of self-provisioned food need to be considered in relation to the way this food is produced. We knew from both the 2005 survey and the in-depth interviews that most growers valued chemical-free cultivation (hence the emphasis on healthy food). Our 2010 (Czechia) and 2011 (Poland) surveys addressed these environmental dimensions directly. The results confirmed that in terms of fertiliser and pesticide inputs and in terms of transport energy intensity in production and sharing, FSP appears to greatly reduce the environmental impact of the food system (see Tables 4 and 5). It is worth noting however that some aspects of these figures need to be approached cautiously, and invite further research. For example the transport modes used in FSP, or percentages of fruit and vegetables grown and consumed, do not necessarily imply reduced supermarket-generated travel.

Table 4: Usage of fertilisers by type.

<table>
<thead>
<tr>
<th>Fertilisers</th>
<th>Czechia 2010 (%)</th>
<th>Poland 2011 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only natural fertilisers</td>
<td>54</td>
<td>51</td>
</tr>
<tr>
<td>No fertilisers</td>
<td>15</td>
<td>25</td>
</tr>
</tbody>
</table>

These households are a representative sample of the Czech population. They include both households which grow their food and those which do not.
Both natural and industrial fertilisers

<table>
<thead>
<tr>
<th>Usage of pesticides</th>
<th>Czechia 2010 (%)</th>
<th>Poland 2011 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No method</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Only natural or manual forms of pesticides</td>
<td>26</td>
<td>25</td>
</tr>
</tbody>
</table>

The majority of Czech and Polish respondents to the 2005, 2010 and 2011 interviews emphasised the use of only natural fertilisers or natural fertilisers with a limited amount of industrially produced fertilisers for specific purposes:

Well, we have enough sheep and rabbit manure. Just last week I spread manure with a wheelbarrow. Each year I try to spread half a wheelbarrow load of manure to each tree… I don’t use chemical fertilisers at all. (Interview, Telecí, Cz, 20/11/2010)

I used to use horse or cattle manure which I bought from private farmers. I still fertilise tomatoes with horse manure… (I use industrially made fertilisers) only a tiny bit. Fruit trees I fertilise with a little bit of Celerit, but not for anything else. (Interview, Boskovice, Cz, 20/11/2010a)
Both natural and industrial pesticides | 43 | 32
Only industrial | 8 | 15

The qualitative research confirmed and extended these findings:

But from the beginning there was this desire to grow something of your own, a sort of interior longing of inhabitants of big cities, to have your own vegetables. And I also think there was already a trend for ecological food, there were still shops with healthy food then, it wasn’t like the current eco-bio nomenclature, but you would just say healthy food. Plus it was a bit of an experiment, and as it happened after the first year it worked really well, because we absolutely didn’t use any fertiliser. (Interview, Warszawa, Pl, 12/4/2011)

We use almost no chemicals. We fertilise the garden with rabbit manure. And we hoe up weeds: for that we don’t use any chemicals. (Interview, Polička, Cz, 4/4/2005)

The reason why we grow our own food is that we do not use any sprays. Yes, the fruit is spotty: it certainly doesn’t look like the fruit in shops. We are now running out of our own apples, so I wanted to buy some on the shop but my husband said: “Don’t buy those chemical balls”. (Interview, Stěžery, Cz, 29/3/2005b)

Assaying the precise environmental benefits of FSP is difficult from interpretation of our quantitative and qualitative interview data alone. A much fuller picture would emerge from physical measures such as soil sampling (over-dosing is far more
common in domestic as opposed to commercial growing), and further qualitative techniques such as household gardening and food diaries. Nevertheless the self-reporting of the interviewees indicates that around half use no industrial pesticides, and of those using them, a large majority use both natural and industrial material.

A separate feature of the environmental performance of FSP that we had not explored in our 2005 data gathering was the degree and nature of transport use in association with these practices. The 2010/11 surveys showed only modest motorised transport use associated with FSP (see Table 6).

Table 6: Transport modes used to access gardens / plots.

<table>
<thead>
<tr>
<th>Transport to garden/plot</th>
<th>Czechia 2010 (%)</th>
<th>Poland 2011 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden by the house where people live - no travel</td>
<td>65</td>
<td>54</td>
</tr>
<tr>
<td>walking</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>cycling</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Public transport</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Private car/motorbike</td>
<td>15</td>
<td>13</td>
</tr>
</tbody>
</table>

The quantitative data point to substantial environmental benefits in terms of reduced chemical and fossil fuel based inputs, as well as reduced transport associated with the food system. The Polish case in particular also highlights an additional health benefit of FSP in the form of a significant minority of growers walking and cycling to their plots (see Table 6). These findings were consistent with and / or reinforced by the qualitative interviews. However we plan future data gathering to continue the time
series, and at that point would explore ways of looking in more detail at these aspects.
We believe that garden and kitchen diaries (recording accessing; growing; processing; cooking and waste management, as well as notes on sharing of tools, seed, skills and produce) would provide a rich resource to complement or test the other sources of data.

3.3 Reducing waste and building bonds

In terms of environmental sustainability the barter or gifting of self-provisioned food serves as a way of distributing surplus production which might otherwise go to waste. The Czech household interviews from 2005 established that there was a lot of sharing and gifting going on and we worked to explore this theme further within the 2010/11 data. These practices are going on through family and friendship networks in large cities as much as rural areas and also transcend the rural / urban divide. Furthermore both urban and rural dwellers forage for e.g. wild berries (for example bilberries and alpine strawberries) and mushrooms. According to the Ministry of Agriculture’s 2011 data, an average Czech household foraged 11.14 kg of forest products including 7.13 kg of mushrooms and over 3 kg of various wildberries with the total annual harvest amounting to 46,000 tonnes (iDNES, 2012). When explaining the role of foraging, self-provisioning, allotments or smallholdings, people emphasised that these practices “help to sustain dense webs of connection between the rural and urban in ways that are now comparatively rare in Western Europe” (Jehlička and Smith 2011, 367, confirming Stenning 2005, 122-123).

Only one respondent out of 15 household interviews conducted in Czechia in 2005 was not involved in networks of food exchange. The exchanges are not restricted to extended families: neighbours, friends and co-workers frequently participate. The
2010/11 interviews gave us a chance to probe the extent and meaning of sharing and gifting further and highlighted the informality of many of these interactions:

When you have, you give. (Interview, Dolánky, Cz, 12/11/2010)

We don’t have cherries, but we don’t buy them. We usually get them from friends… We don’t have plums either, but I almost never buy them. I get them from friends. When I have a surplus of, say lettuce, I give it to the (extended) family, to my female colleagues at work (altogether 15%) and a small part (5%) for sale in the shop of the Gardeners’ Union… It is not a (formalised) exchange. It depends on what people have, and they simply suggest in a conversation - “would you be interested?”… Why don’t I sell all the surplus? I have friends who I know will be pleased to get apples for free. I do not need to profit from this… (Interview, Boskovice, Cz, 20/11/2010)

We don’t buy pears - the family helps each other. We get pears. And sour cherries we get from our neighbour’s garden, so although we don’t have our own, we do not buy them… [Exchanges are not organised], it’s quite random, when something ripens and becomes available, when people have enough of it, so they give each other a ring… (Interview, Boskovice, Cz, 21/11/2010)

Food sharing is motivated by a complex mixture of motivations that include the desire to help and please other people. Altruistic reasons are enmeshed with other motives such as stigmatisation of waste and pride in one’s skills and achievements as the following quotation illustrates:

There’s a kind of feeling that it shouldn’t go to waste, and there really is a lot of some of this stuff. And indeed there is a sort of exchange... it is also a sort
of feeling of pride from something you have grown to share it with someone.

(Interview, Warszawa, Pl, 12/4/2011)

The four quotes above also illustrate the quotidian and routine, yet also spontaneous nature of food sharing. Although we need to be cautious in our interpretation of the quantitative data it does suggest that in total 60% of Czech growers and 45% of Polish growers give away some of their produce (see Table 7). Furthermore we know from the qualitative data that many people do not consider sharing their produce with the family (daughters for example) to be sharing.

**Table 7: Extent of food given away.**

<table>
<thead>
<tr>
<th>Extent of food given away</th>
<th>Czechia 2010 (% from those who grow food.)</th>
<th>Poland 2011 (% from those who grow food)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No food given away</td>
<td>40</td>
<td>55</td>
</tr>
<tr>
<td>Less than 1/10</td>
<td>26</td>
<td>17</td>
</tr>
<tr>
<td>1/10-1/4</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>1/4-1/2</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>More than 1/2</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

These findings confirm Acheson’s (2007) research in eastern Slovakia (undertaken in 1993 and 2006). Although these networks around growing and sharing were well established during the state socialist period (Torsello, 2005), they pre-existed state socialism (Acheson, 2007).

The perishability of much produce offers at least part of the reason for the high levels of sharing, but not all. Acheson’s Slovakian research (ibid.) showed that exchanges were not confined to self-provisioned food, but that they also involved goods
purchased in shops or commodities to which they have special access. People also exchanged labour, for example when building a house. The same practices were revealed in our 2005 interviews. The sharing and exchanging of food, and other commodities and services may be rooted in shared but implicit norms around egalitarianism and the negative perceptions of selfishness and self-centredness. We sense that folded into these generous ways of thinking and acting there are important lessons about the practice of powerful but quiet forms of sustainability.

4. Quiet sustainability: Quality, generosity and unintended environmental benefits

One of the reasons we consider FSP in CEE to be important is precisely the fact that practitioners of food self-provisioning do not tend to identify environment or sustainability concerns as significant reasons for pursuing these practices. In Poland in 2011, “by growing food with little impact on the environment I contribute to its protection” ranked as the 9th reason out of 9 options from which the respondents were asked to choose and in Czechia in 2010 it ranked as the 8th reason in terms of reasons identified by respondents questioned about their main motivations for self-provisioning.

It is for these reasons that our empirical research has led us to develop the concept of quiet sustainability. Quiet sustainability is defined by practices that result in beneficial environmental or social outcomes, that do not relate directly or indirectly to market transactions, and that are not represented by the practitioners as relating directly to environmental or sustainability goals. Cultures of sharing, repairing, gifting and bartering characterise quiet sustainability. Everyday practices that have low
environmental impacts, but that have not been pursued for that reason, are also features of the concept.

**Table 8: Reasons or motivations for FSP.**

<table>
<thead>
<tr>
<th>reason/year</th>
<th>Czechia 2005</th>
<th>Czechia 2010</th>
<th>Poland 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st reason</td>
<td>Fresh food</td>
<td>Fresh food</td>
<td>Healthy food</td>
</tr>
<tr>
<td>2nd reason</td>
<td>Hobby</td>
<td>Hobby</td>
<td>Fresh food</td>
</tr>
<tr>
<td>3rd reason</td>
<td>Financial saving</td>
<td>Healthy food</td>
<td>Financial saving</td>
</tr>
<tr>
<td>4th reason</td>
<td>Pleasure from growing food</td>
<td>Financial saving</td>
<td>Hobby</td>
</tr>
</tbody>
</table>

In all of the quantitative surveys in 2005, 2010 and 2011, and also the respondents in the in-depth interviews emphasis is consistently placed on fresh and “healthy food”. Qualitative interviews suggest that for many this means primarily food grown with no or limited use of pesticides and other industrially produced chemicals and which contain, as a result, the least possible residua of industrially produced chemicals.

While this motivation is relevant to an assessment of environmental impact that is not the stated purpose: the qualitative interviews showed that their concern is with the state and quality of the food rather than the environmental impact of the food system per se:

> We use no chemicals (i.e. neither fertilisers not pesticides). For health reasons, so that we prevent transfer of chemicals into our organism (meaning human body) via the food chain; so, (we grow our own food) for this reason.

(Interview, Boskovice, Cz, 20/11/2010b)
This research characterises Czech and Polish household food production as primarily a voluntary activity imbued with deep social and cultural meanings and associated with feelings of exuberance, joy and a sense of achievement rather than with constraints, necessity or a sense of obligation. Self-grown food allows the grower and consumer to experience the skill of the grower and the quality of their produce:

I have about 40 tomato bushes. These enormous raspberry-red ones and these enormous yellow ones are my favourite varieties. When the tomatoes are finished, for I keep them for quite a long time, I store the green ones under blankets and more than once they have lasted until December. They are amazing, you can’t compare the taste with those of shop-bought tomatoes. The bought one looks like a tomato, but you have no idea what it is...

(Interview, Warszawa, Pl, 18/4/2011)

The quiet sustainability of Europe’s food self-provisioners, and the extensive networks of sharing that spur from their work is not a programme to be implemented, a future ambition for society or an exceptional contrast to the norm. Rather it is a quiet but purposeful parallel to the market economy of food. It inhabits family and friendship, work and neighbourhood networks, rather than seeking to challenge or mimic economic institutions. This may go some way towards explaining why FSP in CEE has received so little attention from those scholars and activists who seek examples of sustainable food politics and ethics that do not “contribute to the production of neoliberal subjectivities” (Guthman, 2008, 1181).

The value, power and reach of these practices seem to lie precisely in the fact that they allow parallel and overlapping narratives about families, networks, competencies and relations with nature. They are not a replacement or an alternative to the market
economy of food, or a response to its environmental or social failings, but rather a vivid demonstration that that is only part of life. For one Polish respondent the contrast between CEE experiences of food provisioning and those in the West was marked by a failure of those from the West (in this case the US) to understand these non-market motivations:

I’ll tell you an interesting story...what year was it? Maybe ’70, ’80-something ’85 or ’86... Our friends had these visitors and they came to our allotment, and at the time the whole allotment was cultivated. And this guy came along, he was from the States, and he asks “what are you doing all this for?” and I say, “to eat well”. Because for him it wasn’t worth it if he could buy vegetables for a week for a dollar and a half or two, it’s not worth the effort... you could say that for us it started to be a similar situation. But what do we eat then? Just chemicals and other stuff. (Interview, Ostróda, Pl, 26/3/2011)

In our view FSP in CEE is not simply an example of an alternative food network, in the sense of being a response to the contemporary agri-industrial food system. Indeed it implicitly asks provocative questions of that framing of food research agendas (for example Renting et al, 2003), and adds a further extension to the already demanding interdisciplinary research tasks relating to multifunctional agriculture outlined in Renting et al (2009).

5. Conclusion: ‘can you take a cutting?’

The UN system now enters its fourth decade of deliberation in the search for a rapprochement between environment, society and economy. One of the dominant
framing devices, indeed the main means by which that circle is squared in international policy contexts, is the notion of sustainable development (WCED, 1987). We propose that at least some of the policy and political energy that is put into these processes is diverted into acknowledging, protecting and promoting practices that are sustainable in outcome, but don’t seek or claim to be, and that happen apart from, sometimes in spite of, the economic sphere.

Quiet sustainability is practised all over the planet in a range of everyday practices that are most frequently followed in both post-socialist societies and the global South. Importantly they contribute to making societies more resilient to unsettling ecological and social changes but require no state funding and little in the way of market exchanges. Some cultures of sharing, repairing, gifting and bartering that characterise quiet sustainability may, as with practices around food self-provisioning in Poland and Czechia, prove to be robust in the face of dramatic social and economic changes. Others, however, may be more delicate and require recognition, nurturing and a degree of protection. This nurturing and protection of quiet sustainability in such key fields such as transport, food or energy use will often imply local, national or regional state action, if not spending. This will take forms such as planning controls, and the diversion of investment from one form of land use or infrastructure to another (e.g. gardening spaces protected or introduced in place of or as part of, retail, office or housing developments; walking and cycling provision in place or as part of road developments).

The balance for policy communities to strike here is delicate if it seeks to intervene in outcomes at the meso-level. Specifically in relation to food policy, FSP in CEE may in part be so extensive across time and across social groups precisely because it
represents a sphere of life that is wilfully independent of states and markets. However there are supportive measures that can underpin and allow expansion of these practices. These might include: planning policies that protect and promote spaces for productive gardening; taxation relief on productive gardening equipment and seed and positive media and policy representations of these practices by influential public figures. More radical steps would include consideration of the relationship between economies of time within households and communities and the extent to which FSP can be sustained. That may lead to debate of the length of the working week (as proposed by Coote et al, 2010), but also prompts wider thinking about the ‘time’ of sustainability (Bastian, 2012), and raises questions about the sustainability or otherwise of whole social and economic systems. These are measures whose significance in terms of environmental and social sustainability and resilience may be far greater in post-socialist regions and the global South, where, for example, sustainable FSP practices are more widespread than in western Europe and north America where prominent political figures are seeking to support their reintroduction.

Political and policy action that seeks to understand, protect and expand the practices and spaces of quiet sustainability may serve not just to progress internationally agreed sustainable development objectives, but also to revise them in important ways. Quiet sustainability is by its nature co-produced. It questions the rhetoric of dramatic and difficult transitions to sustainability that the formal discourses surrounding sustainable development have promoted since the Brundtland Report (1987). Such revisions to the dominant technocratic framings of the concept of sustainable development draw upon the existing knowledge and experience of everyday life. Indeed clear public acknowledgement and support of sustainable daily practices (walking and cycling; sharing goods and services rather than universal ownership, and in our case study,
food self-provisioning and sharing) could serve to transform public perceptions of environmental change issues and the nature and scale of the policy and political challenges they generate.

People who grow, consume and share their own food in Poland and Czechia associate the practice with joy, exuberance, generosity, care and skill. Theirs is not a fulfilment of environmental obligations, an attempt to achieve “resilience”, or a response to limits, but the daily practice of a satisfying life. In other words: it is not just that the journey to sustainability is less difficult than is sometimes presented – large sections of humanity may already be on it without feeling the need to proclaim the fact loudly.
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References:


Vinopal, J., 2009b. Personal Communication. Email sent on 8 December.


Willetts, D., 2012. Planet Under Pressure Plenary Session online archive, Plenary speech Day 4,

http://view6.workcast.net/?pak=1188721396536863&cpak=5876441157257134

Accessed on November 3 2012.