Agriculture on the Lombard Plain: A Medieval and Early Modern Overview

Stefano Buckley

Abstract

Examining the composition of a particular landscape is a fruitful framework by which to understand its human history. The Lombard Plain, in northern Italy, is no exception. This paper identifies key forces which shaped the region during the medieval and early modern period, such as the ambitions of the ducal families of Milan, an emphasis on intensive agriculture, commercial interests, and the development of canals. It also argues that despite praise for Lombardy's fertility and productivity, one must consider the influences of disease, war, and the oppression of the rural population in order to provide a balanced understanding of this landscape.

In his book *Crisis and Continuity* (1979), Domenico Sella describes how by the sixteenth century the northern Italian region of Lombardy had become "one of the most prosperous corners of Europe".¹ The Duchy of Milan, especially, boasted an especially rich agricultural landscape.² However, it had not always enjoyed this position. The road to bounty had been paved by a series of topographical alterations carried out over centuries by the inhabitants of Lombardy. These inhabitants had such an extensive role in transforming the terrain that, according to Filippo Brandolini, it had become an "entirely artificial landscape" by the twentieth century.³ In this paper I will focus especially upon those efforts of the Middle Ages and early modern period whose effect may still be seen on the Lombard landscape. I will analyze how the people of this region exerted their will on the landscape it resided in (particularly on the region's low plain), and in turn how one may read this landscape to understand the developments of said people.

I will first provide a brief overview of the region as a whole, which as Douglas Dowd explains is "unusually varied in its physical attributes." I will then examine how the geography of the low plain was converted from an unworkable marsh to one that could sustain a population density nearly unmatched in Europe. As this tale of transformation is interwoven with the political aims of Milan's ducal families, studying the area's canals and irrigation projects demonstrates how societal changes precluded changes of the land. However, the bulk of this paper, will concentrate on the rural economy—the food and textiles it produced, the agricultural systems implemented to do so, and the people who executed these systems. I shall conclude with a discussion of the hardships which assailed the inhabitants of the Lombard plain, to emphasize that it required exacting effort to make this land productive for cultivation. Ultimately, it is my intention to provide a perspective on the historical and topographical conditions of the Lombard plain: a consideration of how the landscape influenced, and was influenced by, the culture that lived in it.

For much of the medieval and early modern period, Lombardy, for much of the medieval and early modern period, was synonymous with the lands controlled by Milan. Milan was large compared to other contemporary Italian states, and was topographically diverse.⁶ Though the focus of this essay is upon *la bassa*, the low plain

¹ Domenico Sella, *Crisis and Continuity: The Economy of Spanish Lombardy In The Seventeenth Century*, (Cambridge, Mass: Harvard University Press, 1979), 1.

² Ibid.

³ Filippo Brandolini and Mauro Cremaschi, "The Impact of Late Holocene Flood Management on the Central Po Plain (Northern Italy)," *Sustainability* 10, no. 11: 5. doi.org/10.3390/su10113968.

⁴ Douglas F. Dowd, "The Economic Expansion of Lombardy, 1300-1500: A Study in Political Stimuli to Economic Change," *The Journal of Economic History* Vol. 21, no. 2 (June 1961): 148. www.jstor.org/stable/2115185.

⁵ Sella, Crisis and Continuity, 3.

⁶ Dowd, "The Economic Expansion of Lombardy," 144.

between Milan and the Po River,⁷ it is helpful to study Lombardy's other zones as comparisons.

The hills north of Milan were generally heavily forested, remaining so up until the twentieth century.⁸ Even in the late sixteenth century, the valley of Valtravaglia had only one-third of its land under cultivation, the remainder being occupied by dense woods.⁹ One should recall this low-intensity land use when considering the sheer density and agricultural organisation of space that existed in *la bassa*.

Below the hill zone exists the high plain, which sits between 150m-300m in altitude and covers roughly ten percent of Lombardy. Its soil was poor, and overall, it was a dry landscape, 10 yet despite this about three-quarters of its area was being directly cultivated. 11 The agriculture there was different from that of the hills or the low plain. For example, both the hill zone and the high plain incorporated a fallowing system, whereas fallowing was not done on the low plain. 12

Lastly, there is the low plain, that land of exalted fertility. ¹³ The city of Milan was the urban heart of this zone, a fact which its earlier Latin name suggests. *Mediolanum*, likely meaning *Middle Plain*, indicates the ancient city's location as the plain between the Ticino and Adda rivers. ¹⁴ Likely due to its location, severed from the sea, and the conveniences that a coastal position would have brought, ¹⁵ Milan exerted a great effort to connect itself to the surrounding country by way of canals. These canals were also used for irrigation, they directed water from the Alpine rivers which crossed the low plain and distributed it to other rural zones. This plentiful supply of water was to be the foundation of all of Milan's agricultural endeavours. ¹⁶ However, these watercourses which watered the low plain in winter completely dried up during the summer. ¹⁷ This dramatic contrast between flooding and drought should be recalled when considering the lives of the people who worked the land prior to industrial machinery. As Fernand Braudel advises, one should forgo notions of climatic clemency which often accompany ideas about the Mediterranean. ¹⁸ Such an effort to control the land was a response to the precariousness which geography and weather allotted. ¹⁹

⁷ Sella, *Crisis and Continuity*, 3.

⁸ Ibid., 5.

⁹ Ibid., 9.

¹⁰ Sella, Crisis and Continuity, 5.

¹¹ Dowd, "The Economic Expansion of Lombardy," 149.

¹² Sella, *Crisis and Continuity*, 6. Fallowing is an agricultural practice in which an arable field is not cultivated for a period of time to allow it to replenish soil nutrients, break pest life cycles, and so on. ¹³ Thid

¹⁴ Serena Ferrando, "Water in Milan: A cultural History of the Naviglio," *Interdisciplinary Studies in Literature and Environment* Vol. 21, no. 2 (Spring 2014), 375.

¹⁵ Ibid., 376.

¹⁶ Dowd, "The Economic Expansion of Lombardy," 149-50.

¹⁷ Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, trans. Siân Revnolds (London: William Collins Sons & Co), 72.

¹⁸ Braudel, The Mediterranean and the Mediterranean World in the Age of Philip II, 238.

¹⁹ Ibid., 241.

Changing *la bassa*'s terrain had begun long before the period examined in this paper.²⁰ Canals (most notably the *Vecchiabbia*) around Milan were already being constructed during the early second 2nd century.²¹ This countryside under the Romans had indeed been intensively managed, yet much of this productivity was lost when rainfall became more frequent during the Dark Age Cold Period (roughly 400 CE - 750 CE), resulting in an expansion of wetlands.²² It was only in the tenth century that work was resumed to reclaim the wetlands for human use.²³ This fact follows a change in climate as well: between 900 CE and 1300 CE, the Medieval Warm Period allowed the population of Europe to triple.²⁴ Such a surge demanded an increase in food production, requiring more land to be put to the plough, more forests cleared, more marshes drained, and irrigation systems developed.²⁵ Besides draining the lowland swamps, altering *la bassa* involved the difficult tasks of flattening its land and directing Alpine glacier water to drier areas.²⁶ Despite this new need for more cultivable land being a broader European trend, Braudel contends that its unfolding on the Lombard plain is the best example of land-improvement anywhere in the Mediterranean.²⁷

This work is perhaps best understood by studying Lombardy's *navigli*, its canals, whose construction was begun in the twelfth century and not ceased until the nineteenth.²⁸ During the twelfth century, Milan had built its famous Naviglio Grande for irrigation,²⁹ though its canals could also serve a defensive purpose, such as the *Fossa Interna* (the 'Inner Ditch') that was built in 1160 to protect the city from the martial advances of Frederick Barbarossa.³⁰ As previously mentioned, another key function of the canals was their ability to connect the various regions of Lombardy. To Milan, surrounded by land and not afforded the luxury of a major river flowing through the city as Florence or Rome had,³¹ the *navigli* played an integral role in joining rural with urban.³² With the 1456 Martesana Canal, Milan was linked to Lakes Como and Maggiore,³³ as well as to the Ticino and Adda rivers by way of the Naviglio Bereguardo—creating a continuous water network 88 kilometres long.³⁴ This made Milan a transport hub, connected by its canals to the more distant reaches of the state.

²⁰ Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 66.

²¹ Dowd, "The Economic Expansion of Lombardy," 150.

²² Brandolini and Cremaschi, "The Impact of Late Holocene Flood Management," 15.

²³ Ibid., 4.

²⁴ Ibid., 1.

²⁵ Brandolini and Cremaschi, "The Impact of Late Holocene Flood Management," 2.

²⁶ Ibid., 72.

²⁷ Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 72. I would note that the term 'improvement' is intended solely for an agricultural purpose - the ecological effects of this process might be interpreted differently.

²⁸ Sella, Crisis and Continuity, 6.

²⁹ Dowd, "The Economic Expansion of Lombardy," 151.

³⁰ Ferrando, "Water in Milan: A Cultural History of the *Naviglio*," 375.

³¹ Ibid., 383.

³² Ibid., 387.

 $^{^{\}it 33}$ Braudel, The Mediterranean and the Mediterranean World in the Age of Philip II, 73.

³⁴ Ferrando, "Water in Milan: A Cultural History of the *Naviglio*," 376.

The story of *la bassa*'s canals is largely a product of the changing political climate of medieval Milan. Preceded by a waning of the commune system³⁵ during the thirteenth and fourteenth centuries, Milanese dukes in the Visconti and Sforza families realized they could consolidate their power by limiting the political influence of the old aristocracy and giving it to an emerging middle class.³⁶ It was primarily this new middle-class, rurally-focussed but wealthy, that made Lombardy's land more suitable for cultivation.³⁷ Yet it should be emphasized that this endeavour was still ultimately led by Milan's dukes, due to the great expense of making the land more suitable for farming.³⁸ Substantially developed by the city's dukes, and run by wealthy agriculturalists, the canal-based agricultural system was pivotal to the political ambitions of the Visconti and Sforza.³⁹

This also demonstrates the extent to which the social and economic conditions of European regions were strongly influenced by the landscape.⁴⁰ According to Braudel, a "more free civilization on the American pattern" emerged in northern Europe, where one could prepare land for farming by clearing woodlands with axe and pick. However, it was more difficult to convert land around the Mediterranean, with its extensive marshes and deeply entrenched social hierarchy. This meant that such works were only carried out by the wealthiest—by landowners who could enforce the very hierarchy they benefited from.⁴¹

In the sixteenth century, agricultural workers made up between sixty to seventy percent of the region's population.⁴² Even before 1600, *la bassa* was dominated by commercialized forms of agriculture. Large estates that were worked by day labourers specialised and focussed on growing cash crops, a model which had developed due to the demand of urban centres.⁴³ The situation that Sella describes in *Crisis and Continuity* is one of intensive levels of resource-extraction, in which the production efforts of rural Lombardy were focused above all on satisfying the demand of urban consumption.⁴⁴ This demand gave rise to an intricate system of husbandry which allowed for impressive amounts of cultivation. It was for this reason that the Burgundian writer and diplomat Philippe de Commines, visiting in 1495, compared the plain to the Low Countries.⁴⁵ His comparison extends beyond the use of irrigation, as

³⁵ The commune was a system of mutual protection sworn among the members of medieval towns.

³⁶ Dowd, "The Economic Expansion of Lombardy," 144, 152. It should be noted, however, that some of these new businessmen were in fact members of the old aristocracy who had been more flexible in the face of change (p. 158).

³⁷ Ibid., 154.

³⁸ Braudel, The Mediterranean and the Mediterranean World in the Age of Philip II, 68.

³⁹ Dowd, "The Economic Expansion of Lombardy," 149.

⁴⁰ That the environment influences human society is true for all inhabited parts of the world, though that is beyond the scope of this paper.

⁴¹ Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 75.

⁴² Ibid., 27.

⁴³ Sella, Crisis and Continuity, 10.

⁴⁴ Ibid., 2.

⁴⁵ Sella, *Crisis and Continuity*, 2.

the Low Countries were also the only other region in Europe that could rival Lombardy's population density.⁴⁶ It was an intensive agricultural infrastructure that allowed both regions to support a society more numerous than anywhere else on the continent at the time.

Much of Lombardy's lowland plains operated on a system of 'convertible husbandry,' characterised by a continuous rotation of arable and livestock farming, and an absence of fallowing.⁴⁷ This was something else that de Commines had noted in his travels, remarking that "the soil here never rests."⁴⁸ Fallowing was unnecessary on the low plain because of a system in which cereals were routinely alternated with a hay-crop, or flax.⁴⁹ Proof for the success of this system is that one could harvest hay on *la bassa* seven or eight times per year, as opposed to the three harvests which one could expect elsewhere in Italy.⁵⁰

By the 1640s this emphasis on producing hay was becoming predominant, a response to the higher price meat could fetch at market compared to cereal crops.⁵¹ There was also an ecological aspect of this intensive, non-fallowing system. As opposed to more northern regions, the soils of the Mediterranean could only remain highly fertile when kept under regular cropping.⁵² The Mediterranean as a whole has very little topsoil, which water and wind can easily erode.⁵³ Keeping soil in place, by having the land constantly under cultivation, was as important a use for the land as the produce it could grow. Furthermore, taxes had to be paid every year whether or not harvests had been good or the land was being cultivated, so it was logical to keep it regularly productive.⁵⁴ These demands made the Lombard plain a place that visitors, like de Commines, frequently noted for its intensive cropping.

Grasses and grains were not the only crops grown on *la bassa*. To augment the already-high amount of cultivation, it was common to line the fields and hay-meadows with trees grown with grapevines.⁵⁵ Usually, the trees lining these fields would have been mulberry, which speaks to another primary cash crop of the plain: silk.⁵⁶ Lombardian silk was exceptionally fine,⁵⁷ and the presence of mulberry, along with flax (for linen) and woad (for dyeing),⁵⁸ points to the importance of textile-crops on *la bassa* into the early modern period.

⁴⁶ Ibid. The Duchy's population was 1,200,000 by the end of the following century.

⁴⁷ Ibid., 105.

⁴⁸ Ibid., 2.

⁴⁹ Ibid., 6.

⁵⁰ Dowd, "The Economic Expansion of Lombardy," 150.

⁵¹ Sella, *Crisis and Continuity*, 120.

⁵² Braudel, The Mediterranean and the Mediterranean World in the Age of Philip II, 243.

⁵³ Ibid.

⁵⁴ Sella, *Crisis and Continuity*, 125.

⁵⁵ Ibid., 2. Generally it was the hill zone which specialized in vines, a crop which found a better home here than on the low plain.

⁵⁶ Ibid., 123. This was especially the case by the 17th century.

⁵⁷ Dowd, "The Economic Expansion of Lombardy," 156.

⁵⁸ Ibid. Woad largely replaced madder in the 13th century.

It is important not to overlook this emphasis on commerce. Even the smallest of villages were connected to the broader economy no matter how great a role subsistence farming played in their lives.⁵⁹ Trade in textiles extended far beyond the reach of Italy (Lombardian wood was being exported to Spain, England, and the Low Countries).⁶⁰ Additionally, trade was common between Lombardy's various geographical zones.⁶¹ These zones capitalized on the products they were most successful in producing. For example, as the low plain was better suited for cereals, a large portion of its grain was exported, primarily to the Swiss Confederacy.⁶² The canal-irrigated hay-meadows also made Milan a great producer and seller of dairy products.⁶³ We may conjecture that the hill zone's vines and chestnuts likely had buyers in the Lombard plain, where such goods were harder to produce. Even the alpine areas, which could not produce much grain, chestnuts, or vines, could still sell the products of its pastoral economy, as well as wood.⁶⁴ Wood was, in fact, an expensive commodity, due to the scarcity of the Mediterranean's forests which had, at an early date, been extensively diminished.⁶⁵

What must be stressed here is the presence of a robust economy, one which was both local and far-reaching. This economy was already strong by the thirteenth century, and it remained so until the early seventeenth century, when a combination of poor harvests, disease, and warfare wreaked ruin on the area. Failed harvests in the late 1620s (and followed by ones in the 1640s) caused food prices to skyrocket, and resulted in economic crisis. An outbreak of bubonic plague in 1630-1 further devastated Lombardy. Thus, the Lombard landscape, though certainly bountiful to its inhabitants, also brought challenges. Not only was it a breeding ground for malaria, but Milan's position in the middle of the Po Valley, and at the meeting of many trade routes, made it a frequent site of battle. As such, it was nearly always kept ready for war, with constant garrisons and fortifications to be found everywhere.

Though generally the economy of the countryside endured the turmoil of the seventeenth century with remarkable fortitude,⁷¹ such disruptions still dealt a high toll to Lombardy. The "once-thriving trade centre" of Sontino, for example, did not hold its weekly market once between 1620-40.⁷² These local weekly markets had been an

⁵⁹ Ibid., 7.

⁶⁰ Dowd, "The Economic Expansion of Lombardy," 156.

⁶¹ Sella, *Crisis and Continuity*, 7.

⁶² Sella, Crisis and Continuity, 11.

⁶³ Ibid., 2.

⁶⁴ Ibid., 107.

⁶⁵ Braudel, The Mediterranean and the Mediterranean World in the Age of Philip II, 239.

⁶⁶ Dowd, "The Economic Expansion of Lombardy," 159-160.

⁶⁷ Sella, *Crisis and Continuity*, 25-6.

⁶⁸ Ibid., 26. One should bear in mind, though, that this was only an infrequent occasion in the Mediterranean Malaria, which thrived in the marshland around Milan, was the more constant danger.

⁶⁹ Sella, *Crisis and Continuity*, 42. Indeed, it was the most frequent battle site in Italy.

⁷⁰ Ibid., 44

⁷¹ Sella, *Crisis and Continuity*, 105.

⁷² Ibid., 108.

important component of peasant life, allowing them to sell their agricultural surplus,⁷³ and the interferences of war must have proved a heavy burden. Furthermore, high taxes (the salt tax, cavalry tax, and the crop-levy called *imbottato*—all of which urban folk were exempt from)⁷⁴ and the obligations of the rural population to billet soldiers during such times,⁷⁵ were worsened by the fact that crops could not fetch as high a price as before.⁷⁶ Such strain was reflected in the landscape, just as the growth of the medieval population and the requirements of cities had done in more fortunate times. Between 1630 and 1647, the cultivated countryside around Lodi had lost seven percent of its agricultural land, and in Novara it had dwindled down to a shocking thirty-three percent of its former area. Both were the result of its peasants dying or abandoning their farms.⁷⁷

Besides war and disease, an imbalanced system existed in the Duchy of Milan which privileged city-dwellers. As previously mentioned, the state's rural inhabitants were in a position of inferiority compared to their urban counterparts, with much of their efforts bent towards satisfying the latter's needs, and their wages half that of urban workers.⁷⁸ Thus, it is essential not to conflate the agricultural bounty of Lombardy's countryside with a presumed prosperity amongst the peasantry, who lived largely in poverty.⁷⁹ The region's prosperity came at a high price, the brunt of its relentless cultivation borne by rural labourers⁸⁰ whose harvests only rarely escaped the perils previously mentioned, in addition to drought, locusts, and flooding.⁸¹

High rainfall and its consequence, flooding, was endemic to the low plain. The region was notorious for its torrential showers, especially in winter, where flooding in the lowlands could spell disaster to spring sowing. When heavy rains fell across the Balkans in 1601 and destroyed its crops, an observer compared the floods to those of the Po and of the large rivers of Lombardy. Winter rain would swell lowland rivers, sweeping bridges away and cutting off access to agricultural lands. He Marquess Francesco Guidoboni Cavalchini's land was devastated by an un-embanked Curone River in the early 1680s, the countryside's houses were washed away, and its famed marcite (temporarily-flooded meadows that were used to increase the production of livestock forage) eroded. This, of course, was another reason why those in the Po

⁷³ Ibid., 15.

⁷⁴ Ibid., 32.

⁷⁵ Ibid., 67. Contemporaries viewed billeting as being the greatest trouble to both landowners and tenants in this time.

⁷⁶ Ibid., 69.

⁷⁷ Ibid., 53.

⁷⁸ Sella, *Crisis and Continuity*, 28.

⁷⁹ Sella, *Crisis and Continuity*, 28.

⁸⁰ Ibid., 27.

⁸¹ Braudel, The mediterranean and the Mediterranean World in the Age of Philip II, 244.

⁸² Ibid., 243.

⁸³ Ibid., 271.

⁸⁴ Ibid., 247.

⁸⁵ Sella, Crisis and Continuity, 128.

Valley put such effort into canals, dams, and dykes, like that of the 1218 Tagliata Canal, whose primary function was flood protection.⁸⁶

Despite the myriad of difficulties involved in working Lombardy's lowland landscape, the period did produce certain positive outcomes. For example, by the 1630s, one already sees change regarding the contracts between landlord and tenant. Due to the risk of war and onerous taxation, landlords recognized that the only way they would be able to find new tenants was to supply their peasants with *scorte*. These *scorte* (essential capital such as tools, seedcorn, and beasts of burden, which had been so difficult to acquire in times of unrest) were essential to continuing agricultural production during periods of crisis.⁸⁷

Another mark that the depression of the seventeenth century left on the landscape was the new importance of rice as a crop on the Lombard plain. It is appropriate to conclude this research with rice because it is in many ways a distillation of the key topics I have mentioned above. Its cultivation was only made possible due to the low-lying wetland character of *la bassa*, and the extensive establishment of its irrigation canals. These canals also allowed for Lombardy's *marcite*, which with their ability to support extensive herds of cattle meant that there was a constant supply of fertiliser to be used for the rice fields. Lastly, rice did not require a large number of workers to grow, as wheat or rye did. This lack of high maintenance found favour among a population brought low by the war and disease of the early decades of the century.

However, the introduction of rice to Lombardy proved a contentious issue. While it was relatively easy to grow and had a high demand in the cities, its ideal growing conditions are low swampy land. To a culture that had spent enormous effort to eradicate wetlands, as it was unfavourable to most agriculture and a breeding place ground for disease, it is not difficult to see why the new promotion of marshes seemed like a step in the wrong direction.

This paper concludes with my primary contention: the current landscape of the Lombard plain is an amalgam of the needs of its historic inhabitants. Their political aims, efforts to control disease, and population profoundly altered the land they lived in. They transformed it into a flourishing agricultural region, one that was highly commercialised and whose products were exported far beyond its bounds. However, as I have repeatedly stressed, this abundance was achieved by a labouring class whose

⁸⁶ Brandolini and Cremaschi, "The Impact of Late Holocene Flood Management," 15. Interestingly, Brandolini opines that this sort of medieval flood-management was more environmentally sustainable than its Renaissance equivalent. Due to how the process at these earlier stages would have been carried out more gradually than the dramatic modifications of the 15th and 16th centuries, he explains that the landscape would have had an easier time of adapting to its human alteration.

⁸⁷ Sella, Crisis and Continuity, 129.

⁸⁸ Dowd, "The Economic Expansion of Lombardy," 157.

⁸⁹ Ibid. Milan's sewage was also used for this purpose.

⁹⁰ Sella, *Crisis and Continuity*, 121.

⁹¹ Dowd, "The Economic Expansion of Lombardy," 157.

near -servitude to Lombardy's cities kept them in a position of poverty, and who were frequently beset by disease, flooding, and warfare. The interplay of people and place has resulted in a landscape not only rich in agricultural produce but in a crop of historical insight, inextricably bound to the physical geography it created.

This paper was written in the Winter semester of 2022 for Dr. Matthew Koch's HSTR 337A:The Birth of the Renaissance.

Bibliography

- Brandolini, Filippo and Mauro Cremaschi. "The Impact of Late Holocene Flood Management on the Central Po Plain (Northern Italy)." *Sustainability* 10, no. 11 (2018): 3968. doi.org/10.3390/su10113968.
- Braudel, Fernand. *The Mediterranean and the Mediterranean World in the Age of Philip II*. Translated by Siân Reynolds. London: William Collins Sons & Co, 1972.
- Dowd, Douglas F. "The Economic Expansion of Lombardy, 1300-1500: A Study in Political Stimuli to Economic Change." *The Journal of Economic History* Vol. 21, No. 2 (June 1961): 143-160. www.jstor.org/stable/2115185.
- Ferrando, Serena. "Water in Milan: A Cultural History of the Naviglio."

 Interdisciplinary Studies in Literature and Environment Vol. 21, No. 2 (Spring 2014), 374-393.
- Sella, Domenico. *Crisis and Continuity: the Economy of Spanish Lombardy In the Seventeenth Century.* Cambridge, Mass: Harvard University Press, 1979.