

Inequality and commons in the Ardennes in the second half of the eighteenth century*

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Abstract

This article examines the impact of the commons on economic inequality in the eighteenth-century rural society of the Ardennes in the Duchy of Luxembourg. A unique set of cadastral sources provides an opportunity to quantify the distribution of the income derived from the commons on the level of households. More precisely, we ask if and how the distribution of common land rights diminished or strengthened existing inequalities in private land use. This brings more direct empirical evidence to bear on the historiographical observation that commons were not institutions that generally and automatically improved equality among rural societies. Indeed, in contrast, there were substantial differences not only between community members and outsiders, but also between the commoners themselves. The following case study brings the socially differential use of common rights to the fore as an important indicator for rural inequality, hence contributing to historical research on rural inequality and commons.

In 1766 the central government of the Austrian Low Countries, representing the empress Maria Theresa, introduced a reform of the taxation system of its most southern province, the Duchy of Luxembourg (Map 1). The so-called Cadastre Thérésien was designed to align the taxes – first as an experiment in the duchy, but after some time extended to other provinces – with the assessments of the value of landownership and land use, not with personal titles as had formerly been the case. The choice of Luxembourg was no coincidence since the Austrian government and its predecessors all experienced major difficulties in getting a handle on the economic and political organization of the duchy. In particular, its taxation system was a thorn in its side as it was shaped by the far-reaching privileges and corruption of the nobility and clerical institutions, who paid almost no taxes, and therefore did not contribute to the national treasury. The self-interested character of the political and fiscal system of the Duchy of Luxembourg was reinforced by its somewhat remote location, accentuated by a physical barrier of dense forests and a road infrastructure that hampered transportation and communication.¹

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¹ C. de Moreau de Gerbehaye, 'Un cadastre véritable et original? La réforme fiscale au Luxembourg et le Cadastre Thérésien de 1766', *Catastro* (2004), pp. 267–85; P. Servais, 'Common lands and agricultural development in the foothills of the Ardennes, 1750–1900', in G. Béaur, P. R. Schofield, J.-M. Chevet, and M.-T. Perez-Picazo (eds), *Property rights, land markets, and economic growth in the European countryside (13th–20th centuries)* (2013), pp. 139–56.

Notwithstanding many difficulties along the way, the Austrian government eventually succeeded in its aim to align taxation in Luxembourg with income derived from land, although as it turned out the reform was never exported to other provinces.

The Cadastre Thérésien constitutes a unique source for the historical study of income inequality since it not only includes the personal income derived from private landholding and land ownership – as was normally the case in tax records – but also the income that an individual earned by means of common land rights. The inclusion of income from common land use naturally has a significant bearing on the rural region in Luxembourg that had the most commons, the Ardennes. Here, the concept of commons encompasses both common landownership by municipalities and the common use of the fruits of privately owned land. This area, which occupied the centre of the Duchy of Luxembourg, is the focus of the current article (Map 1). More specifically, the Cadastre Thérésien allows the investigation and quantification of the differences between various private and common land rights in constituting income inequality in the Ardennes. As such, the following case study on the impact of commons on economic inequality contributes simultaneously to two much-debated strands of research, one focused primarily on the topic of inequality and the other on the commons. In both domains it has thus far been difficult to fully reconstruct the utilization and distribution of common rights and their impact on income inequality.

The comparative framework on issues of economic inequality that exists for pre-industrial rural societies remains modest, but significant progress for Europe has been made in the past decade.² Worthy of mention in this regard is the research done on Italy and by extension Western Europe by Guido Alfani and Matteo di Tullio.³ They related long-term trends in inequality to processes of economic growth, demographic changes and institutional arrangements such as tax collection. They explicitly included rural communities in their analysis, while most studies remain predominately focused on cities, studies on the Low Countries being no exception.⁴ Despite such progress in the field, inequality research remains mostly limited to private landholding and ownership. This is largely due to the limited availability of sources that allow the quantification of inequality in access to and income from land in rural societies. The two main archival sources that we do have to capture inequalities in the personal or household distribution of income or wealth are fiscal sources and the registration of inheritances.⁵ However, most of these sources do not fully reflect the social reality of those pre-industrial land systems that reserved an important role for common land rights in which a single resource could be claimed, owned and used by different individuals and groups.⁶

² See for example the ERC project 'EINITE-Economic Inequality across Italy and Europe, 1300–1800' coordinated by G. Alfani (2012–2016) or the GOA project 'Economic growth and inequality. Explaining divergent regional growth paths in pre-industrial Europe' coordinated by E. Thoen and T. Lambrecht (2016–2020)

³ G. Alfani and M. Di Tullio, *The lion's share. Inequality and the rise of the fiscal state in preindustrial Europe* (2019).

⁴ W. Ryckbosch, 'Economic inequality and growth before the Industrial Revolution: The case of the Low Countries (14th–19th centuries)', *European Rev. of Economic Hist.* 20 (2016), pp. 1–22.

⁵ K. Dombrecht and W. Ryckbosch, 'Wealth inequality in a time of transition: Coastal Flanders in the sixteenth century', *TSEG* 14 (2017), pp. 70–1.

⁶ E. Schlager and E. Ostrom, 'Property-rights regimes and natural resources: a conceptual analysis', *Land Economics* 68 (1992), pp. 249–62.

The observation that commons could have a crucial distributional impact on rural inequality given their importance in the property systems of many pre-industrial societies, has thus far mostly been discussed in the research field of commons. However, historians are also confronted with the limitations of sources in this area whereby it is difficult to quantify the relationship between commons and inequality. Most sources that testify to the historical presence and role of the commons (e.g. by-laws), are indeed qualitative of nature and allow scholars to map and compare various practices of regulation and negotiation.⁷ From these observations, scholars generally agree that commons were only successful in the long term if management institutions defended and guarded the boundaries of the community of users, and formulated and enforced clear rules and regulations. These management practices aimed to establish a social equilibrium between different interest groups and environmental sustainability in the use of natural resources. By definition this means that commons, in almost every historical context, were rarely 'open access' or free to use by whoever was interested. This idea was advocated influentially by Elinor Ostrom, who collected an impressive amount of data on different sorts of commons, convincingly refuting Garret Hardin's negative and disruptive image of commons that had for a long time prevailed in the social sciences.⁸

Several of the studies that predominantly focus on the regulation and management of the commons nevertheless address questions of inequality as well. Their most important conclusion thus far is that the longevity and sustainability of the commons also substantially depended on the distribution of common rights among groups of users. In this regard, recent research indicated that it was essential that the distribution of the commons mirrored existing inequalities in the power relations among different social and political groups.⁹ Moreover, the historiographical stance that commons automatically improved equality has been refuted, even if the commons were essential to the survival strategies of landless labourers and smallholders. The latter observation on the role of the commons in mediating poverty has been mostly discussed in literature on the English enclosure movement.¹⁰ The divergent role of various common land rights with regard to inequality especially attracts notice when comparing historical studies of different regional rural systems.¹¹ Dependent on the socio-economic,

⁷ M. De Moor, L. Shaw-Taylor, and P. Warde (eds), *The management of common land in north west Europe, c. 1500–1850* (CORN, 8, 2002).

⁸ G. Hardin, 'The tragedy of the commons', *Science* 16 (1968), pp. 1243–8; Elinor Ostrom, *Governing the commons: The evolution of institutions for collective action* (1990).

⁹ M. De Keyser, 'The impact of different distributions of power on access rights to the common wastelands: The Campine, Brecklands and Geest compared', *J. Institutional Economics* 9 (2013), pp. 1–26; J. M. Lana Berasain, 'From equilibrium to equity. The survival of the commons in the Ebro Basin: Navarra from the 15th to the 20th centuries', *International J. of the Commons* 2 (2008), pp. 162–92.

¹⁰ J. Humphries, 'Enclosures, common rights, and women: The proletarianization of families in the late

eighteenth and early nineteenth centuries', *JEC* 50 (1990), pp. 17–42; J. M. Neeson, *Commoners: common right, enclosure and social change in England, 1700–1820* (1996); E. S. Tan, "'The bull is half the herd': Property rights and enclosures in England, 1750–1850", *Explorations in Economic Hist.* 39 (2002), pp. 470–89.

¹¹ A. J. L. Winchester, *The harvest of the hills: rural life in Northern England and the Scottish Borders, 1400–1700* (2000); N. Vivier, *Propriété collective et identité communale: les biens communaux en France 1750–1914* (1998); E. Van Onacker, *Village elites and social structures in the late medieval Campine Region* (The Medieval Countryside, 17, 2017); J. L. Van Zanden, 'The paradox of the marks. The exploitation of commons in the eastern Netherlands, 1250–1850', *AgHR* 47 (1999), pp. 125–44.

political and ecological particulars at hand, the commons could maintain, diminish or increase levels of inequality.

These studies have, nevertheless, mostly interpreted inequality by looking at community members (with access rights) on the one hand and outsiders (without such rights) on the other.¹² Indeed, most European rural communities granted access to only some of their inhabitants, not infrequently the most wealthy. Access rights, however, tell only part of the story and are insufficient to fully gain insight into inequality. As has been remarked, for example, by Tine De Moor, the group of commoners legally allowed to access the commons could differ from those commoners who actually made use of the commons.¹³ To the latter end, we need to map the social distribution of the benefits derived from the commons between its users. Unfortunately, internal variation between commoners is more difficult to take into account because the named normative sources tend only to give insight in formal access rights, as defined by law or custom, not in the practical and differentiated use of these rights.¹⁴

By analysing the redistributive character of common land rights in the late eighteenth-century Ardennes in the Duchy of Luxembourg, I aim to enhance the historical understanding of the impact of the commons on levels of inequality in a pre-industrial rural society. A unique set of cadastral sources, with the Cadastre Thérésien as focal point, that not only includes the income from private land possessions, but also the earnings from common land rights on the household level, allows me to shift the focus directly to the social distribution of the benefits derived from the commons. I question if and how the system of common land rights reproduced existing inequalities in private ownership, or how it potentially mitigated and transformed such inequalities. To what extent could commoners increase their income from land by means of different common rights? In particular the impact of the commons on improving the living conditions of the poorest layers of society will be analysed and compared to the other social groups in the rural society of the Ardennes.

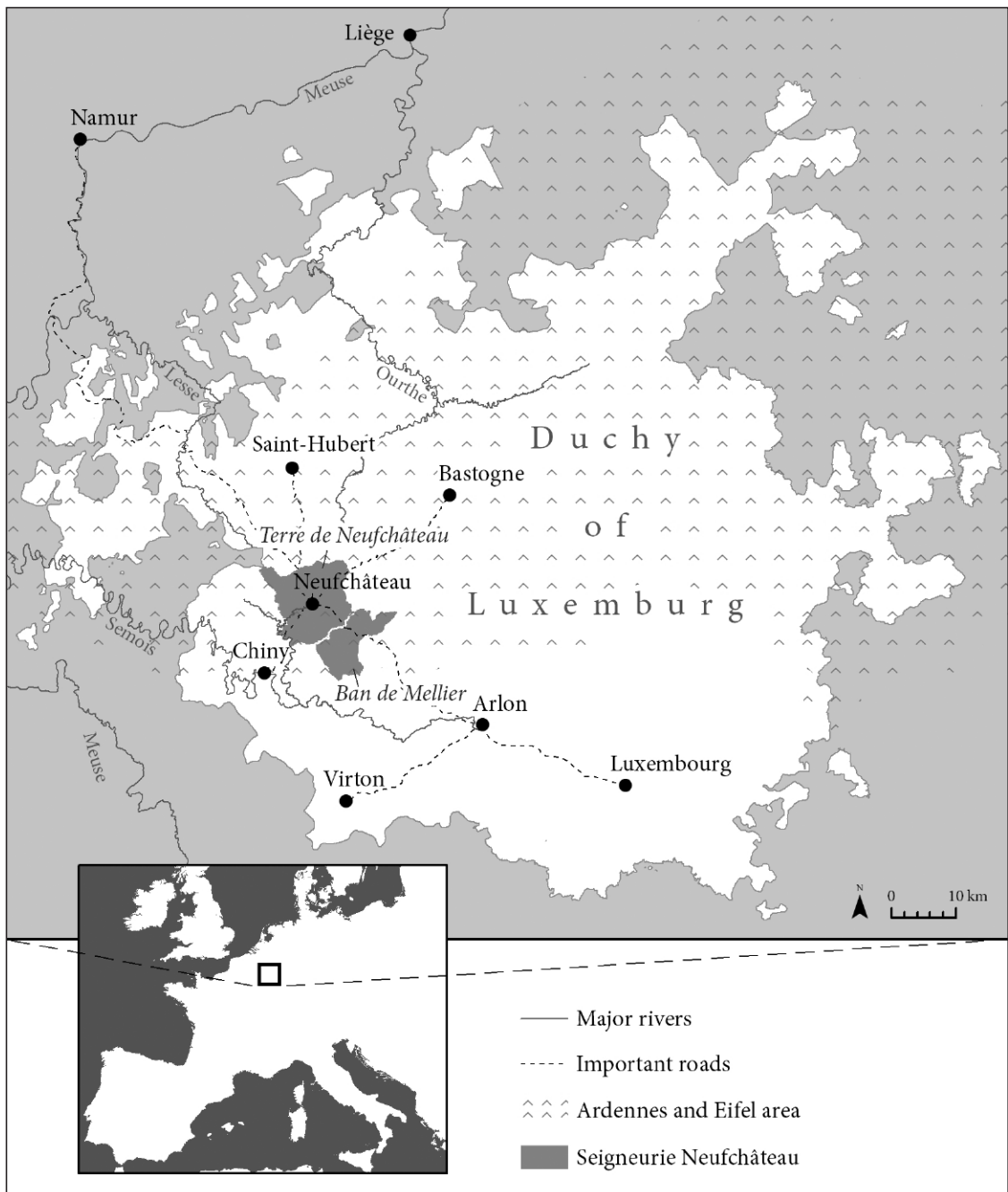
The first section explores the main features of the property regime of the Ardennes. It also introduces the seigneurie of Terre de Neufchâteau, located in the Ardennes, as an exemplar of the regional economic and property system, which will serve as a case study throughout the following analysis (Map 1). The second part elaborates on the source material and begins by calculating the level of total income inequality in the Terre de Neufchâteau in 1766 by means of a Gini coefficient. In the third, fourth and fifth sections, this general estimate of inequality is decomposed into the different sets of land rights that were included in the analysis. Distinctions are made between 1) income from land that is privately owned and used, 2) income from common land rights exercised on land owned by the village communities or by the feudal lords, and 3) income from common land rights exercised on privately-owned

¹² A.-L. Head-König, 'Common land and collective property in Pre-Alpine and Alpine Switzerland', in N. Grüne, J. Hübner, and G. Siegl (eds), *Rural commons* (2015), pp. 232–43; L. Shaw-Taylor, 'Labourers, cows, common rights and parliamentary enclosure: The evidence of contemporary comment c.1760–1810', *Past and Present* 171 (2001), pp. 95–126.

¹³ T. De Moor, 'Participating is more important than

winning: The impact of socio-economic change on commoners' participation in eighteenth- and nineteenth-century Flanders', *Continuity and Change* 25 (2010), p. 407.

¹⁴ N. Grüne, J. Hübner, and G. Siegl (eds), *Rural commons. Collective use of resources in the European agrarian economy* (2015).



MAP 1. The Duchy of Luxembourg in the second half of the eighteenth century showing the Ardennes and the Seigneurie of Neufchâteau consisting of the Terre de Neufchâteau and the Ban de Mellier

Source: Map designed by Hans Blomme (UGent) and based on F. Mirguet, *Le duché de Luxembourg à la fin de l'ancien régime: Atlas de géographie historique*, I, *Introduction* (1982); C. de Moreau de Gerbehaye and Pierre Hannick, *Le duché de Luxembourg à la fin de l'ancien régime: Atlas de géographie historique*, VI, *Le quartier de Neufchâteau* (1989).

land. It becomes possible to gain insight into whether and how the commons of the Ardennes had the effect of increasing or diminishing levels of income inequality. More generally, the empirical results bring to the fore the socially differential use and benefits of common rights as an important indicator of rural inequality, hence contributing to historical research on both rural inequality and the commons.

I

In the eighteenth-century the Ardennes were located near the southern borders of the Austrian Low Countries in the Duchy of Luxembourg. With the Eifel in Germany as its eastern extension, the entire area constitutes a geographical unity marked by rough terrain, hills and ridges (Map 1). The Ardennes' major economic activities – animal husbandry and the wood industry – were essentially commercial and market-oriented. Yet the property regime of the Ardennes differed substantially from those of Flanders and other well-studied regions of the Low Countries.¹⁵ Most importantly, a major part of the income of local landholders came from land that was used in common for at least part of the year. As such, the Ardennes leans more closely to the pastoral societies in the Alps, the forest economies in south-western Germany or the heathlands of the Campine on the northern border of the southern Low Countries where the majority of land was used in common as opposed to privatized property systems where most land was both owned and used in an individual manner.¹⁶

First of all, each family practised mixed subsistence farming on a small peasant holding, which it most often exploited as direct property. However, these private agricultural possessions were never absolute. Arable farming was organized according to a system of collective crop rotation on the level of village communities in which every resident household participated. Consequently, even the private ownership titles to arable land were coexistent with a series of collective rights and duties by means of which farming was organized.¹⁷ Farmers especially cultivated oats and rye. Depending on the status of the arable land, being *terres labourables* or *terres sartables* (cultivated by means of a slash-and-burn technique), each plot of land was cultivated once every ten to twenty years. In between periods of cultivation, these arable lands necessarily lay fallow and were used for pasture in order to slowly recover.¹⁸ Although most arable land was privately owned, some of the *terres sartables* were possessed in common by the village communities. In this case, every domiciled household received an equal share of its village's *terres sartables* on a yearly basis.¹⁹ For most households, however, the grain production

¹⁵ Apart from some rare cases, most commons had already been privatized in Flanders by the eighteenth century, see: M. De Moor, 'Common land and common rights in Flanders', in M. De Moor, L. Shaw-Taylor, and P. Warde (eds), *The management of common land in north west Europe, c. 1500–1850* (CORN, 8, 2002), pp. 113–41.

¹⁶ M. De Keyser, *Inclusive commons and the sustainability of peasant communities in the medieval Low Countries* (2018); Head-König, 'Pre-Alpine and Alpine Switzerland', pp. 232–43; P. Warde, *Ecology, economy*

and state formation in early modern Germany (2006).

¹⁷ G. Trausch, 'Structures et problèmes agraires du passé', *Hémecht. Zeitschrift Für Luxemburger Geschichte* 20 (1968), pp. 549–52.

¹⁸ L. Hector, 'L'ancienne Ardenne – (Région de Neufchâteau)', *Annales de l'Institution Archéologique Du Luxembourg* 79 (1948), pp. 97–102; G. Hoyois, *L'Ardenne et l'Ardenne: L'évolution économique et sociale d'une région* (1949), pp. 103–8.

¹⁹ L. Lefebvre, *Les droits d'usage dans la forêt d'Ardenne: 1754–1795. Leurs lois* (Paris, 1942), pp. 50–5.

on arable land was far from sufficient for them to be self-sustaining.²⁰ Thus in order to buy additional grain supplies on the market, they also engaged in animal husbandry and the wood industry, which were commercially oriented.

Animal husbandry, the most important economic activity of the Ardennes, was organized almost entirely in a collective manner. All domiciled households within one village gathered the livestock they owned individually under the surveillance of village herders (one for sheep, one for cattle, one for horses) who, by day, guided the herds over large stretches of common pasture land: 1) arable land that lay fallow, 2) natural meadows which opened for grazing after the first harvest of hay and 3) uncultivated heath land that was permanently used as pasture land.²¹ As such, most of the Ardennes' lands were part of the common pasture and, moreover, were privately owned by individual households as opposed to the community land owned by the village communities themselves, especially uncultivated wastes. Because most land was predominantly used for common grazing, it was forbidden to fence off individual land possessions. As such, every household's land became part of the *vaine pâture*, even if it did not possess any livestock.²² After the livestock had been fed by summer pasturing, most of them were sold again during autumn.²³ The trade in sheep, horses, and cattle was the primary commercial activity of the Ardennes.²⁴

The economic activities related to the Ardennes' large area of forested land constituted the third pillar of the regional economy. The wood economy largely relied on common land rights that enabled every registered household to gather and cut a share of their community's forest resources on an annual basis. Wood was used primarily as firewood (*droits d'affouage/ chauffage*), although on special request the households could also cut larger trees to use as building material or for making agricultural tools.²⁵ While common grazing rights were practised primarily over private land, common firewood rights were practised on woodland owned by one or more communities or by the local lords.²⁶ Common wood rights had an important commercial component as well. Although officially prohibited, the majority of rural inhabitants were involved in an intensive local wood trade as they sold part or all of their firewood on the market.²⁷ Wood sales were strongly connected to the largest industrial activity of the Ardennes: the metal industry. Starting in the seventeenth century, the area in

²⁰ E. Tandel, *Les Communes Luxembourgeoises: Partie générale* (7 vols, 1889–94), I, p. 366; R. Zeebroek, 'Le Seigle dans l'alimentation et l'agriculture Wallonnes au XIXe siècle', in J.-P. Devroey, J. J. Van Mol, and C. Billen (eds), *Le seigle. Histoire et ethnologie* (1995), pp. 135–6.

²¹ E. Legros, 'Les troupeaux communs. L'organisation des troupeaux et du "herdage"', *Enquêtes Du Musée de La Vie Wallonne* IV (1947), pp. 347–51; G. Trausch, 'Structures et problèmes agraires du passé', *Hémecht. Zeitschrift Für Luxemburger Geschichte* 19 (1967), pp. 505–6.

²² M. Dorban, 'Les communautés rurales dans la vallée de la Haute-Semois (1500–1800)' (Unpubl. PhD thesis, Université Catholique de Louvain, 1983), p. 65.

²³ Hoyois, *L'Ardenne et l'Ardenais*, pp. 118–29.

²⁴ F. Meunier, 'Le commerce dans la Terre de

Neufchâteau de 1500 à 1750', in Cercle Terre de Neufchâteau (ed.), *Neufchâteau à livre ouvert. Mélanges publiés à l'occasion du 800e anniversaire de la Ville de Neufchâteau* (Neufchâteau, 1999), p. 115.

²⁵ Lefebvre, *La forêt d'Ardenne*, pp. 39–45.

²⁶ A. Geubel and L. Gourdet, *Histoire du pays de Neufchâteau. La ville, la seigneurie, le Ban de Mellier* (1956), pp. 129–30; see also the cadastral form of the Arenberg family in 1766: AEA, 012, no. 342.

²⁷ C. Billen, 'Peasant forestry in a metallurgical area: Forests between the Sambre and the Meuse during the Modern Period', in H. Brandl (ed.), *Geschichte Der Kleinprivatwaldwirtschaft. Geschichte Des Bauernwaldes. Proceedings der Tagung der IUFRO-Gruppe S 6.07 Forest History* (Freiburg, 1991) (Freiburg, 1993), p. 270; Hoyois, *L'Ardenne et l'Ardenais*, pp. 452–4.

TABLE 1. Landholding and landownership, Terre de Neufchâteau (1766)

	Arable land (terres labourables and terres sartables)	Gardens (jardins)	Meadows (prairies)	Enclosures (enclos)	Woodland (bois)	Uncultivated land (terres incultes)	Total surface (%)
% of total surface	22.11	0.76	8.28	1.91	30.36	36.42	100.00
Private (% of each type of land)	98.16	99.10	97.38	99.52	19.91	57.74	59.62
Common (% of each type of land)	0.08	0.36	0.26	0.00	37.57	42.04	26.76
Seigneurial (% of each type of land)	1.76	0.54	2.36	0.48	42.52	0.21	13.62

Source: Archives de l'Etat à Arlon (AEA), Cadastre de 1766 et la commission des charges publiques (1771-1794) (012), nos 342-48.

the south west of the present-day province of Luxembourg saw the establishment of several forges that reached an economic peak in the second half of the eighteenth century. These industries needed large amounts of firewood, offering an opportunity for local inhabitants to earn additional cash income.²⁸

The seigneurie of Neufchâteau boasts all the typical characteristics of the regional system of the Ardennes, making it an excellent case study (Map 1). In fact, the area consisted of two jurisdictions, the Terre de Neufchâteau and the Ban de Mellier, which were continuously ruled over by the Arenberg and Löwenstein-Stolberg families from the fifteenth century.²⁹ In this article I focus on the territory of the Terre de Neufchâteau, which consisted of the town of Neufchâteau with 179 households and 24 small or very small nucleated rural hamlets that contained a total of 312 households in 1766. The smallest village counted five households and the largest one 35.³⁰ Here I will focus only on the countryside of the Terre de Neufchâteau, while leaving out the town of Neufchâteau, which was defined by characteristics specific to an urban area.³¹ Table 1 indicates the relative share of each type of land of the seigneurie, divided among private, community and seigneurial ownership. This shows that uncultivated land and woodland were generally owned in common, while arable land, gardens, meadows and enclosures were individually held. While natural meadows were fields without fences that were situated near watercourses and other damper land, enclosures were set up near the inhabited centres of villages, in between the gardens and similarly fenced off. Seigneurial ownership was dominant in the case of woodland, but other than that it was negligible. Throughout the analyses below the numbers in Table 1 are used as a point of reference.

²⁸ P. Hannick and J.-C. Muller (eds), *L'ère du fer en Luxembourg (XVe-XIXe siècles). Études relatives à l'ancienne sidérurgie et à d'autres industries au Luxembourg* (Luxembourg, 1999), p. 491.

²⁹ Geubel and Gourdet, *Pays de Neufchâteau*, pp. 53-72.

³⁰ Archives Générales du Royaume (AGR), *Comité pour le dénombrement du Luxembourg (1101)*, nos 39: 65.

³¹ The town of Neufchâteau will be included in a later stage of the research project.

II

To properly reconstruct land inequality in regions such as the Ardennes where the common use of land was omnipresent, historians should include the income from the commons in their analyses. Unfortunately, as already mentioned in the introduction to this article, most sources normally used to study the distribution of income from land before the nineteenth century only give a view of private land use and ownership. Moreover, most preserved historical sources that document information on the commons are rather qualitative in nature and do not allow for a precise calculation of income. Jane Humphries has already illustrated some possibilities to circumvent these methodological problems, namely by estimating the value of common rights 'based on the rents charged for common rights [...] or by imputing values to the produce of common rights from the market prices of similar goods'.³² This problem of source inadequacy is, however, circumvented for the late eighteenth-century Terre de Neufchâteau, where I am in a unique position to include directly the value of different common rights in my analysis of income inequality on the household level. Apart from each household's private possessions, three sets of common rights are considered: grazing rights, firewood rights and rights of *essartage* (a specific set of arable land rights).

The yearly revenue of each individual landholder or owner of the Terre de Neufchâteau from his or her private land possessions could be derived from the Cadastre Thérésien of 1766, discussed above.³³ This annual revenue was calculated by the local courts and it expressed gross income. Originally, it had been prescribed that the annual net income should be calculated based on the rents valid in a certain locality. However, in the Ardennes (and likewise in the Terre de Neufchâteau) almost all private land was exploited as direct property by the owner rather than a rent-paying tenant. Therefore, a system of calculation was put in place based instead on direct exploitation. Firstly, for each type of land – being arable land, meadows, enclosures, forests or uncultivated land – the officers of the local courts converted the average yields of cereal/hay/wood (depending on the type of land) per unit of surface in money based on the prices at the local market. Hereby, they also took into account the total duration of the production cycle and the number of years of actual cultivation within each cycle (fallow excluded). Secondly, they multiplied these numbers by the area of a certain piece of arable land, meadow, enclosure, forest or uncultivated land. Moreover, the income from gardens was calculated in accordance to the best arable lands in the village.³⁴

In addition to individual forms, every community (by name of the elected village chief) filled in a form as well. These forms contained the yearly revenue from the various common rights that the inhabitants of a community enjoyed together on land owned by the local

³² Humphries, 'Enclosures, common rights, and women', p. 23.

³³ De Moreau de Gerbehaye, 'Un cadastre véritable et original?', pp. 265–6.

³⁴ C. de Moreau de Gerbehaye, *L'abrogation des*

privilèges fiscaux et ses antécédents. Le lente maturation du cadastre Thérésien au Duché de Luxembourg (1684–1774) (Pro Civitate Collection Histoire Série in-8, 90, 1994), pp. 368–71.

lords or village communities, particularly firewood rights and rights of *essartage*. The annual revenue from firewood rights was expressed in terms of the market price per unit of wood. The income from rights of *essartage*, which were arable land rights exercised on common arable land, was calculated in the same way as for the privately held arable land.³⁵

Common grazing rights or rights of *vaine pâture* were not at first included in the original survey of 1766, even though they constituted a major part of the regional economy of the Ardennes. Luckily, in 1776 the local administration of the Terre de Neufchâteau included a count of livestock in the land tax, to raise an extra contribution on households' use of the collective *vaine pâture*.³⁶ Although the exact local instructions for assessing this tax have been lost, earlier research has indicated that it was normal practice in the Ardennes that the count included all livestock (horses, cattle and sheep) that had profited from the common pasture during the year.³⁷ The tax register of 1776 can easily be linked to the original cadastral forms of 1766 as the owners have been indicated by the same number that was put on those original sheets. The annual revenue derived from grazing rights was expressed by multiplying the market prices of the different types of livestock (horses, cattle and sheep) with the number of animals a certain individual had added to the common pasture. This procedure is followed because most of the livestock was sold during autumn near the end of each grazing season since the livestock economy was largely oriented towards stock-raising for meat consumption and not the consumption of by-products such as milk and cheese.³⁸

In sum, all the different land types and rights are expressed as gross income in the cadastre and the livestock tax. These estimates of yearly income included additional costs such as tenths, seigneurial contributions, the hiring of labour or the reinvestment of manure or seeds that came along with arable farming, stockbreeding or the chopping of wood. However, the research results of gross income inequality would not differ all too much from those of net income inequality in the case of the eighteenth-century Ardennes. Tithes and seigneurial contributions were the same for every owner proportional to the grain production of his or her land. Also reinvestment costs for arable and livestock farming were proportional to the extent and productivity of an individual's farming practices. The inclusion of labour costs presents the largest possibility of pushing the levels of inequality upward. Only a minority of large farms, however, actually hired labourers and servants in the Terre de Neufchâteau. As such, the increasing effect of gross income on the calculation of levels of inequality remained modest.

A population census was conducted simultaneously with the cadastre. The census contains, per village, a counting of households.³⁹ By reconstructing every household that was domiciled

³⁵ Archives de l'Etat à Arlon (AEA), Cadastre de 1766 et la commission des charges publiques (012), nos 342–8.

³⁶ AEA, *Justices subalternes* (010), nos 2019–20. Caution is required when using any counting of animals. Firstly, the number of livestock fluctuated along various seasons. M. Dorban, 'Evaluation des recensements de bétail avant 1846 dans le Sud-Luxembourg', *Bulletin Trimestriel de l'Institut Archéologique Du Luxembourg* 60 (1984), pp. 39–59. Secondly, some poorer peasants rented animals from richer inhabitants

(especially urban citizens) that are not directly visible in fiscal records. J.-M. Moriceau, *L'élevage sous l'Ancien Régime: les fondements agraires de la France moderne, XVIe–XVIIIe siècles* (1999), p. 19.

³⁷ De Moreau de Gerbehaye, *L'abrogation des privilèges fiscaux*, p. 90: 377.

³⁸ Ibid., 411, 459.

³⁹ J. Vannérus, 'Les anciens dénombrements du Luxembourg', *Bulletin de la Commission Royale d'Histoire* 70 (1901), pp. 434–6.

in the Terre de Neufchâteau, this meant that I was able to regroup all individual landowners and users on the household level.⁴⁰ Additionally, this census allowed me to discover those households without private land titles or common rights. In many other studies, by contrast, historians are not always able to estimate the number of landless households, and therefore they risk ending up with estimates of inequality that are artificially low.⁴¹ Of the 312 households living on the countryside of the Terre de Neufchâteau only 13 households, or four per cent, did not possess any private land.⁴² Eventually, I excluded all the households for which information on one or more of the different land rights was missing and for which no reliable estimate of total income from land could be calculated. Consequently, 288 of the 312 households of the Terre de Neufchâteau were included in the following analysis.

In order to have a point of reference throughout the entire analysis, I calculated a Gini coefficient for total levels of inequality.⁴³ The total annual revenue derived from land of all households of the Terre de Neufchâteau was distributed by a coefficient of 0.42, representing somewhat low levels of inequality in a situation where the value one expresses complete inequality and zero embodies total equality (Figure 1). Yet, considered on its own, this estimate does not tell us much. Pre-eminently, it is used for intra-regional comparison. Particularly interesting for the Ardennes are the sixteenth-century Gini coefficients for the Campine in the Low Countries as reported by Eline Van Onacker and for several communities in Germany by Paul Warde.⁴⁴ Similarly to the Ardennes, these were rural economies with extensive commons. The numbers for the former region are close to 0.5 and express inequality in landholding. The coefficients for the latter vary between 0.4 and 0.7 and express inequality in taxable wealth. However, those estimates do not include the income from the commons and, consequently, could still be higher or lower in reality.

In the sections below, I decomposed this general estimate of 0.42 into different sets of land rights with the aim of getting a firm grip on inequality in the Ardennes, each time linking them to their economic function and value (Figure 2 and Table 2).⁴⁵ In every following graph and table, I have divided the population of the Terre de Neufchâteau into five equal shares or quintiles of the total population, 288 households. All 288 households are included in the analysis, also when they did not own or use any share of a certain land right and, thus, represent the value of zero. Group one contains the 58 poorest households with between 12,525 and 123,906 deniers, group two contains 58 households with between 125,093 and 208,347 deniers, group three contains 58 households with between 211,990 and 309,639 deniers, group

⁴⁰ AGR, I101, 65.

⁴¹ D. Curtis, *Pre-industrial societies and strategies for the exploitation of resources. A theoretical framework for understanding why some settlements are resilient and some settlements are vulnerable to crisis* (Unpubl. PhD thesis, Utrecht University, 2012), pp. 286–8.

⁴² AEA, 012, 342–8; AGR, I101, 65.

⁴³ I left out the priory of Longlier from the current analysis. Adding this religious institution forces the Gini coefficient up to 0.51. The priory was disproportionately rich given its large income derived from tithes

and land rents.

⁴⁴ Van Onacker, *Village elites*, p. 17, 50; Warde, *Ecology, economy and state formation*, pp. 123–4.

⁴⁵ I left out three types of income from private land use: ponds, land extracting rights and woodland. These types of land were owned and used by such a small number of households (a series of noble families and leased farms with special seigneurial privileges) that they express exceptions rather than representing the average land use of the inhabitants of the Terre de Neufchâteau.

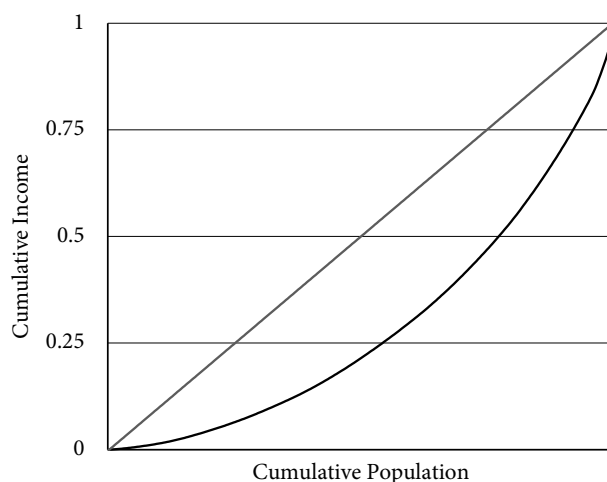


FIGURE 1. Gini coefficient for total income derived from land and its resources in the Terre de Neufchâteau: 0.42 (1766-76)

Source: AEA, 012, nos 342-48; AEA, *Justices subalternes* (010), 2019-20; Archives Générales du Royaume (AGR), *Comité pour le dénombrement du Luxembourg* (I101), no. 65.

Note: The Gini has been calculated on 288 households of the Terre de Neufchâteau. The formula used to calculate the Gini coefficient in this paper is $G = (2/(n-1)) * \sum_i (F_i - Q_i)$, where n is the number of households, i is the position of each household in the ranking sorted by increased income, the sum goes from 1 to $n-1$, F_i is equal to i/n , Q_i is the sum of income of all the individuals comprised between position 1 and i , divided by the total income of all individuals. G. Alfani, 'Economic Inequality', p. 1067.

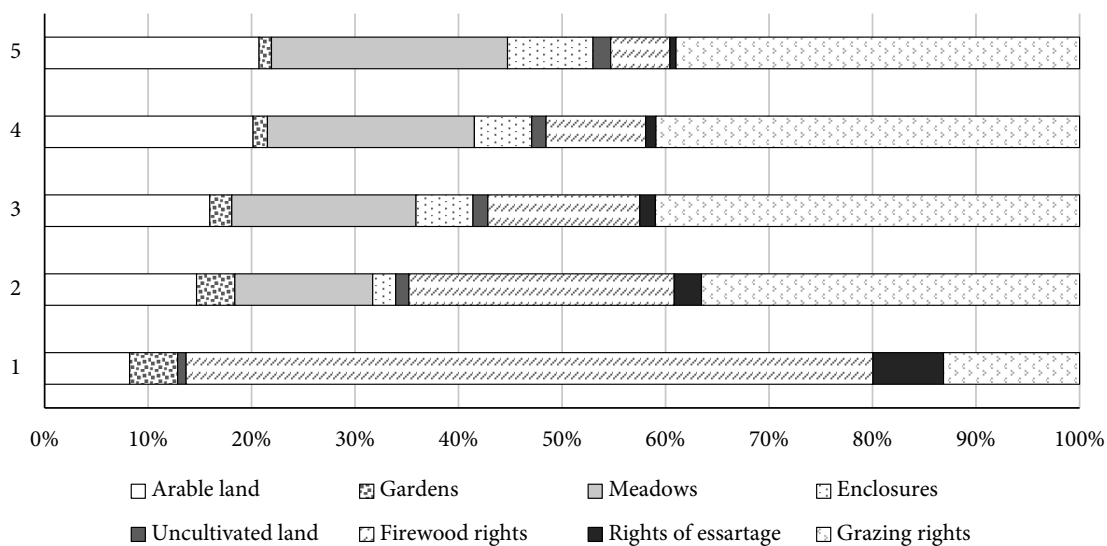


FIGURE 2. Relative importance of different sets of land rights to the total income of individual households classified in five equal groups of 20 per cent of the population (median value), Terre de Neufchâteau (1766-76)

Source: AEA, 012, nos 342-48; AEA, 010, nos 2019-20; AGR, I101, no. 65.

TABLE 2. General overview of levels of inequality in the Terre de Neufchâteau, subdivided in different sets of land rights (1766–76)

<i>Land rights</i>	<i>Gini</i>	<i>Households not making use (%)</i>
Arable land	0.52	6.94
Gardens	0.43	10.42
Meadows	0.57	14.24
Enclosures	0.69	24.65
Uncultivated land	0.57	13.54
Firewood rights ^a	0.00	2.08 ^b
Rights of <i>essartage</i>	0.00	13.19 ^c
Grazing rights	0.46	9.03

Source: AEA, 012, nos 342–48; AEA, 010, nos 2019–20; AGR, II01, no. 65.

Notes:

a The number of firewood rights differed between the various villages that constituted the totality of the Terre de Neufchâteau. However, within every village each household received an equal share of the yearly wood produce (see section V). The same accounts for the rights of *essartage*.

b Two per cent represents two farms leased by the seigneurs, one religious institution and four noble families, all with their own specific privileges granted by the *seigneurs*.

c Several village communities did not possess any *terres sartables*. Yet again, inter-village differences are not the focus of the current analysis. Intra-village differences between households are highlighted.

four contains 57 households with between 310,803 and 487,832 deniers and group five contains the 57 richest households with between 491,387 and 3,859,142 deniers. In each case, the values in the tables express median values per category of land use and/or per social group.

III

The distribution of land that was both privately owned and used (arable land, meadows, enclosures) gave rise to income streams that were more unequally distributed than those derived from common land uses. The relative importance of these private land types substantially decreased for the total household budgets between the richest and the poorest social groups (Figure 2). Moreover, the separate Gini coefficients for privately owned and used land (ranging between 0.52 and 0.69) are substantially higher than the one calculated for total landed income (0.42) (Table 2). With a Gini of 0.43, gardens appear as an important exception to these general observations. The income from gardens contributed 4.5 per cent to the household budgets of the poorest group in society, thereafter decreasing swiftly (Figure 2). They could have been quite substantial for the cultivation of potatoes, green vegetables or beans.⁴⁶ Yet, for the moment, little more is known about their economic use and they will not be studied in detail in this article. Although all land organized by private ownership and

⁴⁶ R. McC. Netting, *Balancing on an alp: Ecological change and continuity in a Swiss mountain community* (1981), pp. 36–7.

TABLE 3. The distribution of arable land among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

<i>Income group</i>	<i>Total number of households</i>	<i>Number of households without arable land</i>	<i>Productive surface: median (ha)</i>	<i>Fallow surface: median (ha)</i>	<i>Annual revenue: median (deniers)</i>	<i>Share of total annual revenue (%)</i>
1	58	16	0.04	0.28	180	1.65
2	58	4	0.23	1.26	834	7.64
3	58	0	0.43	2.66	1583	14.50
4	57	0	0.81	4.17	3048	27.93
5	57	0	1.44	7.06	5268	48.27

Source: AEA, 012, nos 342-48; AGR, 1101, no. 65.

use was substantially more unequally distributed than total income from land, there is still a substantial increase in inequality from arable land to meadows and to enclosures. The distribution of arable land used for farming in the Terre de Neufchâteau reached a Gini coefficient of 0.52 (Table 2). By contrast, the Gini coefficient for meadows is 0.57, already considerably higher. With a Gini coefficient of 0.69 the enclosures were even more unequally divided.

In accordance with the discrepancy between these three Gini coefficients, the group of households that was excluded from all incomes was substantially larger for meadows when compared to arable land and for enclosures when compared to both arable land and meadows. Only seven per cent of all households were completely excluded from the private ownership or use of arable land (Table 2). These 20 households were almost all part of the poorest income group (Table 3). All other households possessed at least a small plot of arable land. Fourteen per cent, double the number who were completely excluded, did not own or use any meadows. Again, almost all of them were among the poorest households (Tables 2 and 4). The benefits from enclosures only became generally accessible to the third social group onwards since almost 25 per cent of the population (41 households in the poorest section and 18 households in the second social group) did not have ownership or use rights in any enclosures (Tables 2 and 4).

Discrepancies between the middle and richest groups were far less considerable for each type of land, even though the predominance of the richest 20 per cent of the households is undeniable, especially in the case of enclosures. Between the middle and richest classes the relative importance of arable land and meadows for the household's total landed revenues increased from around 15 to around 20 per cent, while for the enclosures this was a quadruple increase from two to eight per cent (Figure 2). Also, while the richest 20 per cent households benefited for around 50 per cent from all revenues derived from arable land and meadows, this was already 58 per cent for the enclosures, to the detriment of the poorest households (Tables 3 and 4).

These different levels of inequality rest upon the different economic functions and values of these three land types. Arable farming constituted the basic economic activity that provided almost all households of the Terre de Neufchâteau with accessible incomes and meagre

TABLE 4. The distribution of meadows and enclosures among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

Income group	Total number of households	Number of households without meadows	Annual revenue meadows: median (deniers)	Share of total annual revenue meadows (%)	Number of households without enclosures	Annual revenue enclosures: median (deniers)	Share of total annual revenue enclosures (%)
1	58	32	0	0.00	41	0	0.00
2	58	8	756	6.67	18	126	3.49
3	58	1	1764	15.56	9	546	15.12
4	57	0	3024	26.67	2	840	23.26
5	57	0	5796	51.11	1	2100	58.14

Source: AEA, 012, nos 342-48; AGR, I101, no. 65.

subsistence. Yet, the regional arable lands were of such a low economic value that they were only of partial or even minor importance to households' total income from land and the regional economy. Indeed, the average household could not survive solely on the arable production (largely grain) of its own plots of arable land. In general, a household in the Ardennes needed three hectares of arable land to be self-sufficient, 0.67 ha or 23 per cent being productive and the remaining laying necessarily fallow.⁴⁷ By comparison, in the nearby region of Flanders where fallow had been largely abolished at that time a household needed only one hectare, or three times less land, to feed itself.⁴⁸ The economy of the Ardennes was indeed conditioned by much less fertile soil and each unit of land produced far less cereal than was the case in Flanders. In this context, 184 households or 64 per cent of all the households of the Terre de Neufchâteau had less than the necessary 0.67 ha of productive arable land to sustain themselves (Table 3). They all had to limit themselves to a very small arable output.

These indications of structural shortcomings were confirmed in the industrial survey of 1764.⁴⁹ To buy additional grain, the inhabitants of the Ardennes were mainly oriented towards Luxembourg city and northern France.⁵⁰ Only the two richest social classes (based on total income derived from land) could sustain themselves solely by means of their own arable production as, on average, each household could use 0.81 to 1.44 ha of productive land (Table 3). But even these households did not produce substantial surpluses that could be sold on the market. As such, commercial arable farming did not exist in the Terre de Neufchâteau in the second half of the eighteenth century.

Meadows and enclosures were used by farmers to cultivate hay to sustain their livestock during cold winter months and were, therefore, an integral part of the livestock economy.

⁴⁷ AEA, Département des Forêts (013), no. 369-1; Lokstat, Ghent University, Quetelet Center, from *Statistique de la Belgique. Agriculture. Recensement général (15 octobre 1846)* (Brussels, 1850).

⁴⁸ E. Vanhaute, 'Eigendomsverhoudingen in de

Belgische en Vlaamse landbouw tijdens de 18de en 19de eeuw', *Belgisch Tijdschrift Voor Nieuwste Geschiedenis* 1-2 (1993), p. 190.

⁴⁹ Tandel, *Les communes luxembourgeoises*, I, p. 366.

⁵⁰ Hoyois, *L'Ardenne et l'Ardennais*, p. 129.

Given their central importance to this economy, the small number of meadows and especially enclosures present on the Terre de Neufchâteau (nine per cent of the total surface) were highly desired and much higher valued than arable land (cf. above). The internal difference between both types of land stems from their differential productivity. Enclosures, small fenced plots of land, could be intensely and permanently cultivated while meadows were open plots of land that only produced one harvest of hay and functioned as part of the collective *vaine pâture* for the remaining two-thirds of the year.⁵¹ Due to their economic value, meadows and enclosures were in high demand and particularly concentrated among the better-off peasants. Poor households with no possessions of either type of land could only make use of the scarce amounts of hay, of poor quality, that they cultivated on their plots of arable land during periods of fallow and the vegetation (Fr. *genêt*) they collected on common waste land as litter for the animals in winter.

IV

Exactly the opposite of the observations in the previous section applies to commons that were permanently open to the exercise of common rights, namely firewood rights and rights of *essartage*. On a yearly basis, these rights allowed all registered households of the Terre de Neufchâteau to cut firewood in extended woodland and to cultivate rye and collect vegetation for litter on plots of uncultivated land by means of a slash-and-burn technique. In the Ancien Régime a household was fully part of the local community when, after marriage, the householders owned or rented a separate household or *feux à part*.⁵² Eighty per cent of the woodland in the Terre de Neufchâteau was used as commons, of which 47 per cent was directly owned by the village communities and the remaining 53 per cent was destined as seigneurial land (Table 1). The inhabitants of the seigneurie permanently enjoyed two-thirds of the fruits of these lordly forests.⁵³ Common *terres sartables* were completely owned by the local communities. The distribution of the income from both types of land in the 1766 cadastre is portrayed by a Gini coefficient of zero, representing complete equality (Table 2).

Compared to the calculations of the other land rights in this analysis, this is a somewhat artificial estimate for two reasons. Firstly, between various village communities differences could occur given the diverse extent of forests or uncultivated land that the villages of the Terre de Neufchâteau owned themselves. For now, however, I put aside these variations between villages to emphasize the differences on the household level with median numbers for the entire seigneurie. Secondly, there is no concrete survey of the equal shares of firewood rights or plots of *terres sartables* that each household received, as was the case for livestock and private land possessions. Rather, the total income from firewood rights or rights of *essartage* has been indicated on the aggregate level of the village communities. Yet, equality in distribution between the households can be inferred from other evidence. Indeed the equal distribution

⁵¹ Dorban, 'La vallée de la Haute-Semois', p. 108; H. Jacob, *Bruyères, bêtes et gens d'Ardenne (XVe–XVIIIe siècle)* (Pro Civitate Collection Histoire Série in-8, 74, 1988), pp. 191–2.

⁵² R. Petit, 'Les communautés rurales en Ardenne: L'exemple du Comté de La Roche', in *Les communautés*

rurales. 5: Europe Occidentale et l'Amérique (Recueils de la Société Jean Bodin pour l'Histoire Comparative des Institutions, 44, 1987), pp. 377–407.

⁵³ AEA, 012, no. 342; Geubel and Gourdet, *Pays de Neufchâteau*, 129–30.

of firewood had been dictated since 1754 by a general forest regulation for the entire province of Luxembourg. Moreover, in the second half of the eighteenth century, the inhabitants made several formal complaints (eventually leading to a lawsuit in 1792–94), whose contents testify that the equal distribution of firewood was effectively practised as well. In addition, a survey of 1849 for the town of Neufchâteau that was drawn up on the household level again clearly indicated that each household in practice received its equal share.⁵⁴ Additionally, several villages testified on the equal distribution of common *terres sartables* in the surveys that they filled in as a preparation for the actual cadastre of 1766.⁵⁵

On a yearly basis, each household could gather and cut on average a total of seven *cordes d'Espagne* or 15.4 m³ of stacked wood in the forests of the seigneurs and in those of the village communities themselves. Although each household received an equal share in the total production of *bois de chauffage* or the cultivation of *terres sartables*, the relative importance of these products for the inhabitants' total income from land differed immensely between the five income classes of the Terre de Neufchâteau. Figure 2 clearly illustrates how the importance of firewood in household revenues from land decreased exponentially between the poorest group of households and the richest. The gains from firewood rights constituted 66 per cent of the total income from land in the poorest social class while this was only six per cent for the richest group, an enormous difference. Be it on a different scale, the rights of *essartage* were also the most important for the poorest layer of society for which the gains constituted seven per cent of their total landed value. Although this may not seem much at first, it was in fact their second largest source of income. From the second income group onwards, this percentage decreased to less than one per cent of the total landed income of the richest 20 per cent of households.

In addition, the economic use of (fire)wood and slash-and-burn agriculture structurally differed between the poorer group of small peasants on the one hand and the medium and large-sized farms on the other. In general, the latter group consumed more (fire)wood as it was needed to heat larger houses, house several servants, sustain larger numbers of animals (cf. below), fence off more land and use more agricultural tools. Not infrequently, these farmers hired labourers to cut some of their wood, or rented out their plots of *terres sartables* to poorer peasants. For the richer groups, the produce of the common *terres sartables* was indeed negligible in comparison to their total income derived from land (Figure 2). By contrast, small peasants needed far less wood to heat their houses or to perform their economic activities. For them, the distribution of firewood 'represented a precious but illegal resource' to earn a cash income to buy necessary foodstuff such as grain on the market.⁵⁶ Although officially prohibited, wood became an objective of intensive local trade whereby particularly these small peasants sold (all) their commons firewood on the market (not least to the regional metal industry) and gathered their wood for domestic use through illegal cutting or wood theft.⁵⁷

⁵⁴ Research results of my ongoing PhD project. AEA, Conseil du Luxembourg. Affaires politiques et administratives (062), no. 3183; AEA, Conseil du Luxembourg. Dossiers de procès (001), no. 127; AEA, Ville de Neufchâteau (009), no. 277.

⁵⁵ AGR, *I101*, 39.

⁵⁶ Billen, 'Peasant forestry', p. 270.

⁵⁷ AGR, Conseil Privé. Inventaire des 'cartons' de la période autrichienne (T 460), no. 1123A.

TABLE 5. The annual revenue from common firewood rights of the households of the Terre de Neufchâteau expressed as hl grain (1766–76)

Annual revenue: median (deniers)	1455
Annual revenue recalculated as hl grain	2 hl rye/3.3 hl oats

Source: AEA, 012, nos 342–48; AEA, *Département des Forêts* (013), nos 347–1, 351–1, 369–1 and 374–1; AGR, I101, no. 65; E. Hélin, 'Prix des céréales à Luxembourg aux XVIIe et XVIIIe siècles', in J. Ruwet et. al. (eds), *Marché ses céréales à Ruremonde, Luxembourg, Namur et Diest aux XVIIe et XVIIIe siècles* (Louvain 1966), p. 194, p. 265. Note: Each household received on average a total of 7 cordes of wood in the *bois seigneuriaux* and *bois communaux*. Since each corde had a market value of 216 deniers, 7 cordes of wood were worthy of 1455 deniers. To express this value in hectoliters of grain, I used the following information. The price for one *bichet* (old measure in Luxembourg) of Neufchâteau in rye was 141 deniers and the price for one *bichet* of Neufchâteau in oats was 87 deniers. One *bichet* of Neufchâteau equaled 19.44 litres.

TABLE 6. The annual revenue from common rights of *essartage* of the households of the Terre de Neufchâteau expressed as hl grain (1766–76)

Annual revenue: median (deniers)	150
Productive surface: median (ha)	0.10
Estimate of yearly grain production (hl)	1.29 hl rye

Source: AEA, 012, nos 342–48; AGR, I101, no. 65; Lokstat, Ghent University, Quetelet Center, from *Statistique de la Belgique. Agriculture. Recensement général (15 octobre 1846)* (Brussels 1850).

Note: I used the estimate of 12.94 hl grain/ha.

In order to estimate the importance of common firewood rights to a household budget, I compared the market value of the common firewood rights to the market price of grain. In the case where a household would sell all of its common firewood on the market, it could buy two hl rye or 3.3 hl oats in exchange (Table 5). This constituted around seventeen per cent of its yearly grain needs.⁵⁸ Apart from cutting wood, these smaller peasants spent most of their time practising slash-and-burn cultivation. Therefore, the common *terres sartables* were of vital importance. Each household received on average a plot of 0.10 ha on a yearly basis on which it could cultivate around 1.29 hl (Table 6). This was eight per cent of their total grain needs. In sum, those peasants that sold their common firewood on the market and cultivated at least one plot of common *terres sartables*, could earn approximately a quarter of their yearly grain needs by means of these two sets of common rights. Especially for the poorest inhabitants, who cultivated the smallest plots of private arable land and bred almost no livestock (cf. *infra*), these profits were crucial for survival. Yet, because the richer households received an equal share of the revenues of firewood and common *terres sartables*, these common rights could not reduce general levels of inequality in the village communities.

⁵⁸ An individual in the Terre de Neufchâteau needed on average 3.2 hl on a yearly basis. As a general family constituted around five members in 1766, it necessarily consumed 16 hl of grain on a yearly basis. AEA, 013, nos 374–1; 347–1; 351–1; 369–1.

V

Apart from woodland, the majority of land stood at the service of the collective organization of livestock breeding. Sixty-seven per cent of the total surface of the Terre de Neufchâteau lay (temporarily) fallow and was used as common pasture: arable land, meadows and uncultivated land. Of this area, 76 per cent was privately owned and only 23 per cent was owned in common by the village communities (Table 1). In this setting, households could only enjoy the majority of their individual land by adding livestock to the collective herds. There are very few regulations on *vaine pâture* that can be traced for the Terre de Neufchâteau in the eighteenth century. The basis was very simple, however. Every registered household that owned or rented a separate house was allowed to add animals to the collective herds. While no maximum number of animals per household was defined, as was the case in many other common property regimes, the commoners were bound to accept the principle of *hyvernage* or levancy.⁵⁹ Because almost all livestock for pasturing were counted early in January, households could only add to the collective herd those animals that they could stall during winter. This meant that the number of animals sent to the communal summer pasture was inherently dependent on the amount of hay and additional fodder such as bushes a household had at its disposal, and therefore also conditioned by the size of the private holding. Moreover, the commoners of the Terre de Neufchâteau had to pay a tax on how many of their animals participated in the *vaine pâture*. These observations taken together, even though the legal access rights to common grazing were equally open to every registered household, several practical restrictions facilitated rather unequal outcomes for the benefit of medium-sized and large farmers. The following analysis strengthens this conclusion by clearly illustrating that common grazing rights were not used by all households, let alone in an equal manner.

The benefits from livestock pastured on common land were distributed among the households of the Terre de Neufchâteau by a Gini coefficient of 0.46 (Table 2), expressing a slightly higher level of inequality than total levels of landed inequality. The coefficient of 0.46 contains 26 households or nine per cent of the population that was in practice not able or willing to make use of the grazing rights they enjoyed by law. Twenty-four of them were situated within the poorest layer of society (Table 7). As such, almost half this group failed to benefit from the collective livestock economy, even though half of these families possessed land that they were obliged to add to the *vaine pâture*, which, therefore, put them at a disadvantage. By contrast, the merits of the collective herd only really became accessible and profitable from the second social group onward, among which only two households did not profit from their grazing rights. Especially the three middle groups within society could improve their living conditions by taking a larger share in the collective herd than in the total surface used for pasturing. The middle group distinguished itself from the groups at the bottom and top of society by its share in the total revenue from common grazing rights, which was considerably larger than in any other type of landed income. Therefore, with a Gini coefficient of 0.46, grazing rights

⁵⁹ AEA, 009, no. 39; Jacob, *Bruyères, bêtes et gens d'Ardenne*, 201.; A. J. L. Winchester and E. A. Straughton, 'Stints and sustainability: Managing stock levels on common land in England, c.1600–2006', *AgHR* 58 (2010), pp. 30–48.

TABLE 7. The distribution of common grazing rights among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

<i>Income group</i>	<i>Total number of households</i>	<i>Number of households not using their grazing rights</i>	<i>Annual revenue grazing rights: median (deniers)</i>	<i>Share of total annual revenue grazing rights (%)</i>
1	58	24	288	1.28
2	58	1	2074	9.21
3	58	0	4061	18.03
4	57	1	6192	27.49
5	57	0	9907	43.99

Source: AEA, 010, nos 2019–20; AGR, 1101, no. 65.

were more equally distributed than private land titles, which rested on arable land, meadows and enclosures (cf. Section III). This number, however, conceals a social reality that was characterized by a large discrepancy between a bottom layer of society on the one hand, and the middle and rich classes of households on the other. Between these two, the distribution of livestock was less unequal than the distribution of private land types.

Even though inequality between the middle and rich income groups decreased when taking all grazing rights together, each group generally owned different sorts of livestock (Table 8). While the ownership of sheep was dominated by the wealthiest farmers, the middle group of households improved its economic position through the ownership of horses and especially cattle. The latter was also the most accessible species to the poorest income group. As such, the situation in the Ardennes confirms the research results on several other common property regimes where the grazing of cattle was more equally practised than the use of sheep, which required greater capital investments and, therefore, was reserved for the better-off farmers.⁶⁰

Sheep constituted the largest number of beasts in the Terre de Neufchâteau, around 75 per cent. However, they were of little value, amounting to only 20 per cent of the total livestock economy. One sheep had an average market price of 29 deniers, while cattle fetched 288 deniers and horses, 576 deniers. Therefore, a household had to possess a large number of sheep in order to profit commercially from them. Moreover, spacious stables and considerable amounts of fodder were necessary to sustain them during night and winter.⁶¹ Under these circumstances, only the richest 20 per cent of households sent large numbers of sheep to the common pasture land (median number: 81). Together their sheep represented almost 60 per cent of the entire sheep breeding economy of the Terre de Neufchâteau (Table 8). The group of large commercial sheep breeders consisted of 21 households that possessed over a 100 sheep. These sheep breeders enjoyed certain privileges that allowed them to let their flock graze apart from the collective herd. These herds enjoyed however unlimited grazing

⁶⁰ M. De Keyser, 'The common denominator. The survival of the commons in the late medieval Campine area' (Unpubl. PhD thesis, University of Antwerp, 2014), pp. 147–53; J. Marino, *Pastoral economics in the kingdom*

of Naples (1988), pp. 121–31; N. Mickun, *La mesta au XVIIIe siècle. Etude d'histoire sociale et économique de l'Espagne au XVIIIe siècle* (1983), pp. 162–74.

⁶¹ Moriceau, *L'élevage sous l'Ancien Régime*.

TABLE 8. The distribution of sheep, horses and cattle among the households of the Terre de Neufchâteau, classified in five equal groups of 20 per cent of the population (1766–76)

<i>Income group</i>	<i>Total number of households</i>	<i>Number of households with no sheep</i>	<i>Number of sheep: median</i>	<i>Annual revenue sheep: median (deniers)</i>	<i>Share of total annual revenue sheep (%)</i>
1	58	30	0	0	0.00
2	58	6	10	274	6.69
3	58	1	19	533	13.03
4	57	2	33	950	23.24
5	57	0	81	2333	57.04
<i>Income group</i>	<i>Total number of households</i>	<i>Number of households with no horses</i>	<i>Number of horses: median</i>	<i>Annual revenue horses: median (deniers)</i>	<i>Share of total annual revenue horses (%)</i>
1	58	52	0	0	0.00
2	58	19	1	576	8.33
3	58	6	2	1152	16.67
4	57	5	4	2304	33.33
5	57	1	5	2880	41.67
<i>Income group</i>	<i>Total number of households</i>	<i>Number of households with no cattle</i>	<i>Number of cattle: median</i>	<i>Annual revenue cattle: median (deniers)</i>	<i>Share of total annual revenue cattle (%)</i>
1	58	28	1	288	2.63
2	58	1	4	1152	10.53
3	58	0	7	2016	18.42
4	57	2	10	2880	26.32
5	57	0	16	4608	42.11

Source: AEA, 010, nos 2019-20; AGR, 1101, no. 65.

upon the common pasture land without having to pay taxes for the collective herd as all the other households had to do and without adding their own private property to the collective grazing land as even those households without livestock had to do.⁶² Unsurprisingly then, the number of sheep in the possession of the majority of middle-class and poor households was much more modest, ranging from zero to 33. In an interregional perspective, a relatively large share of the population could still sustain a flock of sheep through the common waste. While 86 per cent of households possessed at least one sheep in the Terre de Neufchâteau, this was only 32 per cent in the Campine, a rural region with a strong common property regime situated on the northern borders of the Southern Low Countries. However, many of the smallholder households possessed very few sheep (the majority not more than 20), while

⁶² Jacob, *Bruyères, bêtes et gens d'Ardenne*, pp. 207–8.

in the Campine each household's flock was considerably larger in size (on average 45).⁶³ The relatively small size of the average flock in the Ardennes was largely due to a structural lack of good quality pasture. Illustrative for the unequal distribution of sheep is a Gini coefficient of 0.58. This is considerably higher than the coefficient of 0.46 that takes all the animals together and rather joins the range of Gini coefficients measured for the private ownership and use of land (cf. Section III).

Although few in number when compared to cattle and especially sheep (five per cent of all animals), the presence of horses in the Terre de Neufchâteau was surprisingly high compared with the surrounding regions. The horses of the Ardennes were indeed highly valued for their carrying capacity and use for traction and were used in large numbers to transport wood from the local forests to its surrounding households, industries and markets.⁶⁴ Like sheep, horses were generally not accessible to the poorest layer of society and even within the second group there was a considerable number of households without any horses in their possession; in total 29 per cent of households could not afford them. By contrast, the third and fourth income groups owned on average three horses, not so many fewer than the average of five owned by the richest group. Therefore, the Gini coefficient reaches only 0.48, which somewhat fails to represent the reality that a third of society did not own any horses.

Cattle were present in considerably smaller numbers than sheep as they represented only 20 per cent of the total number of livestock. They were, however, valued higher and contributed to almost 50 per cent of the total value of the livestock economy. Moreover, cattle were the most commonly used and equally distributed species. The poorest 20 per cent of society generally only invested in cattle with a median of one animal per household whereas they did not possess any sheep or horses. They would indeed need considerably larger numbers of sheep to equal the revenues earned from a limited number of cows. Especially the three middle-income groups invested in cattle, by which means they could improve their position vis-à-vis the wealthiest 20 per cent households. Together, these three groups possessed 55 per cent of the cattle, but only 43 per cent of the sheep. Added up, cattle were the most equally distributed species. With a Gini coefficient of 0.46 it becomes clear that the breeding of cattle through collective grazing had the largest diminishing effect on levels of inequality, more so than horses and especially sheep.

The livestock sector took the largest share in the rural economy of the Terre de Neufchâteau. It could potentially constitute an enormous part in the total landed revenue of a household and high individual profits could be realized by taking the largest share possible in the collective grazing rights. However, following the preceding evidence, this was not the case for every household. Table 9 roughly estimates the amount of grain that households could buy from the number of animals they raised to illustrate the economic opportunities of the Ardennes' livestock economy, but also the unequal outcomes. Income was almost nothing for the households in the poorest category, of which 50 per cent did not participate in the collective livestock economy at all. It was precisely these households found themselves with the highest need for additional grain stocks since they could only produce a fraction of their yearly grain

⁶³ De Keyser, 'The common denominator', p. 153.

⁶⁴ Hector, 'L'ancienne Ardenne', p. 96; Hoyois, *L'Ardenne et l'Ardennais*, p. 210, 285.

TABLE 9. The annual revenue from common grazing rights of the households of the Terre de Neufchâteau (classified in five equal groups) expressed as hl grain, net (1766–76)

1	0.4 hl rye or 0.6 hl oats
2	2.9 hl rye or 4.6 hl oats
3	5.6 hl rye or 9.1 hl oats
4	8.5 hl rye or 13.8 hl oats
5	13.7 hl rye or 22.1 hl oats

Source: AEA, 010, nos 2019-20; AGR, 1101, no. 65; Hélin, 'Prix des céréales à Luxembourg', p. 194, p. 265.

Note: One sheep had an average market price of 29 deniers, while this was 288 for cattle and 576 for horses. To express these values in hectolitres of grain, I used the following information. The price for one bichet (old measure in Luxembourg) de Neufchâteau in rye was 141 deniers and the price for one bichet de Neufchâteau in oats was 87 deniers. One bichet de Neufchâteau equaled 19.44 litres.

needs by themselves. The families in the second group could buy, on average, almost a quarter of the yearly grain needs (15.84 hl) by means of the yearly income derived from their livestock. The households in the most middle group of society could buy almost half of their yearly grain needs by selling the animals they raised. For the fourth group, this increased to 70 per cent and the richest households in society could sustain themselves completely by buying grain from their earnings in the livestock economy.

VI

The results represented in the current article offer a new perspective on our historical understanding of the role of the commons in establishing levels of (in)equality. The set of sources surveyed in the previous paragraphs provided a unique opportunity to track the revenue derived from diverse common rights and, therefore, their real importance to the income portfolio of different households. As I already indicated in the introduction to my study, these findings concerning the social distribution of common land rights contribute to two research domains: studies of rural inequality that are primarily focused on private landholding or ownership on the one hand, and the commons on the other. As for the latter, I had the exceptional advantage that I could concretize and put numbers on the inequalities that had thus far only been studied indirectly through regulations and management practices. Importantly, this allowed me to question if and how the distribution of common land rights diminished or strengthened existing inequalities in private land use in the Ardennes in the second half of the eighteenth century. I compared to what extent the households of the Terre de Neufchâteau profited unequally from the common land system, and I differentiated between a wide range of land rights, performed within diverse ecological settings (dense woodland, extended heathland and open arable fields), regulated by different interest groups and serving various economic ends.

In the current literature, historical access rights are generally grouped in three categories: firstly, those communal land systems where access was dependent on land ownership or the payment of taxes, secondly, those societies where access was reserved for official residents of

the village community and in third instance access could also be restricted to special clubs of households or farmsteads.⁶⁵ In the Ardennes, the formal rule of 'residence' defined access rights. However, belonging to the community was no assurance of an equal distribution of the benefits of these rights. Looking at use rights instead of access rights, various land rights had a differential impact on levels of inequality. I discovered that a distinction can be made on two analytical levels: on the one hand the private or common statute of ownership titles compared to use rights, and on the other hand the economic value of different land rights, possibly high or low. In general, private ownership titles of high economic value were the most unequally distributed of all land rights, whereas the opposite was true when more was possessed in common and the economic gains at stake were lower.

The evidence presented above shows that the income from land both owned and used completely privately (arable land, meadows and enclosures) was most unequally distributed. Within this category, a different degree of inequality could still be observed depending on the economic value of a given type of land. Arable land, of poor quality and oriented to self-provisioning, remained relatively accessible to the most needy households. By contrast, meadows and especially enclosures that were substantially more valuable strengthened the resources of the middle and wealthy groups, to the detriment of the lowest-income group. The system of common land use, predominant in the rural economy of the Ardennes, is more difficult to categorize. The common use of land tended only to have a strong equalizing effect in the case of firewood rights and rights of *essartage*, which were commons that were permanently performed on land that was owned by the village communities or by the seigneurs. These common rights clearly provided some meagre subsistence to the bottom groups in society. As such, the findings confirm the dominant line in the historiography.

By contrast, this equalizing impact was nullified or even counteracted in the case of grazing rights since the use of these rights was marked by sharp internal inequalities. The poorest section in society, in particular, did not participate in the livestock economy, which, conversely, served to enrich the middle and wealthy groups. This differential societal role of grazing rights can partly be explained by the statute of their ownership titles and their market value. Clearly, the interest of the most wealthy farmers was connected to the high economic gains that could be earned by means of livestock breeding in combination with the ability of these wealthy households to add the largest private possessions to the common pasture. It is not hard to imagine that the large farmers aimed to profit as much as possible from their individual landed properties while preventing small peasants with almost no land of their own from making extensive use of their grazing land. Moreover, a direct link existed between a commoner's capacity to graze animals on the collective summer pastures and his or her individual production of hay to bridge the winter months, particularly a monopoly of the better-off farmers. In general, the differential impact on income inequality of common firewood rights and rights of *essartage* on the one hand and grazing rights on the other supports a distinction

⁶⁵ T. de Moor, 'Avoiding tragedies: A Flemish common and its commoners under the pressure of social and economic change during the Eighteenth Century', *ECHR* 62 (2009), p. 5; P. Warde, 'La gestion des terres en usage collectif dans l'Europe du Nord-Ouest', in M.-D. Demélas and N. Vivier (eds), *Les propriétés collectives face aux attaques libérales (1750–1914): Europe occidentale et Amérique latine* (2015), p. 67.

often to be found in literature between 'common land possessions' and 'common use rights performed on private land'. Whereas the former was relatively accessible to broad layers in society, the latter were often monopolized by the richest farmers and landowners.⁶⁶

With an eye on the larger picture, and on the prospect for future research, I hope to have indicated most of all the importance of fully including the commons when analysing pre-industrial rural inequality. The original evidence that I have presented above confirms that commons were not institutions that generally and automatically improved equality among rural societies. Rather substantial differences existed not only between community members and outsiders, but equally so between the commoners themselves. The research case of the Ardennes has laid bare how various common rights could simultaneously provide essential incomes to the poorest households and sustain substantial inequalities with the middle and rich social classes. These internal inequalities should ideally be observed by extending our research scope from formal access rights to the actual use of these rights.

⁶⁶ G. Béaur, 'En un débat douteux. Les communaux, quels enjeux dans la France des XVIIIe–XIXe siècles?', *Revue d'histoire moderne and contemporaine* 53 (2006) pp. 106–9.