Natural Resources and their Units Necessary Measures of Resourcefulness in a Norwegian Fruit Landscape

Frida Hastrup

ABSTRACT

Dating back to medieval times, fruit cultivation in Hardanger in western Norway is rooted in what is portrayed as a perfect microclimate naturally yielding the best apples in the world. However, the viability of the comparatively minute Norwegian fruit trade is continuously threatened by competition from outside, spurring all kinds of initiatives and policies to make it sustainable. The Norwegian fruit landscape, in other words, is both the natural and perfect home of world-class fruit and a site for continuous, often state-driven interventions to make it so; indeed, the perfection of the place accentuates the need to do what it takes to make it thrive. The necessary means to accomplish such viability, however, make up a complex terrain, as the resourcefulness of the Norwegian fruit landscape is ‘measured’ according to very different units.

KEYWORDS

apples, resourcefulness, rural liveability, state-making, welfare frontier, Hardanger

Introduction: Resourcefulness and Necessary Measures

In this article, I focus on what it takes to sustain and optimize fruit production in the Hardanger region in western Norway – the world’s northernmost area of commercial fruit cultivation. On the basis of fieldwork in the region and through reading various policy documents and agricultural reports, I probe the question of what different people concerned with Norwegian fruit seem to think of as the necessary measures for making the small-scale fruit trade survive in a landscape that may not immediately come to mind as having huge horticultural potential. What I want to show is that the ‘necessary measures’ for making fruit cultivation in the area thrive depend on the shifting units through which different actors chart the region’s resources. As will become clear, the resourcefulness of the fruit landscape in Hardanger can be assessed very differently, depending on whether the nation, an ecology, the global market, the single fruit

tree, an economic entity, the plantation, or other, is seen as the relevant point of reference.

I will argue that through mobilizing such different units for thinking about the region's resourcefulness, very different ideas about the necessary resource practices emerge. This shows the efforts involved in making this particular fruit landscape appear as resourceful and, further, that these efforts summon ideas of obligation, niche products, national borders, quantity and quality, microclimatic conditions, optimization, and soil characteristics. My main purpose in the article is thus to explore how the different analytical units that people involved in Hardanger fruit production mobilize to assess both the resourcefulness and the necessary means to sustain such an industry have a very direct bearing on what the Norwegian fruit landscape even is and can be.

Working from the embedded and shifting ideas about necessity and resourcefulness (and seeing these as co-constitutive) in the Norwegian fruit landscape displaces the discussion of natural resources in the north in an interesting way. At stake is not so much to take stock of the natural resources in this particular region and *then* make them the object of appropriate resource management (or anthropological analysis, for that matter), but rather to explore how a resource landscape is even made, charted, and projected – politically, ideologically, ecologically, or otherwise. Theoretically, I thus want to contribute to anthropological understandings of resource projects by exploring the Norwegian apple orchards not as given landscape features, but as effects of coordinated activities that name and single out particular assets (see also Bubandt and Tsing 2018). I thus make a proposition about natural resources in anthropology in seeing these as becoming what they are through particular concerted projects, rather than as a particular supply found in any given region (Brichet and Hastrup 2018).

Accordingly, by showing that the resourcefulness of the Hardanger fruit landscape is 'measured' according to highly different and shifting units, I essentially argue that resources are also analytical feats, in addition to being material substances. And as I will show, in this particular context, the political and national support of home-grown resourcefulness is instrumental and provides an interesting specification of this thematic section's focus on welfare frontiers and unspectacular anthropogenic activities. Overall, then, I engage both in an anthropology of resource materials that sees these as relational effects rather than given objects (along the lines of Richardson and

Weszkalnys 2014) and in ethnographic work on the Nordic Scandinavian region which is not usually explored in terms of natural resources. The latter ambition, also engaged with in the introduction to this section (Hastrup and Lien, this volume), is a means of specifying what we term a Nordic Arctic Anthropocene, which I will return to in the end of the article.

In the following sections, I address the question of how the Norwegian fruit landscape gets made, unmade, and discussed through shifting units of resourcefulness. I do so through three different but interrelated sections, each highlighting a particular tension embedded in fruit cultivation in Hardanger. The first addresses issues of national ecological integrity and whether or not imported fruit material should be allowed to cross Norway's borders; both viewpoints stress survival of the national fruit production and posits Norwegian borders as productive of particular resources and their viability. The next section probes issues of quantity and quality to discuss questions of the scale of horticultural Norway vis-à-vis the wider (fruit) world. The third section focuses on the complex coexistence of views and policies that value the Hardanger apple landscape as both intrinsically perfect for fruit production and as a scene for specific – political, scientific, and economic – interventions to make the Norwegian apples come into their own. In the end, I tie these threads together to reflect on the ever tentative and often contradictory project of making a national Nordic fruit landscape appear resourceful through whatever – malleable – necessary means.

To Be Or Not To Be a Norwegian Apple

Part of my fieldwork, conducted in the summers of 2014 and 2015, took place at the branch office of the Norwegian Institute of Bioeconomy Research (NIBIO) in the village of Lofthus in Hardanger. This village and its surroundings are the epicentre of fruit production in Norway. This particular section of NIBIO, which continues the work of a public fruit research station established there in 1949, has the explicit aim of advising fruit producers, developing cultivation systems, and generally ensuring that knowledge is shared between scientists and producers (see Bækkelund 2017). By the very location of this NIBIO branch office, Lofthus appears as both a marginal place (researchers, most of whom that I met have a family history in fruit production, have to be in place 'out there' to cater to local needs) and

central (the place is vital in terms of publicly supporting the production of fruit). Indeed, one of the reasons why I focus on Norwegian apple production is this duality: it is at once a minute trade at the margins of where this is even possible and enough of a token industry to be subjected to central Norwegian agricultural policy (Svanes 2019; see also Hastrup 2018).

At the Lofthus office, I discuss what sustainability means with Endre, a horticultural researcher and fruit production adviser, specializing in cultivation systems and efficient orchard management. His prime task is to advise producers on how to increase the yield and fight pests on the patches of arable land in all kinds of ways. To him, having paused to think about his definition, sustainability is ‘an obligation to intensify production on the limited hectares available. It is the optimal use of the rationed common resources’. It seems clear that Endre is driven by a need to make the most of what the area offers – as he explains, it would simply be a shame to not utilize the natural conditions now that they are so well suited for fruit production. He himself is a local and a spare-time fruit producer, tending and developing plantations with apples, plums, and sweet cherries that have been in his family’s possession for generations. For Endre, the fruit production seems more a family tradition than big business, but all the same, he is enthusiastically interested in finding ways to make the fruit production sustainable in this somewhat difficult northern region. Endre has just told me about the problems of acquiring tree stems and shoots of a sufficient quality for grafting. It is apparently very difficult for fruit producers to get a steady supply of high-quality fruit plant material. The only provider of horticultural ‘*utgangsmateriale*’ [raw plant material] is the so-called elite plant station Sagaplant, partly owned by Graminor – a Norwegian public-private plant cultivation firm.

Sagaplant holds a national monopoly for producing and selling plant material for horticulture in Norway under the vision statement ‘Fresh plants for a Nordic climate’. Its aim stated on its website is to provide ‘climate adapted, disease controlled and ‘*sortsekte*’ [variety authenticated] horticultural plant material for Norwegian conditions’. This will ‘ensure stable yields of the proper quality and is an important factor in the green shift to bioeconomy’ (Sagaplant, n.d.). In Endre’s account, however, Sagaplant is portrayed as a bottleneck for the producers. The supply is often delayed and of inferior quality, he says. To substantiate his claim, Endre recalls an unfortunate incident a few years ago, when Sagaplant’s heat treatment process meant to kill

off pests and viruses on grafting shoots had run amok. Fruit producers had unknowingly been provided with shoots that had practically been boiled and which took years to recuperate from this runaway thermal therapy. Many horticultural products grow rather slowly in the cool Norwegian climate, and to Endre the last thing producers need is to be slowed down even further by lack of expertise and uncontrolled technical procedures from a provider with a supply monopoly.

Endre is thus satisfied with the recent change in regulation that allows imported fruit trees. For his own orchards he has his eyes set on a particular Belgian stem variety, faster growing, and, not least, sturdier than his country's home-grown version. He has studied results of experiments with such stems down south and they are promising. It seems to Endre that for Norwegian fruit to come fully into its own and survive it just needs the support and carrying capacity of imported roots. Earlier during my fieldwork, I had come across an entirely different view. In the reading room of the NIBIO office, waiting for Endre, I had read a commentary with a grave note of caution about importation of fruit trees and berry plants. The commentary is written by Stein Harald Hjeltnes, a seasoned fruit researcher and plant developer. Hjeltnes starts out by stating that few issues have caused as much disagreement in the Norwegian fruit and berry business than whether or not to allow for transnational import of fruit trees and berry plants to Norway. Hjeltnes recognizes that the qualities of speedy growth, sturdiness, and ample supply make weighty arguments for import. However, to Hjeltnes this is a short-sighted perspective. The import, he writes, is a long-term gamble with Norwegian horticultural integrity and the country's competitive advantage, neither of which should be sacrificed for quickly earned money. This is how he puts it:

It is a fact that every day Norwegian nature is bombarded with new species trying to establish themselves, superseding the species that are naturally found in our land. Norwegian ecosystems are under pressure, and increased import of plant material to the fruit and berry trade will only exacerbate this. The competitive advantages that Norwegian fruit producers have had due to fewer problems with plant diseases and pests will be considerably weakened. One must remember that import of plant material is a choice made on behalf of everyone . . . New pests and diseases respect no borders. (Hjeltnes 2015)

To Hjeltnes, the problem with the international plant developers ready to sell is that they are only in it for the money, getting royalties for exported tree and plant varieties. Deep-rooted Norwegian research expertise, grounded in national institutions, is needed to curb quick

deals. Even though, as the commentary admits, the Norwegian supplier has surely attained a bad reputation due to some unfortunate mistakes, ensuring any competitive edge requires that the risk of importing foreign pests be kept at bay. To allow for the import of fruit trees from abroad, to Hjeltnes, might simply be the beginning of the end for Norwegian fruit production. As he concludes: ‘We must never forget that we are extremely small when measured internationally and that we are at the margins of where fruit and berry production is possible at all. We need a counterbalance to imported plants’ (Hjeltnes 2015). The stakes in this discussion about the import of fruit trees are obviously seen as high by both sides of this debate. To opponents of lifting the ban, it is a lethal sell-out that potentially unlocks a Pandora’s box of diseases; there is no choice but to hold the fort. To supporters of import it is (also) a matter of plain survival for the fruit and berry trade in need of proper raw materials; there is no choice but to admit dependency and seek out the best plant material available of whatever origin if Norwegian fruit production is to thrive.

Enough is Enough, Or Is It?

At issue here are different notions of resource integrity, national borders, and concerns about possible pollutants entering the Norwegian apple landscape. The question of integrity and pollution was not only cast as a discussion about transnational transport. Endre and I also discuss the cleanliness of the strictly local environment, as I ask him about potentially exhausting the limited orchard land available. Having read research from elsewhere, I voice my concern about monocrop plantations and their possible harmful effects (see e.g. Tsing 2012; 2015). There is very little organic production in the area, and although Norwegian restrictions on the use of pesticides and fertilizer are said to be quite tough compared to other apple producing countries, chemical aids are applied in the conventional fruit production in Hardanger.

Upon my asking whether Endre is worried about harming the ecosystem through ever intensified conventional fruit production, he replies that as long as the fruit orchards are as small as they are in this region where mountains around the fjords prevent much spatial expansion, there will be no environmental problems to speak of. In his view, the monocrop fruit plantations seem to be balanced out by the biodiversity of the untamed highlands that ‘trickles down’ the

mountain side to the orchards. What we see here is an interesting kind of smallness at play: to Endre the fruit lands of Hardanger make up a limited niche of production with rock solid borders around it, as the mountains efficiently encircle the arable slopes. All the more reason, it seems, to not hold back on the optimization of cultivation systems, be it by way of imported Belgian assistance, or something other. There is only so much harm the orchards can do, anyway, and it seems to him a professional duty and a sport to make the most of the scarce production land, bounded as it is by mountains. Smallness, it would seem, is relative to the unit through which resource potentials are seen.

The risk of being ‘too small’, then, is met by different countermeasures. One is to maintain national restrictions for plants on the basis of arguments about the ecosystem’s integrity being co-extensive with the borders of the country. In this view, larger producers and more ample markets threaten to eat the Norwegian apples, which must be protected as a margin or niche; the nation and its seemingly natural ecology make a particular resource landscape in need of firm boundaries. This was how Hjeltnes engaged with the smallness of Norwegian fruit production. Another option is to let down the guards, apply chemicals to the limited lands, and allow niche fruit in Norway to literally grow bigger on foreign resources. Here, the regional plantations (a natural niche of their own) are the measure of resourcefulness, and there is no harm done in enhancing their sustainability by all available means. This was Endre’s take on the issue. The notion of the Norwegian apple lands being marginal when compared to other fruit producing countries thus makes different ideas of boundaries around these margins appear – enacting different Norwegian apples in the process.

This argument of scale has other interesting expressions, too: on the one hand, most people I meet involved in the fruit trade around the village of Lofthus jokingly tell me about the enormous efforts it takes to grow apples on small scattered plots here and there, often with steep inclines, and about envying the expanses of flat and fertile apple land in places like Denmark. On the other hand, the small scale of Norwegian fruit production vouches for a particular high quality – and for Endre, also for the appropriateness of using chemicals and importing foreign plant material. What I find interesting here is that in the effort to optimally use the resources, the limited availability of land is thus both a legitimization, as when Endre says to intensify cultivation as best they can since it can only spread so much anyway, and a problem for sustainable production, since Norwegian fruit

production is easily overmatched by less demanding and more large-scale growing conditions elsewhere.

But what would an appropriate quantity of fruit from this region even be? Throughout all of my fieldwork on apple production in Norway, in written texts as well as face to face discussions, I have come across statements from managers and scientists that all speak of the demand for local fruit products as being much bigger than the supply. In a volume guiding people on Norwegian fruit production from as early as 1941 by Olav Skard, professor at Norsk Landbrukshøgskole [the Agricultural University of Norway], the limited supply is already mentioned as a problem: ‘Our own production is still too small’, as Skard simply puts it, before moving on to advise fruit growers (1941: 34). Skard’s statement exemplifies a more general trend in agricultural policy in Norway from the 1930s, which promoted a view that ‘town and rural area should go hand in hand’ (see also Blekesaune 1999: 6). The idea was to initiate a Keynesian kind of state-funded expansion of production, ensuring affordable foods and, importantly, ensuring farmers a decent income through subsidizing and regulating the sector. This policy has basically lasted to this day (Almås 2002).

In recent rural development plans, producers have again been urged to innovate and optimize fruit production in an attempt to keep up with the demand. In these assessments, the Norwegian market is the relevant (and, it seems now, insatiate) unit, and it is up to producers to keep up and provide the resources needed. In the *Regionalt Bygdeutviklingsprogram* [Regional Rural Development Programme] 2013–2017 for the region of Hordaland, in which Hardanger is located, an increase in the production of apples of no less than 30 per cent is the official goal for the five-year period (*Fylkesmannen i Hordaland* 2013). Such increase, however, depends on policies that support national production and restrict the import of cheaper fruit from abroad; one might say that much more expansive and sunlit orchards in southern Europe, Australia, and the Americas grow all the way into the rural development plans.

In a report on Norwegian food production by an agricultural lobbying coalition, I learn that ‘A well-functioning and predictable import barrier [‘*tollvern*’] is necessary to uphold Norwegian food production. The purpose of the import barrier is to contribute to making sure that foods which can be produced in Norway are not superseded by cheaper products from abroad. This ensures the food industry a sufficient supply of Norwegian raw materials’ (*Norsk Landbrukssamvirke* 2015: 11). Sufficient national supply of Norwegian raw materials for

the food industry is certainly possible, but requires that cheaper products be kept out. ‘Sufficient national supply’, here, is a market-based term relative to comparable foreign products and their pricing, and not the kind of sport-like challenge of advancing production that motivates Endre, whom we met above. While import barriers are a matter of keeping unwelcome cheaper goods (a cheaper work force, though, is welcome and indeed necessary. All apple pickers and storage hands that I met were seasonal workers from Eastern Europe . . .) out of the country, there is also a need to attend to Norway’s own lands. Later in the same report, there is strong call for optimization of the use of resources on the limited plots of land for the sake of a secure national food supply:

Food security will crawl higher on the international agenda. Even more than other countries, Norway which has limited and scarce land resources will have to exploit its land resources so that we ensure food supply for our own population to the largest possible extent . . . We have knowledge, technology and enormous resources related to biomass and renewable energy sources. Norway can utilise the resources of the sea, forest and agriculture much better than we do today. Norwegian forest and food industry are a part of the solution in a society which makes use of the vast biological green resources, so that future value creation and welfare are ensured. (*Norsk Landbrukssamvirke* 2015: 14)

In this one paragraph, Norwegian resources are both singled out as precarious and affirmed as viable and sufficient. The unit of resourcefulness here is the country vis-à-vis international conditions that simultaneously threaten and ensure Norway’s advantage. National resourcefulness is an answer to a global concern with food scarcity and is measured in terms of expertise, technology, biomass, and renewable energy. Interestingly, threatening global food scarcity becomes a feature that is both somewhat irrelevant on a national scale, since the country has the necessary resources, and an argument for all kinds of affirmative actions to ensure continued national welfare. What is interesting here with regard to my focus on the units through which to think of resourcefulness is the collapse of concerns on the ‘international agenda’ and the solutions tailored to Norway’s ‘own population’. It is as if the problem to which the country responds is somehow exported out of the country as a global focus area, but nonetheless spurs a feasible nationalized solution. Perhaps more importantly, then, we see that scarcity and abundance seem to be completely intertwined features of this northern resource landscape, as the globe and the nation are variously invoked. Should the report be read as saying

that Norway needs more? Or maybe just less of what comes from abroad, including a pending food insecurity? And if so, more or less of what, and from where?

On one of the hilly streets in the village of Lofthus, I meet Torbjørn, a young Oslo-based man visiting his parents' home out west. When I meet him, he and a couple of friends from Oslo are making apple juice in the sun outside the house. Over tastes of the drink we discuss the issue of quantity. As he tells me, an economically viable apple plantation must be at least six or seven hectares. Orchards smaller than that will have a hard time producing cost-beneficial fruit. Most people who own fruit land in and around Lofthus are part-time producers, working small plots, often placed separately in different parts of the village – a sunny slope here and a few rows of trees there. According to Torbjørn, however, national subsidy schemes tend to favour the larger orchards; he explains this as a political pressure towards getting the smallest scale producers to give up and sell their valuable plots of plantation land to the professional full-time orchard owners who already have the largest plots. As Torbjørn sees it, this is the state's attempt to make the optimal use of the very limited arable land; leave the production of fruit to the people who are most competent and who will stand a chance in an international competition. What we see here, again, is an idea of resourcefulness as a national measure: if the country as a whole has scarce land resources, the land should be cultivated by those who will make the most of it in the battle against foreign competitors.

One might say that the national cultivators should become as big as possible on the small plot of arable land available for fruit production in this northern arena. In consequence, the individual (small-scale) plantation is not really the relevant component here. Just like Hjeltnes seemed to think about the country as a unit that maps completely on to the ecosystem, according to the policies that Torbjørn speaks critically of any land in production somehow belongs to the nation who needs to care for it to the benefit of the whole country under pressure from outside. Pooling the common national resources is a response to thinking comparatively about the Norwegian fruit landscape in relation to its foreign counterparts – which by all standards are much bigger, for better or for worse. In the sunshine by the juicer, Torbjørn shakes his head when thinking about miles and miles of New Zealand apple land. Surely, quantity is not everything. As he puts it, these southern hemisphere plantations just churn out huge amounts of apples without any character, and the producers apply many times the amount of

pesticide compared to the Norwegian practices. Here, he says, pointing around towards the Lofthus orchards, there are very few indigenous pests and plant diseases, as Hjeltne would agree. It is thus an entirely different matter to cultivate good fruit in Norway – both for the luck of a relatively low risk of pests and for the challenge of having little land, steep inclines, and a short growing season with long hours of sunlight. In a sense, New Zealand apples and Norwegian ones cannot really be compared when seen through the unit of the single fruit.

Torbjørn likens the issue to wine production in the new world where the grapes ripen so fast that you end up with all sugar and no character developing with time. The conditions are too good to be good, as it were. Producers there, Torbjørn claims, have little sense of quality and taste, although they may have a great sense of economies of scale – an expertise that the Norwegian authorities, in his opinion, should not imitate since an apple from New Zealand does not compare with a Norwegian apple. Torbjørn seems to know that quantitative scaling up often effects qualitative changes (Tsing 2012). To him, it is worth protecting the high quality and relative cleanness of Norwegian apples; the mere thought of concentrating the local orchards in the hands of a few professionals is a step in the wrong direction. Policy makers might think of the market as the relevant scene on which to play, but introducing this as the measure of resourcefulness would greatly reduce local fruit quality. Why not, Torbjørn implies, let small-scale producers provide just enough apples for the fruit to be good? What if the price for cheaper apples is too high?

Low-Hanging Fruit, out of Reach

If expansion in terms of hectares is next to impossible, and concentration in larger plantations is contested, how else might Hardanger fruit producers create more value out of their lands – if this is what they find necessary? Superior quality and distinction, it would seem, are key here, and in this regard the Norwegian producers are lucky to inhabit the small patches of northern apple land. Outstanding fruit quality is apparently a feature of the land, as testified to by the Hardanger apples officially acquiring the status of a product with ‘protected geographical indication’ in 2006. The website for the certification of regionally distinguished foods where the Norwegian apples are listed as trademarked reads: ‘The best balance between acidity and sweetness is found in the Hardanger apples’ (*Stiftelsen Matmerk,*

n.d.). Approved by the Norwegian Agricultural Department, thirteen named apple varieties grown in the area are listed as having particular regionally defined qualities, provided they are cultivated according to specific regulations of colour and size, a feature that is controlled at least five times a year. The resourcefulness of the fruit landscape, here, is in the soil, the single apple, and in the hue of its skin – coming together as state-sanctioned good taste. In the law material the background for the uniqueness of the Hardanger apples is described as follows:

Climate and soil in Hardanger are well suited for apples and make for apples with special qualities. Cold winters ensure a rich blossoming every year. Cool climate and much light during the growing season provide apples with fresh and acidic taste due to high content of taste characteristic fruit acids, among others a particularly high content of vitamin C, all while the warm and sunny climate during summer makes the apples taste sweet. The cool autumn nights also increase acid and sugar levels just before harvest, and also ensure that the apples get the appealing red colour. A good balance between acids and sugars is characteristic of apples grown in Hardanger. In Hardanger there is much soil deposited by landslides; soil layers are deep, warm and easily permeated by water. In combination with much precipitation, this makes good growth conditions for apples. In order to produce high quality apples, it is important to have knowledge of the relation between apple variety and location. The apple producers in Hardanger have built up such expertise through the long tradition of apple cultivation. (*Lovdata*, n.d.).

This law text matter-of-factly describes the Hardanger microclimatic ecology as perfect for growing apples; it is only natural that the optimal soil would yield optimal apples. Once again, I am struck by the co-existence of the tale of perfect conditions for fruit production and the struggle against the wider world, backed by policies, import barriers on fruit, conventional production, foreign plant material, and (state-driven) calls for larger plots and optimized use. Resourcefulness is both intrinsic and a feature that needs to be brought out by continuous work. Ripe with low-hanging fruit that may be just out of reach, this is a resource landscape of a very peculiar kind – struggling to survive competition, yet with few parallels (but see Verdery 2003). At a meeting with Sigbjørn in the cooperative *Ullensvang Frukthager* [Ullensvang Fruit Storage], which is a shared membership-based packing, shipping, and storage facility, he tells me about a new project that he is involved in initiating. He calls it *merkevareprosjektet* [the branding project] and the idea is to strengthen the storytelling around the Hardanger fruit. He and his colleagues from other neighbouring storage

facilities are convinced that there will be added value in foregrounding the old local tradition of horticulture in the area and highlighting the superior quality of products, achieved by centuries of experience and small-scale, non-industrial production. Artisan quality growing directly from the land is simply a good story. To the Hardanger fruit storage managers, there is every reason to cater to an increased interest in local products and rural experiences. The trouble, though, is that in Sigbjørn's experience the local producers do not seem very interested in this kind of marketing. As Sigbjørn puts it, they just want to go about their work. When I ask producers on the orchards around the village about this potential value addition through branding efforts, they do indeed seem partly uninterested, partly amused. They seem to think that there is little need to emphasize what everyone already knows, namely that the apples produced in the region are really good, better than most apples, even if they are in somewhat short supply towards the end of the season. Quality and taste are really the only relevant measures, and what the producers need to do is to bring these intrinsic features out – regardless of how the fruit might be marketed afterwards. To the producers, the market seems strangely cut off from the fruit, somewhat to Sigbjørn's frustration. In a recent analysis of the economy of apple production in western Norway published in a NIBIO report, it is simply stated that:

Everything indicates that the majority are relatively satisfied with the economic situation for the time being, and no one is dissatisfied with prices and the market. Insofar as someone has not succeeded, this is to a large extent due to particular circumstances for the individual grower, who may have a plot that did not yield enough out or may not have had enough time to manage the orchard optimally. In addition, several mention climate and weather as problematic. (Milford 2016: 3)

As the report states, the fruit producers are often not first and foremost economically motivated, although – hard pressed, it almost seems – they would probably appreciate enhanced economical gain. Here, economic gain and market mechanisms as measures of resourcefulness are balanced against other concerns such as fruit quality, weather, 'particular circumstances', and available time. Back at the storage facility, Sigbjørn seems a little surprised at the reluctance to improve the marketing and business side of things. He portrays himself as a middleman, positioned between producers and market, and explains that even if the local fruit producers are uninterested in market structures and assess their work mainly in terms of how good the fruit is and rely on the fact that it all gets sold anyway, they are

still affected by them. So why not, Sigbjørn asks, try if strengthening the narrative of Hardanger fruit might fetch even higher prices or at least back the fact that local apples are more expensive to buy than imported ones? Here is the business man invoking the market as the relevant yardstick. His view is supported by a report by the Norwegian Agricultural Economics Research Institute from 2014, entitled ‘Green Values. Enhancing Profitability in Norwegian Horticulture’, which recommends that the industry work more consciously at managing the identity of the Norwegian fruit, highlighting local origin and tradition as perceived markers of quality (Pettersen et al. 2014).

Just as Endre wanted to intensify the use of resources from the niche that constitutes the Norwegian fruit landscape, what we see here are attempts at intensifying each Norwegian apple, as it were. In the branding efforts implied in the official regional certification, in Sigbjørn’s storytelling project, and in the indifference or amusement with which producers received these interventions we see a collision of relevant units of resourcefulness: is it in the soil, in the single apple, or in the history of production, and is the local fruit quality absolute or relative to that of other cheaper apples? What, in other words, does it take to produce a valuable Norwegian apple? There is a sense in which the Norwegian apples only fully realize their potential when they are compared to foreign apples – through distinct storytelling, intensified production or understanding of wider market mechanisms. At the same time, their quality is self-sufficient, so to speak – a natural effect of their regional origin only threatened by things like weather, climate, or ‘particular circumstances’. Sigbjørn himself also seems a little torn on the issue of what storytelling and branding might accomplish. Are such marketing strategies really what the region needs? Summing up on the exceptionally meagre yield in the 2015 season that had seen a very cold and wet spring and unusually late blooming, he merely said that ‘Now what we must do is to look ahead. We simply need more sunshine’. Maybe the necessity is sunrays, rather than branding?

The Project of Resourcefulness in a ‘Nordic Anthropocene’

A so-called green shift is underway in Norway, as elsewhere. Oil and fossil fuels are acknowledged as increasingly problematic, and now seems a good time to think about the resource landscapes that we want to cultivate in what geologists and others may refer to as an

Anthropocene era (Crutzen and Stoermer 2000). The case of the Norwegian fruit landscape and the negotiations about its resourcefulness are far from spectacular, nor do they entail the drama normally associated with global resource questions. What I have addressed here is not the usual (and highly important) story of anthropogenic disturbance that often cling to the notion of the Anthropocene. Nonetheless, the configurations of the Norwegian apple land – often, as we have seen, practised through a caring set of state policies – are projects to craft viability by landscape interventions; the resource configurations work as ways of ensuring that this part of Norway can be inhabited by the population – human and non-human.

The resource landscapes I have engaged with here speak of what I think of as a ‘Nordic Anthropocene’, where commitments to the welfare of the majority are central drivers in resource practices. The notion of resourcefulness is meant to capture these projects that aim at enabling the Norwegian apples to fare well in the world – and thus to make the region of their origin liveable for the country’s citizens. What interests me are the shifting mobilizations of the country, the market, the single apple tree, the micro ecology or indeed the national ecology, or what have you as the units of intervention that can see Norway through challenges pertaining to being a horticultural niche. Summing up the three sections above as being about *sustaining*, *scaling*, and *valuating* Norwegian fruit, we end up with a northern resource landscape that is both dependent on solid borders and on being permeated by all kinds of traffic – by plants, stories, workforce, policies, and other things, possibly including invasive pests.

Consequently, the many projects in and of northern resource landscapes can be seen to configure necessity as something that cuts across any axes of scarcity and abundance – the issue is not absolute (or increased or decreased) amounts of anything, but embedded ways of invoking resourcefulness through creating different and shifting units of analysis. In short, what I am after here is to point to the Norwegian fruit landscape as always relative to categories that are thought to measure its natural resources. Thereby the different measures of resourcefulness craft a (flexible, pressured . . .) niche of viability in an international cutthroat practice of resource production. This implies that resources are performed sometimes as scarce, sometimes as abundant, but always through initiatives on the lookout for doing what is necessary. Doing, making, having what is necessary is a very complex enactment of self-sufficiency and dependency that allows these words to point both at too little, enough, much, and more. What emerges is

an ambiguous kind of resource exploitation, at once driven by notions of scarcity, natural perfection, international competition, state-sponsored research, niche qualities, and ecological anxieties, all mixed up with a national ambition to craft a state that ensures liveability and equality inside its borders. In short, what I have wanted to show are the ongoing and diverse projects of making a Norwegian welfare frontier.

Acknowledgements

I am grateful to The Danish Council for Independent Research's Sapere Aude programme for funding the project Natural Goods? Processing Raw Materials in Global Times. I also wish to warmly thank the Center for Advanced Studies, University of Oslo, for enabling the project Arctic Domestication in the Era of the Anthropocene, and not least Marianne Elisabeth Lien for inviting me to join her there. Many warm thanks also to Nathalia Brichet, Kirsten Hastrup, and James Maguire.

Frida Hastrup is associate professor in ethnology
at the Saxo Institute, University of Copenhagen.
E-mail: hastrup@hum.ku.dk

References

- Almås, R. (2002), *Norges Landbrukshistorie IV 1920–2000* [Norway's Agricultural History] (Oslo: Det Norske Samlaget).
- Blekesaune, A. (1999), 'Agriculture's Importance for the Viability of Rural Norway' (Centre for Rural Research, Norwegian University of Science and Technology).
- Brichet, N. and F. Hastrup (2018), 'Industrious Landscaping: The Making and Managing of Natural Resources at Søby Brown Coal Beds', *Journal of Ethnobiology* 38, no. 1: 8–23.
- Bubandt, N. and A. Tsing (2018), 'Feral Dynamics of Post-industrial Ruin: An Introduction', *Journal of Ethnobiology* 38, no. 1: 1–7.
- Bækkelund, N. G. (2017) 'Å ta i bruk kunnskapens tre. Frå organisatorisk til dyrkingsteknisk innovasjon i fruktnæringa i Hardanger og Sør-Tyrol' [Using the Tree of Knowledge. From Organisational to Cultivation-technical Innovation in the Fruit Trade of Hardanger and Southern Tirol], master's thesis (University of Oslo).
- Crutzen, P. J. and E. F. Stoermer (2000), 'The "Anthropocene"', *Global Change Newsletter*, no. 41: 17–18.

- Fylkesmannen i Hordaland* (2013), 'Regionalt Bygdeutviklingsprogram, samlet rapport' [Regional Village Development Plan, Joint Report], www.fylkesmannen.no/Landbruk-og-mat/ (accessed 17 December 2019).
- Hastrup, F. (2018), 'Natural Goods on the Fruit Frontier. Cultivating Apples in Norway', in H. Swanson, M. Lien and G. Ween (eds), *Domestication Gone Wild: Politics and Practices of Multispecies Relations* (Durham, NC: Duke University Press), 159–175.
- Hastrup, F. and N. Brichet (2016), 'Antropocæne monstre og vidundere. Kartofler, samarbejdsformer og globale forbindelser i et dansk ruinlandskab' [Anthropocene Monsters and Wonders. Potatoes, Collaboration and Global Connections in a Danish Ruined Landscape], *Tidsskriftet Kulturstudier*, no. 1: 19–33.
- Hjeltnes, S. H. (2015), 'Import af frukttre og bærplanter – eit være eller ikkje være for norsk frukt- og bær dyrking?' [Import of Fruit Trees and Berry Plants – To Be or Not to Be for Norwegian Fruit and Berry Production], *Norsk Frukt og Bær*, no. 4: 1–2.
- Lovdata (n.d.), https://lovdata.no/dokument/SF/forskrift/2006-08-25-996#KAPITTEL_1 (accessed 2 January 2020).
- Milford, A. B. (2016), 'Økonomi i eple dyrking i Vest' [Economy in Apple Production in the West], *NIBIO Report 2*, no. 39, https://nibio.brage.unit.no/nibio-xmlui/bitstream/handle/11250/2379826/NIBIO_RAPPORT_2016_2_39.pdf?sequence=3&isAllowed=y (accessed 17 December 2019).
- Norsk Landbrukssamvirke (2015), *Norsk matproduksjon – en komplett verdikjede* [Norwegian Food Production – A Complete Value Chain], www.landbruk.no/ (accessed 3 February 2020).
- Pettersen, I., I. Nebell, and A. S. Prestvik (2014), *Green values. Enhancing profitability in Norwegian horticulture*, Norwegian Agricultural Economics Research Institute (Oslo: NILF).
- Richardson, T. and G. Weszkalnys (2014), 'Introduction: Resource Materialities', *Anthropological Quarterly* 81, no. 1: 5–30.
- Sagaplant (n.d.), https://sagaplant.no/om_oss/sagaplant_as/ (accessed 2 January 2020).
- Skard, O. (1941), *Norsk Fruktdyrking* [Norwegian Fruit Production] (Oslo: Grøndahl og Søns Forlag).
- Stiftelsen Matmerk, 'Hardangereple. Den beste balansen mellom surt og søtt kommer fra eplene i Hardanger' [The Hardanger Apple. The Best Balance of Sour and Sweet are from the Apples of Hardanger], www.matmerk.no/no/beskyttede-betegnelser/godkjente-produkter/hardangerepler (accessed 2 January 2020).
- Svanes, E. and F. M. Johnsen (2019), 'Environmental Life Cycle Assessment of Production, Processing, Distribution and Consumption of Apples, Sweet Cherries and Plums from Conventional Agriculture in Norway', *Journal of Cleaner Production* 238, article 117773: 1–15.
- Tsing, A. (2012), 'On Nonscalability: The Living World Is not Amenable to Precision-Nested Scales', *Common Knowledge* 18, no. 3: 505–524.
- Tsing, A. (2015), *The Mushroom at the End of the World. On the Possibility of Life in Capitalist Ruins* (Princeton, NJ: Princeton University Press).
- Verdery, K. (2003), *The Vanishing Hectare: Property and Value in Postsocialist Transylvania* (Ithaca, NY: Cornell University Press).