



Farmers' upheaval, climate crisis and populism

Jan Douwe van der Ploeg

To cite this article: Jan Douwe van der Ploeg (2020) Farmers' upheaval, climate crisis and populism, The Journal of Peasant Studies, 47:3, 589-605, DOI: [10.1080/03066150.2020.1725490](https://doi.org/10.1080/03066150.2020.1725490)

To link to this article: <https://doi.org/10.1080/03066150.2020.1725490>



© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 20 Feb 2020.



Submit your article to this journal [↗](#)



Article views: 2593



View related articles [↗](#)



View Crossmark data [↗](#)

Farmers' upheaval, climate crisis and populism

Jan Douwe van der Ploeg

Chair of Rural Sociology, Wageningen University, Wageningen, Netherlands

ABSTRACT

This article aims to unravel underlying reasons for the enigmatic outburst of farmers' fury that swept large parts of Europe in the autumn of 2019. It does so by focussing on the Netherlands where the upheaval was particularly striking. Farmers' resentment against 'agribashing' was a common theme in the many protests. This refers to, and simultaneously delegitimizes, all critiques of the current organization of farming and the unequal international patterns in which it is embedded. The article argues that the currently emerging farmers' movement basically represents a regressive populism. It ignores the many-sided crisis of agriculture (related to ever increasing use of nitrogen, pesticides and energy that contribute to the climate crisis and loss of biodiversity) and the politico-economic processes and unequal power relations underlying this. Although this movement creates many smoke screens, it is essentially fighting for the reproduction of the same order that makes a substantial contribution to these multiple crises. As international comparison shows, this new form of right-wing, rural populism reflects the degree to which entrepreneurial agriculture has internalized the logic of capital: it needs ongoing expansion, both for material and symbolic reasons. Peasant agriculture could provide a much needed counter-image to this. In practice, though, it is highly segmented and dispersed and is in urgent need of a new unifying device.

KEYWORDS

Entrepreneurial agriculture;
protests; climate crisis;
'agribashing'; populism

1. 'Stumbling farmers'

In the last months of 2019 farmers took to the streets throughout the Netherlands. Not just once but several times. With long columns of thousands of heavy tractors and many more farmers they occupied one of the central squares of the Hague and threatened to take over the Houses of Parliament. The government responded by declaring that, in the latter case, the army would intervene. In the meantime large sections of the national highway network were blocked. As a consequence the Netherlands witnessed the biggest traffic jam ever, with 1,136 kilometres of tailbacks. The massive demonstrations impressed many observers (not in the least the farmers themselves). At the same time people were puzzled. What were these protests about? What did the farmers want? There was, especially during the first rounds of protest, a myriad of slogans, most of

CONTACT Jan Douwe van der Ploeg  jandouwe.vanderploeg@wur.nl

© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

which were highly confusing. One major newspaper wrote about ‘stumbling farmers’. The demonstrating farmers said they would not accept ‘unequal treatment’ anymore and that ‘farmer bashing’ had to come to an end. At the same time they claimed to want ‘respect’ and opposed being ‘curtailed’. These were very general demands which are hard to disagree with, but some eyebrows were raised: ‘respect’, for instance, is something that is to be earned – it cannot be *claimed*. But apart from that – what did the farmers really want? Previous waves of struggle (especially in the 1970s and ‘80s) were mostly focused on clear programmes with specific demands that would provide concrete improvements. This time there just was a confusing cloud of statements that, above all else, reflected anger and grievance. The angry farmers were highly critical of policies meant to reduce nitrogen emissions (46% of all nitrogen in the Netherlands is emitted by animal husbandry). Surprisingly then, they welcomed the Secretary of State, who made a mess of this policy, as if he were a popular hero. By contrast, politicians of the radical left, who had no say in the design of agrarian politics, were whistled at during the demonstrations as if they were the ones responsible for it. There clearly was, and is, ‘something rotten’ in the countryside but nobody really understands what it is. On the one hand the massive demonstrations reflected real, deeply-rooted and widespread discontent. On the other, though, this tragedy unfolded as a burlesque. Farmers have never found it easy to deal with distributional issues (especially when in the context of a zero-sum game). But now they were facing partition at national and even international level (in the sense that decisions need to be made about how much nitrogen emissions are to be reduced, by whom, where, when and how?). Their response made them seem both desperate and unreasonable. However, the demonstrating farmers (and their committees)¹ perceived things differently. They were euphoric that they had succeeded in getting a ‘clear line’ drawn. The manifestations felt like victory: their strength had been proven. From now onwards, curtailing policies would no longer be accepted anymore, be they for nitrogen, or any other reason.

2. The climate crisis

Regardless of all the confusion there was, and is, a clear background. That is the pending climate crisis and the very urgent need to deal with it. The climate crisis is strongly related with fossil energy use and associated CO₂ emissions. In contrast, it only has a weak and limited relationship with nitrogen use and the associated ammonia emissions². But in the perception of angry farmers there is a clear and pernicious linkage³. Both nitrogen and fossil energy are, in their view, taken as starting point, and justification, for successively curtailing farmers. This was reaffirmed, in the autumn of 2019, when the high-

¹The most influential committee (and associated network) is tellingly named the ‘Farmers Defence Force’.

²The production of chemical fertilizer (N) requires considerable fossil energy. Beyond that, soils emit N₂O, di-nitrogen-oxide, especially after heavy fertilization with chemical fertilizer. N₂O contributes to global heating, but far less than CH₄ and CO₂.

³In a large protest meeting in Bremen, in neighbouring Germany, Daniëlle Hekman of the Dutch ‘Farmers Defence Force’ (who was in Bremen to thank German farmers for their help during demonstrations in the Netherlands) claimed that Climate Salafists are destroying us. It is a telling statement, especially in as far as it ties different ingredients together: (1) although German protests are directed against nitrogen policies and restrictions on glyphosate (Roundup), these were lumped together here with ‘climate’: all part of one concerted attack meant to destroy us; (2) the statement discredits all preoccupations about climate change by adding the adjective ‘Salafist’. This turns all attention to climate change, environmental degradation, and pesticide use into ever so many expressions of terrorism. Finally (3) there is us: the underdogs, which together are being threatened by destruction.

level '*Remkes Commission*' that is directly advising the Government published a preliminary advice. Under the telling title that 'Not everything is possible anymore', this Commission indicated that, to address the nitrogen problem, reductions of the national herd would be unavoidable. This was seen as a precursor of the consequences of climate policy which, if it were to be rigorously pursued, would require far greater reductions in the national herd than measures to address problems related to nitrogen.

In 1950 Dutch farms used 81 Gigajoule (GJ) of fossil energy to produce an amount of food with an energy content of 100 Gigajoule (Smit 2018). This energy input was composed of 41 GJ contained in direct energy (petrol, gas, electricity, etc.) and 40 GJ of indirect energy (energy needed for producing chemical fertilizers, tractors, implements, buildings, etc.). By 2015 the amount of fossil energy to produce the *same* amount of food (with an energy content of 100GJ) had risen to 225 GJ. This nearly threefold increase resides partly in increases in the use of direct energy (from 41 GJ to 101 GJ) and partly in the increase of indirect energy (from 40 to 124 GJ) (all data derived from Smit 2018). These changes directly relate to, and clearly reflect, the structural changes that Dutch agriculture has experienced in intervening years. Since the 1950s, Dutch peasant agriculture has been restructured, albeit in uneven ways, into an entrepreneurial agriculture. Labour has been moved out and replaced by capital (in the form of new, energy consuming technologies, and loans to finance them). At the same time, farming became strongly (but again, in uneven ways) integrated in upstream markets. Whereas self-provisioning (of feed and fodder, seeds, traction power, knowledge, etc.) used to be the norm, restructuration (or 'modernization' as it was called at the time) meant that increasing proportions of the needed inputs (many of them containing much fossil energy) were mobilized through different markets (instead of being produced on the farm itself). Thus, new styles of farming emerged: large-scale, with high levels of intensity that depend on technology and input-use, specialized and engaged in ongoing expansion. This latter feature is associated with high levels of indebtedness: in order to make the necessary repayments increases in scale become almost a material necessity.

It is important to signal here that it is not the high level of intensity (symbolized by, and in, high physical yields) as such that requires high input levels of fossil energy. A comparison with China's agriculture (that is as intensive as Dutch agriculture) shows that the former has far lower input levels for fossil energy (to produce a comparable amount of food). In Chinese agriculture far more labour is used, which explains the far lower use of fossil energy (both directly and indirectly). This is because Chinese agriculture is far more peasant-like than Dutch agriculture (data from Yu 2019). *The way that farming is organized and developed* (i.e. 'the mode of production') is decisive in determining fossil energy-use in agriculture – not yields as such.

Equally important is that, alongside a clear entrepreneurial pole, there are also considerable numbers of farmers who operate in peasant-like ways. They never fully adopted the 'modernization' repertoire, resisted attempts to encourage them to change trajectory and sometimes developed solid alternatives. Thus, the Dutch farming community is highly differentiated, something that was clearly reflected in the initially highly confusing panorama offered by the recent manifestations of discontent. Nearly all farmers are upset – but their grievances are very different.

3. Reducing the herds

When farmers say that they do not want to be ‘chained’ or ‘curtailed’, this often refers to policies that aim to restrict the use of nitrogen or to reduce the associated ammonia emissions. Nitrogen and ammonia are taken as *pars-pro-toto* for the more general environmental issue. Reducing nitrogen and ammonia is, in farmers’ perceptions, the prelude for the required mitigation of climate change. Nitrogen (N) played an important, albeit confusing, role in the recent protests. The huge ammonia emissions of Dutch animal husbandry (that negatively affect nature and biodiversity) are a strong reason for seriously discussing the magnitude and nature of the sector and arguing that reductions of the herds are unavoidable. Climate change does the same: it makes discussion about the magnitude of the national herd unavoidable. These discussions subsequently trigger disquiet and protests on the side of farmers, who sense that this implies ‘curtailing’. They argue that they are tired of being ‘curtailed’, time and again – with one measure following another and the next one never far away. Farmer’s sense of injustice is magnified since they consider that ‘others’ (industry, traffic, airplanes) hardly take their share of the burden: under the reigning rhetoric, it is, as Ry Cooder sang, the ‘poor farmer who has to take it all’.

Yet, the nitrogen problem cannot be seen as an issue that has just recently emerged. The Ministry of Agriculture first published a policy paper on it as long ago as 1974 (*Nota ‘Intensieve Veehouderij’*) and ever since then the farmers’ unions have done everything in their power to deny the problem and sabotage any policy meant to deal with it (Frouws 1993). A belated echo of this position emerged during the recent protests when the ‘Agrarian Collective’ (the organizations, committees and networks that organized the demonstrations) talked about the ‘fabricated nitrogen impasse’ (as if it was the state that created the problem). Beyond that, the methods to effectively tackle the problem (adapt feeding strategies by using less protein, reducing applications of chemical fertilizer and diluting slurry with water before spreading it on the land) are already known and have been tested for at least 25 years. Large segments of Dutch agriculture (especially, but not exclusively, the peasant-like farming styles) have already applied such measures, strongly reduced N-use and ammonia emissions *and by doing so they even improved their incomes* (Dirksen et al. 2013; Reijs 2019; Evers et al. 2019). What happened, though, was that nitrogen and ammonia were used as a battleground for a completely different fight. To understand this we have to turn, again, to the highly differentiated nature of the Dutch farming population which results in contemporary problems being framed in specific ways.

4. Contrasting worldviews

A recent nation-wide survey organized and published by the daily newspaper Trouw (2018, n = 2,287) highlights both the commonly shared views and the deep divisions within the Dutch agricultural sector. What farmers have in common is that they love their jobs, cherish their independence and are proud of the farm they develop. They equally share a feeling that things are getting worse as they experience ongoing regression and crisis. More than three quarters of the respondents fully (40.9%) or partly (34.6%) agree with the statement that farmers were better off 20 years ago than they are today. And nearly 85% think that the countryside is suffering a socio-political crisis.

While farming is a highly appreciated profession, farmers feel they are increasingly under pressure. This is the *comunis opinio*. Beyond this commonly shared view there is, however, a deep division. The same survey brought two, highly contrasting visions to the fore. One centres on the organization of farming, the other mainly focuses on 'others'.

In the first vision, the crisis is first and foremost perceived *as located inside agriculture itself*. That is: the dominant organizational patterns and development trajectories are seen as root causes of the current agrarian crisis. Farmers sharing this view argue that 'the export orientation [of Dutch agriculture], that is sustained by ongoing scale increases [at farm enterprise level], is *not* feasible in the longer run' (55.2% of all respondents agreed with this point of view). Consequently, they argue that 'our country should not pretend to provide food to considerable parts of the rest of the world' (44.4%). Such a position is totally at odds with the dominant view (or 'Wageningen model' as it is often presented in the Netherlands) that stresses the export-model and the associated large-scale, intensive and specialized organization and development of agriculture. In this respect, it is telling that 45.7% of the surveyed farmers are of the opinion that highly specialized farms, producing just one product, 'are far too vulnerable'. The negative consequences that these trends have beyond the farm gate are equally recognized: 46.1% believed that the way farming is developing is damaging the landscape. The political economy underlying all this is clear to the majority: 64.5% agreed that 'we are working, above all, for the benefit of banks, food industry and big retailers'.

In the second, strongly contrasting, vision the crisis of, and in, agriculture is seen as basically down to factors located *outside* of the agricultural sector. It is 'others' who are to blame: be they consumers, citizens, politicians, journalists, animal rights' activists, 'climate nerds', or whatever. 'Farmers are squeezed because the consumers do not want to pay more for their food' (78.0%)⁴. 'The media always blame the farmer'. 'Animal rights activists propagate false information'. 'Citizens have no knowledge whatsoever about farming'. 'Farmers work bloody hard, but do not get any recognition'. Such statements mutually reaffirm each other – and together they reflect a deep discontent. Farmers are aggrieved. There is widespread indignation. Many of the elements that together compose this sense of injustice are, for sure, rooted in real life experiences. Nonetheless, the outcry typically is solely focused on 'the others'. The way they *relate* to, and behave towards, farming is wrong, and this is due to misinformation or bad intentions. Farming itself is devoid of any responsibility.

These two visions do, of course, overlap. And this makes for a coalition that seems, at first sight, nearly impossible. Strong social control in the countryside also contributes to this. However, the hard core, the gravitational centre, of the two visions differ significantly and substantially from each other. This is reflected in the calls for action they give rise to. The second, populist-type of vision, places all responsibility at the level of consumers. *They* have to change, and only when (or if) they change effectively, will farmers then move farming forward (e.g. only after getting better prices they will invest in environmentally friendly measures). By blaming others, farmers relieve themselves from any responsibility. The same applies to the belief that citizens are not knowledgeable about agriculture:

⁴What is lacking from such an analysis is any reference to the huge gap between consumer prices and farm gate prices. This renders the role of large retailers invisible.

which provides, as it were, an anti-serum against the widespread and many-sided critiques that are articulated towards farming, since 'they don't know what they are talking about'.

In the contrasting vision there is more focus on the farming community's search for practical improvements and on building new coalitions with both consumers and citizens. This is resulting in new, often multifunctional, farms and new institutional arrangements that create new balances between farming, nature and society⁵. However, the search for novel practices is often frustrated by the asphyxiating regulatory schemes imposed by the state. This makes those sharing the second vision often as upset about the government (and especially the Ministry of Agriculture) as the others.

The view that centres on the others is strongly populist, partly because it neglects inequalities in power, just as it rides roughshod over politico-economic contradictions, and reduces differentiation within the sector to a mere difference between 'winners' (or at least: those who think they have the 'right to win') and 'losers'. Tellingly, the main populist parties of the Netherlands (FvD and PVV)⁶, headed respectively by Thierry Baudet and Geert Wilders, immediately and wholeheartedly supported the movement of the aggrieved farmers.

The deep divisions within the farming population (and the absolute incapacity to deal with the associated internal conflicts) translate into a deeply rooted and many-sided distrust and also into high levels of disorientation. 77.7% of all farmers find themselves 'not represented by their farmers' union' (37.1% partly agrees, 40.6% agrees fully). Neither do farmers have much confidence or faith in institutions such as the Ministry of Agriculture and universities (but it is to be admitted here that the latter have done little to gain such confidence).

The spurred development of 'mega-farms' (representing the biggest farms, which are very specialized and reliant on sophisticated high technology and bank loans) are iconic symbols of the hegemonic development trend. Institutions such as the Ministry of Agriculture, Wageningen University (especially its senior management), agro-industries and banks argue that only 'very large farms are able to face competition at world market level'. Yet, a survey by the Socialist Party (SP) (held in 2013; n = 841) showed that only 16% of the farmers considered the emergence of mega-farms as a positive development (Gerwen, Staarink, and Palm 2013). An earlier survey by the *Land- en Tuinbouw Organisatie* (LTO) [National Farmers' Union] rendered similar results (12.5% of farmers seeing this as a positive development). Eighty-two per cent of Dutch farmers indicated that they prefer 'a farm of normal/average proportions that renders a good income'. Most of them do not believe in an 'easy co-existence' of mega-farms and family farms: 55% of all respondents (in the SP survey) thought that mega farms threaten the developmental possibilities of family farms and 56% believed that the farmers' unions should do more to defend family farms 'even if that implies conflicts with agro-industries and trading companies'.

One key issue that is linked with the debate on different development trajectories is whether or not farming needs to be linked with (if not grounded on) the land. This especially is an issue in animal husbandry. It comes down to the question of whether or not animal production is and should be related to the carrying capacity of the available

⁵See https://resource.wur.nl/upload_mm/1/4/5/afa665a8-bbcf-4249-b77f-a09081559648_NL_1-32p_resource_1405.pdf

⁶FvD is the Forum voor Democratie [Forum for Democracy], the largest party during the last, provincial elections; PVV is the Partij voor de Vrijheid [Party for Freedom]

land. Should the herd be fed with feed and fodder produced on-farm (or at least locally), which would inherently limit herd sizes? Or is it acceptable to acquire growing parts of feed and fodder on the market (as exemplified *par excellence* by mega-farms)? And, at the other end of the cycle, is it possible to effectively use the produced manure (or slurry) on the fields belonging to the farm or is it doomed to be part of the slurry surpluses that threaten biodiversity (and, in the longer run, human health as well)? All this might look, in the eyes of outsiders, as just another set of technical issues. But it is far more than this. By purchasing growing parts of feed and fodder on the market (notably, but not only, soy), massive flows are generated and sustained – flows that depart from Brazil, Thailand, Senegal, the United States and several other countries and are managed by huge international trading companies. These flows link the deforestation of large parts of the Amazon and other areas with stimulating the export-orientation of considerable parts of agriculture in NW Europe. They are also linked to the climate change and the environmental crisis (notably and especially the nitrogen and ammonia emissions) located in the North West of Europe, and the lack of food sovereignty in many other countries (especially, but not only, in the Global South).

Farmers take positions in these global processes, just as they position themselves on the environmental dimension – whether or not they acknowledge it. Political economy is not something that is just located ‘out there’, far away, in the clouds. On the contrary, it directly relates with (and even partly depends on) the decisions taken by tens of thousands of farming families. And it is precisely at this point that a main difference between peasant-like ways of farming and entrepreneurial strategies emerges. Peasant agriculture builds as much as possible on the self-owned resource base and its internal consistency: animals and land are brought into balance and the fine-tuning of the cycle that links manure, soil biology, grassland production, animal feeding and the production of milk, meat and manure is of strategic importance. Entrepreneurial farming, by contrast, ‘jumps’ over the limits of locally available resources. It engages in commodity circuits in order to obtain the required amounts of feed and fodder and thus enables growth that is ‘disproportionate’ to the magnitude of the farm (Driel 1982, 1984)⁷. ‘Relating to the land’ [in Dutch: *grondgebondenheid*]⁸ is a hot issue in Dutch agriculture. According to the Socialist Party’s survey 40% of all respondents opted for an agriculture that is strictly related to the available land – while another 40% favoured the opposite (20% were ‘neutral’)⁹: a nearly perfect division and, consequently, a terrifying battleground¹⁰. Currently, relations with the land are further complicated through persistent processes of land concentration (throughout the European Union) and land grabbing in Eastern

⁷Jaap van Driel (then working at the Farm Accountancy Institute LEI) was one of the first to signal the emergence of ‘disproportionate growth’, which is not related to the magnitude of the farm, let alone to its earning and savings capacity. It is, instead, credit driven. Later on van der Ploeg, Saccomandi, and Roep (1990) describe the same process for Italy. Farmers refer to it as ‘making jumps’ as opposed to ‘step-by-step growth’.

⁸This issue is now central to agroecology.

⁹When it comes to their *own farm*, 51% of all farmers would prefer it to be related to the land.

¹⁰More generally speaking, this is one of the issues that is at the heart of a more general, if not nearly universal, *problématique*: how is the available productive potential to be divided over (or shared by) different producers. This problem pops up in land reform processes but was equally at the core of the European policy for milk quotas. In this respect it is telling that in 2013 (according to the SP survey), 43% of the dairy farmers preferred a continuation of the quota system, whilst 39% wanted it to be eliminated. Again these differences point to the seemingly irresolvable divisions within the farming sector.

Europe (which is partly being driven by projects that aim to enlarge soy production within Europe) (van der Ploeg, Franco, and Borrás 2015).

5. Competing for the future

Entrepreneurial farms need to continually expand. They are permanently engaged in a 'race forward'. Ironically, this race is not only grounded in material needs (high financial costs, and an increased vulnerability to cost increases and price decreases), but equally has ideological considerations. Agricultural entrepreneurs feel engaged in a struggle for the future. They perceive the future as a 'limited good' (Foster 1965) – that there is only space for a limited number of very large farms who are able to operate at world market level – and each and every one of these entrepreneurs wants to be part of this scarce future. This triggers ruthless competition¹¹. Being close (at least relatively close) to this target makes a strong imprint on the identity of the entrepreneurs. As Nicole Eizner (1985) argued already many years ago, they consider themselves to be the 'best pupils of the class' – for they have done everything that was advocated by agrarian policies: they enlarged their farms, innovated, are competitive (at least they think so) and they are 'feeding the world', or so the advocates of the 'Wageningen model' tell them.

Entrepreneurial farms need ongoing expansion, for both material and symbolic reasons. Entrepreneurial farmers believe they have the *moral right*¹² (if not duty) to keep expanding – precisely because they are 'feeding the world'. Surpassing ecological limits (as is the case with nitrogen and ammonia) is, in their view, no problem at all – it can be compensated for *elsewhere*¹³. Using considerable amounts of fossil energy is unavoidable – as was tellingly underlined by the processions of heavy *diesel burning* tractors to the Hague and in the claim that 'others' (transport, industries, air traffic) should reduce their use of fossil energy in the first place.

6. Creating a fire lane

In hindsight it is very clear that the massive unrest and the redundant fight against possible limits on nitrogen use were partly inspired by, and during the process became completely subsumed to, one single issue: *the assumed right for continuous expansion*. The entrepreneurial pole in agriculture does not accept any limitations on this assumed right – and this denial is strongly supported by parts of agribusiness.¹⁴ The entrepreneurs and their committees fought a largely fictitious battle (against limitations on N-use and

¹¹This is another basic difference. In peasant agriculture solidarity and mutual help define most of the internal relations. In entrepreneurial agriculture it is, instead, mutual competition.

¹²It is, again, ironical that morality pops up in this context. For a long time it was thought that the 'moral economy' (Scott 1976) applied mainly or only in peasant agriculture. 'Rationalized' entrepreneurial agriculture only moves forward, it was thought, according to strict economic calculation (e.g. Mendras 1984).

¹³This painfully coincides with the recently (re-)articulated plea of the President of Wageningen University (Mrs. Fresco) and a former Christian-democrat Minister of Agriculture (Mr. Veerman) for the creation of an 'agricultural main structure' alongside the 'ecological main structure'. The latter would provide room for nature and an absence of emissions, allowing for ongoing emissions and expansion in the former.

¹⁴Big companies producing animal feed (such as de Heus and Agrifirm) and food industries such as VION supported the protests (financially, logistically and politically). Other agroindustries, such as Friesland Campina, were hesitant because sustainability is a key part of their marketing strategy. Angry farms reacted by blocking the factories and headquarters of the companies that did not give their support.

ammonia-emissions) as part of a *broader* strategic agenda: resisting any attempts inspired by the patently obvious energy and climate crises to limit further expansion of farm enterprises. This partly real, partly imaginary battle (against limitations on N-use) can best be compared with making a *fire lane* in threatened woods. It involves burning parts of the woodlands in order to prevent a complete bush fire that will ‘destroy us all’ (see footnote 4 of this paper).

The programme of the contesting entrepreneurs (Landbouw Collectief 2019) reads as a novel by Gabriel Garcia-Marquez. Nothing seems real, everything means something that differs from what is actually said. It is suggested, for instance, that there is no real problem with nitrogen and ammonia¹⁵ – the problem is ‘fabricated’ by the state. In the same vein, the programme ‘offers’ (as is literally said) to reduce ammonia emissions through adaptations of feeding rations, using less chemical fertilizers and adding water to slurry. But this is already being done by loads of farmers! In this respect, the proposal of the contesting farmers was nothing but a ‘wind egg’ [an empty shell] as the editor-in-chief of one of the agrarian media observed (Maanen 2019, 2): it was void, in all possible respects. Nonetheless, the proposal seeks subsidies of up to 3 billion Euros and simultaneously states that farmers will only engage on a ‘voluntary basis’ and it gives no guarantee on the effectiveness of the suggested measures (Landbouw Collectief 2019, 3)¹⁶. Especially telling is that the ‘room’ created through reductions is to remain the ‘property’ of the agricultural sector that could either be ‘leased’ to others (to enable construction of houses or industrial expansion) or to be used ‘for further growth at farm enterprise level’. Thus, the nitrogen problem would be, *de facto*, converted into yet another mechanism for expansion.

The first round of negotiations (between the ‘collective’ of protesting organizations and committees on the one hand¹⁷, and representatives of the State, the Prime Minister included, on the other) brought a remarkable outcome: the decision that ‘there will be no generic reduction of the herds’. This was, and is, a highly significant message, as it shows that the hegemony of entrepreneurial farms is not to be questioned. The second round of negotiations brought another telling outcome: there will be no forced closure of any farm whatsoever (implying that farms located within or nearby nature areas will not be affected, not even when they emit huge amounts of ammonia).

Thus, at the end of the day there were no results that benefitted *all* farmers (for example an adaptation of overly rigid regulations, or the possibility to decide at farm level about the most effective mix of measures, or regional differentiation, etc.). The only thing the ‘Agrarian Collective’ aimed at, and obtained, through the negotiations was consolidation of the room for agricultural entrepreneurs to expand further (and to be supported financially) and – once again – a postponement of an effective and timely tackling of the nitrogen, energy and climate crises.

¹⁵There evidently is a problem: the agricultural sector annually emits 106 kilotons of ammonia. This is the true nucleus of the nitrogen problem (van Maanen 2019, 2).

¹⁶Later on this was further specified. If total N and ammonia emissions would be reduced through the government bailing out farms, the space obtained should be given to the remaining farms in order for them to expand further.

¹⁷Tellingly, this ‘collective’ is chaired by Mr. Dijkhuizen, former tycoon of Nutreco, a large industry for animal feed and (later) president of Wageningen University, who is an outspoken spokesman of, and for, entrepreneurial agriculture. Roelof Kleis, the science editor of *Resource*, the independent weekly of Wageningen University, wrote that Dijkhuizen is the personification of the highly intensive Dutch agriculture. ‘The man is more part of the problem than part of the solution’ (Kleis 2019).

7. Populism

There is no doubt that the movement of autumn 2019 is populist, but in a regressive way. It is a 'multi-class' phenomenon. Large, entrepreneurial farmers, peasant-like farmers, farm workers, different agribusiness groups, contract workers and other rural dwellers gathered together *without* any real attempt to mediate their differing interests. It is regressively populist in as much as it does *not* provide a transparent analysis of the problems that need to be addressed. It just draws on, and further galvanizes, generalized feelings of grievance and neglect. An important ingredient that helped to shape this feeling of neglect (and being endangered) was the occupation of an intensive pig producing farm by animal-welfare activists¹⁸. This occupation triggered the creation of 'self-defence groups' that communicate through social media and promise to intervene immediately (and, if needed, with violence) if similar episodes occur again. These networks, that later on emerged as the *Farmers' Defence Force*, became one of the organizing forces of the demonstrations, road blocks and occupation in the autumn of 2019. Thus, the feeling of being subjected to unjustified views and actions of *others* made for an 'underdog position', the main thing that tied the angry farmers together. They typically presented themselves as 'victims' (even making shameful comparisons with Jews in WW2). By doing so they showed that playing the card of impotence does not bring reason.

The movement is also populist since it does *not* address unequal power relations and politico-economic contradictions: it only addresses the *state*. It puts pressure on the state to create new balances in society that are more favourable for farmers – the costs of which will be paid by *others*.

The movement did not eschew violence: it blatantly denied people advocating a different point of view the right to any say and, on different occasions, it used its powerful tractors as tools of intimidation. Above all it is regressively populist in as far as it used *the many* in order to obtain privilege for *the few*. It mobilized *all* farmers to protest against policies meant to redress the environmental effects of contemporary farming, but the solutions it sought (and won) only served the interests of the *few* in the entrepreneurial pole, allowing them more opportunities for future expansion.

The 'multi-class', populist movement that arose in the second half of 2019 addressed a range of 'non-issues' (which effectively helped to mobilize large groups of farmers), whilst remaining *silent* on the central issue. That is that both the problem (the large contribution to the different crises: nitrogen, energy, climate) and the incapacity and unwillingness to effectively address this problem are rooted in entrepreneurial agricultural and the industrialization of farming it embodies. The populist farmers' movement is silent on this central issue because it knows that entrepreneurial farming is perceived, and rejected, by the population at large, as *factory farming*. It is realized that fighting for factory farming would be a complete non-starter and have no political or social traction. Hence, the focus on misleading images, mixed emotions and attacking everything that threatens and disrespects farmers and a complete neglect of discussing what farmers stand for (which, as shown earlier in this article, is very polarised). It could not have been otherwise. The socio-political situation that the entrepreneurial farmers have helped to shape

¹⁸In France, Spain and Germany similar actions of 'vegans' and the like have produced comparable effects.

(together with agribusiness, state policy and Wageningen science) cannot but give birth to this strange populist-type of outburst.

8. A historical precedent

It is not the first time in the recent history of the Netherlands that a farmers' movement has taken the form of a right-wing populist phenomenon. There is a historical legacy from the 1930s when considerable parts of the Dutch farming population (especially the poor segments living and working on the sandy soils in the east and centre of the country) followed the populist (and pre-fascist) movement called *Landbouw en Maatschappij* [Agriculture and Society] which shared links with the National Socialist Movement (*NSB*) and, later on, with the Germans (de Ru 1980). A long-time collective memory helped to avoid the emergence of similar movements in the post-war period as people felt deeply ashamed. From the 1960s onwards there was the rise and subsequent fall of the 'Farmers' Party [*Boerenpartij*] (see Nooij 1968). There is still debate as to whether this was a populist, a quasi-fascist or a completely ridiculous movement¹⁹. But there are more recent expressions as well.

In the early 1990s the intensive pig breeding sector in the Netherlands faced a deep and multi-faceted crisis that had both economic and environmental aspects. Typically (especially in retrospect) this multiple crisis was framed in two contrasting ways. In one view the crisis was due to the country (and the EU in general) having far too many pigs. Overproduction was causing both low prices and rampant pollution. This analysis was shared by 65% of pig producers of that time (Ettema et al. 1995, 37). In the contrasting vision there was (and is) no problem whatsoever with the amount of animals held in the country (which implies that 'being related to the land' is not seen as an issue). Rather the problem was that there were *too many pig producers* in the country. This view was shared by 35% of respondents (n = 683). By reducing the number of pig producing farms, these farmers thought that the total available income would be shared by fewer farmers, thereby increasing income per farmer. It was equally assumed that the larger (remaining) farms would then be able to invest in technologies thereby reducing their environmental impact.

Regardless of these hugely contrasting diagnostic differences, the 1990s saw the emergence of a strongly regressive populist movement called NVV [*Nederlands Vakbond van Varkenshouders*: Dutch Syndicate of Pig Producers] headed by Wien van den Brink (a large pig producer from the centre of the country). This movement typically was 'multi-class'. There were large pig producers, mainly operating in the shadows, who defined the programmatic demands (*no generic reductions*)²⁰ and small pig producers who operated as 'the foot soldiers' in the many struggles and fights. Other actors involved included contract workers and transport-enterprises involved in slurry trading who provided the heavy 'armaments' (as pig producers mostly did not have heavy tractors and big lorries)

¹⁹There has been widespread conservative populism among the peasantries throughout Europe (such as the Greenshirts in France and, later on, the support for Le Pen, just as there is currently wide spread rural support for right-wing movements in, e.g., the USA and Germany (see for an overview Scoones et al. 2018).

²⁰These large pig producers were also members of the NCB, the southern farmers' union. The double membership and the threat to completely switch their membership to the NVV allowed them to introduce the same programmatic ingredients into the policy programme of the national farmers' union.

and, finally, weeping farm women who played their part in providing the 'human element' in the media. This movement became quite violent: Members of Parliament were thrown into canals, the Minister of Agriculture of the time was physically attacked and even kidnapped, whilst scholars who spoke out in public were also threatened.

The movement went on to stand candidates for parliament (Van den Brink was actually elected but unable to construct any coalition) before losing momentum. Yet, this earlier populist farmers' movement left a dual legacy. First, the call for an absolute reduction in the number of pigs raised in the Netherlands (proposed by the, then, Minister of Agriculture van Aartsen) was effectively sabotaged. Second, the movement left a template that was later (i.e. in 2019) effectively used for resisting policies aimed at mitigating the climate crisis.

9. An international comparison

It is interesting to compare the 2019 Dutch farmers' protests with farmers' movements elsewhere²¹. Tellingly, Belgium, Denmark and Austria did not experience any significant farmers' protests in 2019. Italy and Spain witnessed large demonstrations, but their character differed remarkably from the Dutch ones. Germany and France, in their turn, presented a more complicated situation – a mixture that contained ingredients of both the Netherlands and Italy and Spain.

Austria did not see any farmers' protests in 2019, probably because the country has long adapted the environmental standards set by the European Union. There were also no protests in Belgium, and Denmark (whose agriculture probably most closely resembles that of the NL) saw only limited protests. This probably underlines the centrality of policy in the dynamics of populist movements: they need the 'misunderstanding' or 'unwilling' state in order to articulate their grievances. In Denmark the debate about stricter environmental and climate regulation was largely diffused by the decision of the previous (right-wing) government to soften the countries' N-regulation (this despite a heated discussion between policy makers and scholars about the measures and their consequences). Thus, Denmark did not see the same protests that occurred in the Netherlands. However, the new Danish government is reassessing this regulation and has announced a progressive approach to climate regulation. This may bring about a completely new situation.

In March 2019 Spanish farmers protested against low prices for agricultural products and rallied and marched to denounce the abandonment and depopulation of the countryside in November. Farmers' protests in Italy expressed opposition to accepting the world market as the organizing principle for food production and circulation (a denial that was and is completely absent in the protests of Dutch agricultural entrepreneurs, who embrace the world market). The Italian *Coldiretti* organized road blocks and checks of trucks at the border with Austria, drawing media attention to their opposition to low-cost imports of milk, meat and other agricultural products. Whilst doing so, they highlighted the superior quality of Italian products. Italian rice producers also protested, during 2019, against low-

²¹ I am grateful to Andrea Fink-Keßler, Véronique Lucas, Manolo Gonzalez de Molina, Egon Noe, Kees de Roest, Markus Schermer and Joost Dessen for having provided data for this section. If these are misrepresented the responsibility is solely mine.

priced imports of rice from Cambodia, Thailand and Burma and the potentially negative effects of the Free Trade Agreement (then being negotiated) between the EU and Vietnam.

The situation in France and Germany last year was more complicated. In Germany a small group of activists, inspired by the huge demonstrations in the Netherlands called for actions in different cities. These were mainly coordinated through a Facebook group (tellingly called *Land schafft Verbindung*: Land creates connections). The actions did indeed materialize, in many different cities, on the 22nd of October. In Bonn the protest attracted 10,000 farmers and 1,600 tractors. This was followed by many more manifestations, included one in Hamburg on the 14th of November (with more than 4,000 tractors) and smaller regional manifestations throughout the country in December, with the most recent (and huge) one in Berlin on the 17th of January 2020. As in the Netherlands these protests denounce ‘the permanent negative propaganda and farmer bashing that leads to anger and frustration’ (LsV press release of 19/11/2019). They also strongly oppose further limitations on fertilizer use and especially on the application of pesticides (notably Roundup). But in contrast to the Netherlands, the programme of the protesting German farmers also includes more peasant-like claims²²: ‘Imported food needs to meet the German quality standards, if not it should be written on it that “this food is produced in a way not allowed in Germany”’. Furthermore ‘all food should carry an indication of origin so as to make it easy for the consumer to recognize regional products’²³. Finally there are demands for reducing the ‘bureaucratic burden for farmers, so that animal welfare, care for landscape and protection of the environment will be joyful again’.

In France a deep socio-political division within the farming population, similar to the one existing in the Netherlands, was recently brought to the fore (once again)²⁴ in a representative survey of daily *Ouest France* (Ifop, October 2019; n = 418). When asked about the ‘most threatening developments’, 44% of the surveyed farmers referred to climate change. 32% pointed to ‘the market, low prices and volatility’ and 31% to ‘agri-bashing’ (more than one answer could be given). Another set of questions probed the best possible policy to secure the future of French agriculture. Forty eight per cent argued that the power balance between farmers, food industries and large retailers needed to be corrected: the same proportion said that food distribution (and consumption) needs to be grounded on the principle of proximity, while 44% argued that food quality and security are the main areas to apply leverage. All this strongly contrasts with very low preference for the standard repertoire of solutions: conquering new markets (13%), applying new technologies (13%) or scale enlargement of farm enterprises (9%). ‘Business as usual’ hardly seems attractive or feasible to most French farmers.

A first round of manifestations (in July 2019) was directed against the Free Trade Arrangements (Mercosur and CETA) and was followed, in October and November, by a second round that centred on agribashing, new environmental constraints²⁵ and low

²²Taken from www.lanschafttverbindung.de

²³This looks innocent, at least at first sight. But tellingly it is about seeing consumers as potential allies instead of hostile ‘others’.

²⁴This same socio-political division has been reflected, already for decades, in the plurality of farmers’ organizations – some of them close to peasant agriculture, others representing entrepreneurial agriculture.

²⁵Just as in Germany, *glyphosate* is central here as well. The specific French element is that many mayors have declared their municipalities to be ‘pesticide free zones’. This, just like the massive animal welfare actions, has caused considerable discontent among farmers and even brought farmers’ organizations (that otherwise strongly disagree) together in one unified coalition – just as happened in Germany, the Netherlands, and, in a way, in Spain as well.

prices. Remarkably, it was the large, official, farmers' union FNSEA [*Fédération Nationale des Syndicats d'Exploitants Agricoles*: National Federation of Farmers' Unions] that took the lead. As elsewhere (notably in the Netherlands, but also in Germany), the FNSEA presented agribashing as a generalized problem: lumping together physical attacks by animal welfare activists, the environmental policies of the state, the assumed unwillingness of consumers to pay remunerating prices, the climate crisis, etc., into one category that refers to 'others' and which helps to avoid the needed debate on the crisis *within* agriculture. The avoidance of such a debate partly stems from the FNSEA *itself* being deeply involved in the concrete production, processing and distribution of food (in the same way as the LTO in the Netherlands and the *Deutsche Bauern Verband* [German Farmers' Union] in Germany). It is also related to the large heterogeneity within French agriculture in which there are different actors, views, interests and prospects. The populist argument about agribashing seems to be the best possible way forward for umbrella organizations as FNSEA and the like.

At the other end of the political spectrum, organizations such as *Confédération Paysanne* [Peasant Confederation] are starting to distantiate themselves from the 'agribashing' framework. As José Bové and others argued

there is no point in saying that farming is evil, nor in declaring that urban people don't like farmers. What is to be criticized is the model that pulls both farmers and our society into the swamp. This model is dangerously indebting farmers, depopulating the countryside [...], destroying biodiversity, contaminating soils and water, degrading the health of ecosystems and mankind and contributing to climate change. (Bové et al. 2019)

On the other hand, though, these militant organizations and people too often reduce the persistence of entrepreneurial farming to the assumed unwillingness of those farmers to change while not paying much attention to the structural path-dependency and other mechanisms that lock these farmers into the dominant socio-technical regime. This is clearly limiting their impact and reach.

Overall the state of the main agricultural systems in Western Europe presents a worrying picture, with radical, right-wing populist movements quickly gaining ground (reflecting, and reinforcing, similar tendencies in the broader political landscape). Yet, as documented in this section, there are considerable differences as well. These differences suggest that the relative weight of entrepreneurial and peasant-like ways of farming within the farming sector as-a-whole is important and reflected in the nature of the claims that farmers bring forward. The more 'modernized' an agricultural sector is (i.e. the larger the relative weight of the entrepreneurial segment), the stronger the tendency among farmers to turn their backs on the future. That is a strange, if not Faustian outcome of 'modernization'.

10. The sack of the potatoes

If the 'hot, green autumn of 2019' teaches us anything it is that the widely spread peasant-like ways of farming are, so far, too scattered and fragmented, particularly, but not only, in the Netherlands. Although such farmers have developed many novel approaches and

practices for tackling and solving the energy, nitrogen and climate crises, and offer, on the whole, a promising alternative to the industrialization of farming (see Ploeg et al. 2019 for an overview), these many and widespread peasant-like ways of farming have not found a way to engage in and influence public discourse and policy-making. Entrepreneurial farming (again: especially, but not only, in the Netherlands) is hegemonic – to the point that many still believe that there is no alternative. Peasant-like farming is lost in a fog of silence and, thus, the public (by and large) remains ignorant about its potential. As a result, peasants are muddling through individually. A long time ago an important political philosopher compared peasants to a ‘sack of potatoes’. Today, it seems, the situation is even worse. There is not even a ‘sack’. Such a unifying device, that is able to represent them and to engage in public debate and policy making, is needed now more than ever. It would help to show the weight and relevance of peasant agriculture and, by unifying what is currently dispersed, would equally help farming move beyond the current impasse in addressing the climate and energy crises as well as those prevailing in farming and rural areas.

The risk we run in Europe is that the bill for the necessary ecological transition (which the new European Commission has made a core defining policy) will be paid for by the poor. In the case of the agricultural sector, family farmers (both entrepreneurial and peasant-like farmers) will be the losers. They not only face ever lower incomes but also new swathes of environmental restrictions that will be imposed in the transition, specifically in the new Common Agricultural Policy (CAP), to fight climate change. In the meantime, the agroecological movement in Europe is weak and largely urban-based: it is more concerned with distribution and consumption than with production. In this context, there is an urgent need to develop an agroecological proposal that builds on, and unites, the many ‘pockets’ of peasant agriculture and that, at the same time, deals in an integrated way with the socio-economic and environmental problems of an industrial agricultural model that is no longer fit for purpose. The international peasant movement *La Via Campesina* [The Peasant Path] has rightly argued that only peasant agriculture is able ‘to cool the climate’ (LVC 2017). It is time to further develop this point of view in a concrete and unifying proposal. Such a proposal (or ‘unifying device’) must be ‘populist’, ‘class-conscious’ and on the left (Borras 2019) and focus on exposing the agenda of the elite that controls the corporate food regime, with little or no regard for farmers’ economic security, consumer choice and local or global manifestations of the ‘environmental crisis’. If not the countryside will become a bastion of the extreme right.

Acknowledgements

I thank Rudolf van Broekhuizen, Jeroen Groot (both from Wageningen University), Klaas van Egmond (University of Utrecht), Meino Smit (farmer from Drenthe), Geneviève Savigny (of the European Coordination of *Via Campesina*) and an anonymous reviewer for their helpful advice on specific issues. Nick Parrott gave useful help with ‘textually healing’ the article.

Disclosure statement

No potential conflict of interest was reported by the author.

References

- Borras, J. 2019. "Agrarian Social Movements: The Absurdly Difficult but not Impossible Agenda of Defeating Right-Wing Populism and Exploring a Socialist Future." *Journal of Agrarian Change*. doi:10.1111/joac.12311
- Bové, J., et al. 2019. "Il est urgent de changer de modèle agricole." *Tribune, Le Monde* (27th of November 2019).
- Dirksen, H., M. Klever, R. van Broekhuizen, J. D. van der Ploeg, and H. Oostindie. 2013. *Bouwen aan een betere balans: een analyse van bedrijfsstijlen in de melkveehouderij*, WUR/DMS, Wageningen.
- Driel, J.A. van. 1982. *De middengroep in de landbouw*, LEI (no. 2.159), Den Haag.
- Driel, J.A. van. 1984. *Toekomst voor middenbedrijven? Resultaten van een onderzoek in de melkveehouderij*, LEI (no 2.169), Den Haag.
- Eizner, N. 1985. *Les Paradoxes de l'Agriculture Française: Essai d'analyse a partir des Etats Généraux de Développement Agricole*, avril 1982-fevrier 983, Harmattan, Paris.
- Ettema, M., A. Nooij, G. van Dijk, J. D. van der Ploeg, and R. van Broekhuizen. 1995. *De Toekomst: Een bespreking van de dedre Boerderij-enquête voor het Nationaal Landbouwdebat* (Publisher?/).
- Evers, A., M. de Haan, G. Migchels, L. Joosten, and M. van Leeuwen. 2019. *Effecten van ammoniak reducerende maatregelen in bedrijfsverband: scenariostudie voor proeftuin Nature 2000 in veenweidegebied*, Rapport 1161, Wageningen Livestock Research, Wageningen.
- Foster, G. M. 1965. "Peasant Society and the Image of the Limited Good." *American Anthropologist* 67: 296.
- Frouws, J. 1993. *Mest en macht. Een politiek-sociologische studie naar belangenbehartiging en beleidsvorming inzake de mestproblematiek in Nederland vanaf 1970*, Studies van Landbouw en Platteland, 11, LUW, Wageningen.
- Gerwen, H., I. Staarink, and I. Palm. 2013. *De boer aan het woord*, Wetenschappelijk Bureau van de SP, Den Haag.
- Ifop pour Ouest France, Sondage. 2019. *Enquête auprès des agriculteurs*. Nantes: Ouest France.
- Kleis, R. 2019. "Hakken in het zand." in: *Resource*, 7th November 2019.
- Landbouw Collectief. 2019. *Uit de gecreëerde stikstofimpasse*, Den Haag (20 november).
- LVC [La Via Campesina]. 2017. *Declaration of the 7th Conference: 'We feed our peoples and build the movement to change the world'*, 16-24 July 2017, Derio, Basque Country.
- Maanen, G. van (editor in chief). 2019. *Windei*, Bionieuws, 30 november 2019, 2.
- Mendras, H. 1984. *La fin des paysans, suivi d'une reflexion sur la fin des paysans: Vingt ans apres*. Paris: Actes Sud.
- Nooij, A. T. J. 1968. *De Boerenpartij. Desoriëntatie en radikalisme onder de boeren*. Boom: Meppel.
- Ploeg, J.D. van der, D. Barjolle, J. Bruil, G. Brunori, L. M. Costa Madureira, J. Dessenin, Z. Drag, et al. 2019. "The Economic Potential of Agroecology: Empirical Evidence from Europe." *Journal of Rural Studies*. <https://doi.org/10.1016/j.jrurstud.2019.09.003>.
- van der Ploeg, J.D., J. Franco, and S. M. Borras. 2015. "Land Concentration and Land Grabbing in Europe: a Preliminary Analysis." *Canadian Journal of Development Studies* 36 (2): 147–162.
- van der Ploeg, J.D., V. Saccomandi, and D. Roep. 1990. "Differentiële groeipatronen in de landbouw: het verband tussen zingeving en structurering." *TSL* 5 (2): 513–530.
- Reijs, J. 2019. *Betere economische prestaties bij duurzame bedrijfsvoering*, September 5 2019. <https://www.agriamatie.nl/PublicatiePage.aspx?subpubID=2291&themaID=2278&indicatorID=2028§orID=2245>.
- de Ru, J. H.. 1980. *Landbouw en Maatschappij. Analyse van een boerenbeweging in de crisisjaren* (Ph.D. manuscript) Landbouwhogeschool, Wageningen.
- Scoones, I., M. Edelman, S. M. Borras Jr, R. Hall, W. Wolford, and B. White. 2018. "Emancipatory Rural Politics: Confronting Authoritarian Populism." *The Journal of Peasant Studies* 45 (1): 1–20. doi:10.1080/03066150.2017.1339693.
- Scott, J. C. 1976. *The Moral Economy of the Peasant*. New Haven, NJ: Yale University Press.
- Smit, M. 2018. "De duurzaamheid van de Nederlandse landbouw, 1950–2015–2040." Ph.D. manuscript, Wageningen University, Wageningen.

Trouw. 2018. De Staat van de Boer (different articles).

Yu, Tian. 2019. "Energy and labour use on farms: Case studies from the Netherlands and China." Ph.D. thesis, Wageningen University, Wageningen.

Jan Douwe van der Ploeg is Adjunct Professor in the Sociology of Agriculture at the College of Humanities and Development Studies (COHD) of China Agricultural University (CAU). He is Member of the Board of Agroecology Europe (AEEU) and also Member of the Advisory Board of the *Noardlike Fryske Wâlden* (NFW), a territorial cooperative in the North of the Netherlands. In the past he was Professor and Chair of Rural Sociology at Wageningen University in the Netherlands.