

Chapter 6

Well-being and Sustainability Around 1850: The Frame of Reference



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Abstract The previous chapter reported a dearth of innovation regarding the exploitation of natural capital around 1850. This chapter deals with the dynamics of the institutional quadrants at the time (see Chap. 1). In a number of respects the 1840s marked the start of a new phase. ‘Civil society’ awoke, mainly thanks to the contribution of younger generations of Netherlanders. Due to the abdication of King William I, the political institutions required a makeover. Economic institutions were under a great deal of pressure due to the emerging liberal climate and the liberalisation of the world market. In the domain of technology, new institutions blossomed with the emergence of civil and mechanical engineers and other professional groups. These developments had not yet led to fundamental social change. The Netherlands remained a mercantile capitalist, colonial and agricultural nation.

This is the context in which the well-being monitor for 1850 must be placed. This monitor is the ‘benchmark’ for this study, the standard against which the monitors for 1910, 1970 and 2010 are evaluated.

On the basis of the monitor and from both a contemporary and a present-day perspective, three important sustainability problems can be discerned: material welfare (poverty), the institutional environment (political instability) and social capital (little trust in political institutions). In addition, from a present-day perspective a series of issues is problematic: poor public health, nutrition and lower-class housing

(the personal characteristics), insufficient innovations (economic capital), a lack of qualified labour (human capital) and the immoral “culture system” in the Dutch East Indies (trans border effects). The state of water management also gave cause for concern. Both from contemporary and present-day perspectives the Dutch delta was vulnerable.

Keywords Civil society · Politics · State · Economy · Technology · Engineers · Monitor

6.1 The Society of Benevolence¹

Johannes van den Bosch returned from the Dutch East-Indies in 1812 a wealthy man. He had advanced rapidly in his military career and had supervised a plantation. Back in the Netherlands after the fall of Napoleon he immediately applied for positions in the army and government. King William I promoted him after several years to the rank of major-general. Despite this he had very different, almost grandiose, ambitions. He was going to abolish poverty in the Netherlands. The ‘French period’ had impoverished the Netherlands. Trade had ground to a halt. To make matters worse, harvests in 1816 and 1817 had failed. Poverty was endemic.

Van den Bosch proposed a unique plan: a national organization for the poor. The urban poor would be put to work reclaiming the ‘wastelands’ in Drenthe and Overijssel; they would become farmers, produce food, become self-reliant and make a useful contribution to society. The idea of an organization for the poor was not new. It was often seen as an ideal and cheap solution for pauperism. The pauper would no longer be a burden on society, but would instead produce value that could be used to finance the organization. However, this solution generally proved illusory. Subsidies were almost always necessary.²

Van den Bosch would have been aware of the doubtful economic viability of organizations for the poor. But he was convinced of his success, even if he did need money to buy land and dwellings for the ‘colonists.’ To this end he founded the Society for Benevolence in 1818. The bourgeoisie was enthusiastic. Thousands con-

¹ See for this section: S. Jansen, *Het pauperparadijs: Een familiegeschiedenis* (Amsterdam 2008), 39–46, 52–56. P. de Rooy, *Ons stipje op de waereldkaart: De politieke cultuur van Nederland in de negentiende en twintigste eeuw* (Amsterdam 2014), 63–69.

² A. de Swaan, *Zorg en de staat* (Amsterdam 1989), 55–60.

tributed. Local committees popped up everywhere. The King became patron and his son, Frederik, chairman of the board.

Initially things looked promising. The first colony, not coincidentally called Frederiksoord, was ready by 1818 to receive the first families. This was celebrated in verse: Brothers! Glad and awake

Singing to the field

Where labour awaits us.

In former times when in hovels,

We hid from the light...

Now it's different.³

Van den Bosch optimistically announced that 6 weeks had been time enough to 'raise (the families) from their downcast state' and decided to create another two colonies in addition to Frederiksoord, to be known as Willemsoord and Wilhelminaoord. These were reserved for the 'decent' poor. In addition he built two penal colonies, Ommerschans and Veenhuizen. Here abandoned children found a home, but also beggars, vagabonds and drifters – in short all the troublesome poor that were difficult to handle.⁴

Reality proved more complex. The land was poor and produced less than had been expected. The cities had a hard time convincing their poor to move to distant Drenthe. Police were called in to supervise forced emigration. The cities refused to surrender the occupants of their children's homes. The colonists – amounting to some 11,000 in the early 1840s – chafed at the discipline. That was especially true of the 'unregenerate' paupers. But even the 'decent' poor could not get used to the rules made by the Society for Benevolence for living in a colonist's dwelling and to the rhythm of labour on the land. Financially speaking, the initiative could only be kept afloat by artifice and improvisation. In 1859 the state assumed responsibility for the colonies.

Van den Bosch and his Society for Benevolence belonged to the domain of 'civil society.' Contemporaries were preoccupied with poverty and more generally the national welfare in many different ways. In the previous chapter we analysed the initiatives from the perspective of the three material flows: biomass (agriculture and foods), mineral substances (building materials and construction), fossil substances (energy). In this final chapter we focus on the institutional quadrants. In addition to the domain of 'civil society' these include the state, economy, and technology (see Chap. 1). This perspective brings cross-sections into relief. It enables us to evaluate the institutions relevant to all three material flows one by one. The evaluation of the institutions also provides insight into societal dynamics in the mid-nineteenth century. In addition, the institutional environment is an important theme in the sustainability monitor.

³ See for this and the following quote: Jansen, *Het pauperparadijs*, 46.

⁴ In 1822 Van den Bosch also founded the Society of Benevolence for the Southern Netherlands and under this flag founded the free colony of Wortel and the unfree colony of Merksplas.

After that we return to the CBS sustainability monitor. By now we have collected sufficient information in this part of the book to be able to provide a summary of well-being and sustainability in the Netherlands around the middle of the nineteenth century.

6.2 Deficient Dynamism: Citizens, Government, Entrepreneurs and Researchers

6.2.1 ‘Civil Society’

‘Civil society’ was intensely involved with the issue of poverty and it had done this for centuries in the form of poor-relief. In contrast to Van den Bosch’s centrally organized project, poor-relief was traditionally decentralized and segmented. Estimates are that some five thousand local organizations implemented relief, mostly on a religious basis.⁵ Local governments exercised some surveillance over the churchly organizations or sometimes possessed their own public agencies. The national government was minimally involved. The upshot was an enormous variety in poor relief. Usually the organizations supplied sums of money and goods like bread, clothing, turf and other necessities. Some also provided medical aid, education for the children, housing for the elderly and so on. The substance of poor relief differed from administration to administration.

Taking care of the poor was one of the churchly duties. It provided moral peace of mind or was exercised in the full conviction of brotherly love. It was also a bourgeois strategy of control. Trade, industry and agriculture had need of an army of reserve labour. The size of the labour market fluctuated in the course of a year and across the years. A generous supply of cheap labour was a precondition for the Dutch mercantile capitalist agricultural economy. Poor relief was the means to this end. It also provided social stability. By providing minimal support in normal times and extra support in difficult years it prevented riots and revolt among the poor.

For the poor, the dole was part of their survival strategy. They were unable to make ends meet on the basis of labour alone. The winters were the worst. Old age and the child-rearing years (up to age seven) were difficult periods in the life cycle. Disaster struck with sickness and economic recessions. Charity never covered the costs of living. There was always need of supplementary sources of income from labour, loans, help from neighbours etc. Begging and vagrancy could also provide incomes but those sources were risky, including the risk of expulsion from poor relief. These activities were socially unacceptable, were a nuisance and were judged as criminal acts. Theft was of course completely beyond the pale.

⁵P. de Rooy, ‘De armen hebt gij altijd met u: Armenzorg en onderwijs’, in: I. de Haan, P. den Hoed and H. te Velde, *Een nieuwe staat: Het begin van het Koninkrijk der Nederlanden* (Amsterdam 2013), 222.

A big problem of poor relief was the levying of costs. The poor residing in a given municipality were the least problematic. They were supported by local organizations. Struggles about levying costs arose around the poor originating from other municipalities. Poor relief organizations and municipalities persistently tried to foist these costs off on other municipalities. Towns and cities wanted to rid themselves of the wandering poor as quickly as possible. Some municipalities, for example, appointed waggoners who wasted little time in transporting vagrants and vagabonds beyond the municipal limits. A solution to these problems could have been found in a national approach, but the proprietary and churchly organizations had no faith in this option.

The institution of poor relief was stable. The organizations were conservative. Once in a while an effort was made to change things, as in the case of Van den Bosch. ‘Civil society’ was in any case characterized by a conservative bent. This extended to other societal issues like public health, education and industrialisation. After the turbulent periods of the Enlightenment and the French Revolution the impetus to social change weakened and the intensity of public debate declined.⁶ The dominant role of the state in the person of William I did not help matters. Citizens only became active in questions that threatened their own interests, as we saw with the first railways and the first steam grain-mills.⁷ Maintaining the status-quo was often the goal. Virtue aimed at economic recovery and a penchant for change within the existing frameworks were the prime characteristics of ‘civil society.’ Jan Rudolf Thorbecke, constitutional reformer and the first prime-minister after the ‘bourgeois revolution’ of 1848, characterized the period as follows:

In the swings and numerous changes that had afflicted our State since 1795, political zeal and political conviction were weakened, if not extinguished, even among the flower of the nation... Not participation but abstinence seemed to be the patriotic duty.⁸

It took until the 1840s before a new generation of Netherlanders were able to liberate themselves from the scourge of political indifference and to propose initiatives that would reverberate in politics, policy and economy. Provincial agricultural committees initiated the first national Congress for Rural Economy (*Landhuishoudkunde Congres*) in 1846. A new occupational group, engineers, founded the Royal Institute of Engineers in 1847. In 1849, local medical associations founded the Dutch Society for the Promotion of Medicine.

⁶R. Aerts, ‘Het ingetogen vaderland: huiselijkheid, maatschappelijke orde en publieke ruimte’, in: I. de Haan, P. den Hoed and H. te Velde, *Een nieuwe staat: Het begin van het Koninkrijk der Nederlanden* (Amsterdam 2013).

⁷‘Civil Society’ had a weekly opportunity to present its interests directly to the king. Every Wednesday there was an open invitation to all citizens to have an audience with the king. Many took advantage of this standing invitation. J. Koch, *Koning Willem I, 1772–1843* (Amsterdam 2013), 294.

⁸De Rooy, *Ons stipje op de waereldkaart*, 47.

6.2.2 *King and State*

The nation belonged to the King, that is how William I regarded political relations.⁹ The political elite and the bourgeoisie thought no differently. Popular sovereignty had failed miserably during the French Revolution. The King had been responsible for restoring order and stability. His authoritarian style of governance was firmly rooted in the Constitution of 1815 and was long tolerated.

William I was authoritarian, but also enlightened. He regarded himself as the creator of the modern Netherlands and worked on this ideal with irrepressible energy. He was to become known as the ‘merchant king’ because of his meritorious service to trade or the ‘canal king’ because of the construction of numerous canals with a total length of 500 km. He might with equal justification have been called the ‘road king’ because during his reign a coherent network of roads was created; or the ‘industrialist king’ because he envisioned the creation of a modern industry based on the incorporation of modern technology. Must we see his reign as an authoritarian intermezzo between the Republic and the constitutional monarchy? From the perspective of modernisation his reign can be viewed as one big experiment.¹⁰

That experiment entailed promotion of the national welfare in addition to the development of the economy and the earning of money as the most important goals.¹¹ These goals were synonymous with combatting poverty and justified infrastructural projects and industrial subsidies. They were also part of the construction of the ‘colonial complex.’¹² The Netherlands Trading Society (*Nederlandsche Handel-Maatschappij, NHM*) founded in 1824 at the King’s behest, played a crucial role. The Society was established to organize trade with the Dutch East-Indies. It would buy and trade preferably Dutch products that would be transported in preferably Dutch ships that had been built if at all possible in the Netherlands. The Cultivation System was also part of the complex. Van den Bosch, he of the poor-colonies in Drenthe, introduced in the Dutch East Indies that with which he had started in Drenthe: forced agricultural labour. In this case it concerned the Javanese farmer. The NHM organised the flow of goods that this system generated.

The aim of the ‘colonial complex’ was to generate income for the Dutch state and for the stockholders of the NHM. Among the latter’s largest stockholders were William I and a small coterie of Amsterdam investors, along with many smaller ones. For William I, the NHM was also a vehicle for stimulating various industries, creating jobs and fighting poverty. The cotton industry in Twente, for example, flourished thanks to the NHM. The Society founded weaving schools, acquired the most modern looms and put hundreds of smallholders, home weavers and their children to work. This policy, in combination with tariffs and the rural road network, was able

⁹ Koch, *Koning Willem I*, 575.

¹⁰ Koch, *Koning Willem I*, 203. See above all: J.L. van Zanden and A. van Riel, *Nederland 1780–1914: Staat, instituties en economische ontwikkeling* (Amsterdam 2000), chapter 3, 109–148.

¹¹ Koch, *Koning Willem I*, 572.

¹² Koch, *Koning Willem I*, 43–48, 142–148.

to resist competition from British mechanized cotton production. Even after the collapse of the East Indies economy in the 1840s, the Twente textile industry managed to survive and in a later phase make the transition to factory production.

In the Dutch East-Indies the situation was different. The colony was seen by William I and the Dutch state as a source of profit. The 'colonial complex' produced immense incomes. Millions of Javanese farmers laboured to reduce the number of the poor in the Netherlands and augment the assets of the rich.¹³ Profits from the Indies were also used to finance part of the enormous national debt and to pay for much of the war with secessionist Belgium in 1830.

The reign of William I must have contributed substantially to public well-being in the Netherlands, directly due to the policy of the NHM and indirectly with the development of infrastructure that enabled agriculture in formerly peripheral regions to flourish. As far as we can tell, his policies helped to realize a sharp decline in the percentage of poor in the first half of the nineteenth century to about 21% in 1850. That was achieved at the cost of the Javanese farmers who worked under degrading and inhumane conditions comparable to slavery.¹⁴

Public well-being was not the only sustainability issue on which William I exerted a big influence. Another was the problem of water management. The struggle against water could in his opinion be effectively conducted only by a strong state supported by a professional corps of hydraulic engineers. State formation, in other words, was the prerequisite for building a safe delta. But around 1850, with the exception of the reclamation of the Haarlemmermeer, the King, the state, and the corps of engineers could not yet claim any great successes. The large rivers and the sea remained persistent threats to safety.

William I's reign ended dramatically in 1840 with government finances in total disarray. About 60% of the state's income went to pay instalments and interest on the national debt.¹⁵ In the following decades he was much maligned and his remarkable experiment ignored. The abdication of William I marked the start of a turbulent political period. The government and parliament initiated a program of reforms culminating in 1848 in a peaceful revolution led by Thorbecke and marked by the introduction of new constitution. The failure of the King's rule was due among other things to old economic institutions. These now demand our attention.

¹³ De Rooy writes about ten million Javanese who augment the welfare of two and a half million Netherlands. He is then speaking of the beginning of the cultivation system. De Rooy, *Ons stipje op de waereldkaart*, 67. Termorshuizen speaks of an average of 60–75% of all Javanese small farmers in the period 1836–1860. T. Termorshuizen, 'Indentured labour in the Dutch colonial empire, 1800–1940', in: G. Oostindie (ed.), *Dutch colonialism, migration and cultural heritage* (Leiden 2008), 266.

¹⁴ E. Hondius, 'Het slavernijverleden achter de Hollandse horizon', in: I. de Haan, P. den Hoed and H. te Velde, *Een nieuwe staat: Het begin van het Koninkrijk der Nederlanden* (Amsterdam 2013), 186.

¹⁵ Van Zanden and van Riel, *Nederland 1780–1914*, 219.

6.2.3 *Economy and Trade*¹⁶

William I's experiment was first of all inspired by the unification of the Southern and Northern Netherlands in 1815. This would be an ideal synthesis between a South that was developing industrially and a North oriented to commerce. According to the King, in this configuration the Netherlands was now exceedingly well-placed to become a modern industrial-capitalist nation. However it quickly became clear that this was an uneasy combination. There were, for example, differences of opinion about the introduction of a uniform tax system. The South wanted import and export rights in order to protect its domestic industry and as little taxation as possible on basic necessities in order to stimulate the domestic market. The preferences of the North, desiring as few obstacles to trade as possible, were diametrically opposed. These kinds of contradictions ultimately led to the secession of the Southern Netherlands and the founding of the Kingdom of Belgium in 1830.

Other efforts to modernize the economy ran into various kinds of opposition. It proved impossible to create a large domestic market. The Dutch market was strongly fragmented, among other things due to the autonomy of the cities, local excise taxes and the inter-provincial and local tolls. Local markets were moreover dominated by guild-like organizations in craft manufactures, retail trade, transport and fisheries. Groups of entrepreneurs and craftsmen chronically resisted changes that threatened their rights or competitive position. In this way the historical legacy remained firmly anchored in the institutions.

The historical legacy also caused trouble in other quarters. Amsterdam's commercial elite kept on claiming its former hegemonic position in international trade, despite the fact that the glory days of Amsterdam's staple market had long since passed. In the wake of the Belgian secession the king was *nolens volens* forced to concentrate his policy on the Northern commercial elite, its international commerce in colonial products and associated industries like sugar refining, shipbuilding and textiles (largely based on cottage industry and not on the factory system). This was not an economy that could generate strong impulses in the direction of a modern industrialisation process. Another spanner in the works was the role of agriculture. Agriculture was traditionally a strong sector and had comparative advantages relative to other countries. This sector absorbed entrepreneurial initiatives and investments, while industrialisation demanded efforts to build up key sectors like machinery building.

William I had to tack among all kinds of interest groups: Southern industrialists, Northern commercial elites, organized trades, groups of entrepreneurs, provinces, municipalities etc. It often proved impossible for him to maintain his progressive momentum. He was also not always consistent in his politics. The destruction of old and rigid structures in different economic sectors therefore proved extremely difficult. Even after William I abdicated the throne in 1840, it would be another two

¹⁶ See for this subsection: Van Zanden and Van Riel, *Nederland 1780–1914*, 115–121; 203–208.

decades before industrialisation in the Netherlands took off. The institutions in the economy proved to be extremely resilient.

6.2.4 Technology and Science¹⁷

The traditional craft mode of production dominated within the institutional framework of industry in the mid-nineteenth century. Production was modest in scale and was carried on in a workshop, shed or dwelling. Manual labour with hand tools dominated this mode of production. To the extent machines were used, these were invariably simple in nature, traditionally constructed of wood and wrought iron, driven by the workman himself, a horse, a windmill or a watermill. Fabrication consisted of unique products or small series. The craftsman or craftswoman was the central figure.

Small scales and traditional craft production also held for agriculture, trade and services. Knowledge was of a traditional craft nature. It was largely based on experience that was accumulated and transmitted in practice. For some trades, particularly in construction and metalworking, there was supplementary schooling at drafting schools and drawing academies.

Besides the traditional craft knowledge infrastructure there was a modest infrastructure of learned societies. The most important of these dated from the eighteenth century, like the Holland Society for Sciences (*Hollandsche Maatschappij der Wetenschappen*) of 1752, the Batavian Fellowship for Experimental Philosophy (*Bataafsche Genootschap der Proefondervindelijke Wijsbegeerte*) of 1769, and the Society for the Promotion of Industry (*Maatschappij ter Bevordering van Nijverheid*) of 1797. They were a meeting place for merchants, physicians, army officers, entrepreneurs, scientists, hydraulic engineers and other groups within the bourgeoisie. The societies occupied themselves with scientific and technological topics, but regularly also with societal issues. They held competitions for treatises on poverty, national welfare, water management and industrialization.

The universities were independent of the societies. They were above all educational institutions for lawyers, physicians and ministers.¹⁸ The universities were

¹⁷ See for this sub-section: H.W. Lintsen with contributions by M. Davids, 'Een revolutie in kennis', in: H.W. Lintsen et al., *Made in Holland: Een techniekgeschiedenis van Nederland [1800–2000]* (Zutphen 2005), 293–314 and G. Verbong, 'Techniek, beroep en praktijk', in: H.W. Lintsen et al. (ed.), *Geschiedenis van de techniek in Nederland: De wording van een moderne samenleving 1800–1890* (Zutphen 1993), part V.

¹⁸ A. Maas, 'Civil Scientists: Dutch Scientists between 1750 and 1875'. In: *History of Science XVIII* (2010), pp. 75–103. The Organic Law (*Organiek Besluit*) of 1815 apportioned mathematics and the natural sciences to separate faculties. Research became a task of the universities, next to teaching. Initially it was not an obligation for professors, although it was highly encouraged. In the course of the century it would become a more prominent part of the academic job description and an important element in teaching. Scientists were less often seen as self-made researchers and more often as academically educated persons.

socially oriented. Science had to produce knowledge useful for technology, industry, seafaring and so forth. While this did not have to be immediately applicable knowledge, it certainly had to be knowledge possessing a clear link to socially useful matters. Most professors at the beginning of the nineteenth century could be regarded as socially engaged scientists. They placed great value on social service and engaged in all kinds of social activities. For example, they gave lectures to non-academic publics like industrialists, farmers, pharmacists and teachers.¹⁹

In the first half of the nineteenth century new types of knowledge structures were developed in two domains. The first was the state domain of military defence and water management. To educate army officers and hydraulic engineers, the state founded military schools around 1800, that eventually crystallized in the Royal Military Academy at Breda in 1829. The program of studies for engineers for the national Department of Waterways and Public Works (*Rijkswaterstaat*) was transferred to the Royal Academy for Engineers in Delft. The professionalisation of the domain was further consolidated by the founding of the Royal Institute of Engineers in 1847.

In the second place a new kind of knowledge infrastructure developed in the industrial domain of machinery construction. The central figure here was the mechanical engineer. He was the quintessentially modern bearer of knowledge in the age of steam and iron. His profession was nonetheless rooted in craft practices. By dint of years of practice he acquired skills in milling, drilling, planing, riveting and other mechanical operations. But due to the technological dynamism of his domain, his practical preparation ultimately proved inadequate. By means of courses, literature, lectures and study trips abroad he managed to acquire a basis with which to appropriate international developments.

A gradual transformation of the technological knowledge domain took place in the shadow of this traditional craft knowledge infrastructure.²⁰ Knowledge became less subjective and personal. Craft knowledge became more objectified and was codified in books, journals and study materials. All kinds of practical knowledge was inventoried, investigated, described and internationally exchanged. Authors made efforts to explain technical phenomena and laws in technical processes. But while these changes had only a limited impact on contemporary issues in agriculture, industry and other technical domains, they would eventually provide new impulses for industrialisation, public well-being and other social issues.

In many respects the 1840s marked the start of a new era. 'Civil society' woke up, partly thanks to the contributions of younger generations of Netherlanders. William I's departure required renewal of existing political institutions. Venerable

¹⁹ B. Theunissen, '*Nut en nog eens nut*': *Wetenschapsbeelden van Nederlandse natuuronderzoekers, 1800–1900* (Hilversum 2000), 190–193.

²⁰ This is Joel Mokyr's term. See his book: *The gifts of Athena: Historical origins of the knowledge economy* (Princeton 2002).

economic institutions were challenged by the new liberal climate and the ongoing liberalisation of the global market. In the domain of technology new institutions flowered with the emergence of engineers, especially mechanical engineers, and other professional groups. These developments did not yet lead to fundamental social change. The Netherlands remained a mercantile capitalist, colonial and agricultural nation.

At the same time, the 1840s brought a series of shocking calamities: failed harvests, epidemics and worst of all cholera. Poverty increased and showed its ugliest face. Disease was omnipresent and as in the case of cholera exhibited awful images of rapid decay. The popular mood was restless and at times downright grim. This is the context in which the sustainability monitor for 1850 must be placed.

6.3 The Monitor of 1850

The middle of the nineteenth century is the starting point for our investigation into well-being and sustainable development. To chart this dynamic relationship we make use of a measuring system developed at Statistics Netherlands, the sustainability monitor. As explained in Chap. 1, this monitor has three dashboards: the well-being of a people in the ‘here and now,’ the resources preserved for future generations (‘later’) and the transboundary effects of domestic activities on other peoples (‘elsewhere’). Twenty-four indicators serve to track trends in the three dimensions. Every indicator is associated with an important theme and is assigned a value for each period. An historical ‘benchmark’ is an important feature of this approach. This is the frame of reference against which further developments can be set out. The ‘benchmark’ in this study will pertain to the period around 1850. Above, we argued that in order to interpret the results of such a measurement a context is necessary. The preceding chapters have provided this context. The ‘benchmark’ can now be briefly summarized (Table 6.1).

6.3.1 *Well-being ‘Here and Now’*

A proper interpretation requires distinguishing between a present-day perspective and that of contemporaries regarding the themes of well-being and sustainability. Without this distinction we would be hard pressed to acquire a proper understanding of the developments. As far as the dimension of well-being ‘here and now’ is concerned the conclusion in regard to the situation around 1850 is clear from a present-day perspective: this was problematic in many respects (Table 6.1). The indicators reveal a situation in which a significant part of the population (21%) lived below the

Table 6.1 Monitor well-being of 1850 from a contemporary and a present-day perspective

Dashboard well-being ‘here and now’					
Theme	Indicator	Unit	1850	Perspective 1850	Present day perspective
Population	Number inhabitants	million	3.1		
Material welfare and well-being					
Consumption, income	Consumptive expenditures per capita, constant prices	Index (1850=100)	100	—	—
	Income inequality, general	Gini coefficient 0–1	0.48	+	—
	Gender income inequality	% difference hourly wage M/F	?	+	—
Subjective well-being	Satisfaction with life	Score 0–10	?	?	?
Personal characteristics					
Health	Life expectancy	year	37	+	—
Nutrition	Height (military conscripts)	cm	165	—	—
Housing	Housing quality	% slums	30 á 50	+	—
	Public water supply	m ³ /capita	0	+	—
Physical Safety	Victims of murder	number per 100.000 inhabitants.	0.8	+	+
Labour	Unemployment	% workforce.	6.4	—	—
Education	Level of education	years	3	O	—
Free time	Free time	hours per week.	?	+	—
Natural environment					
Biodiversity	MSA	% original biodiversity	73	+	+
Air quality	SO ₂	kg SO ₂ /capita	1.3	+	+
	Greenhouse gas emissions	ton CO ₂ /capita	1.2	+	+
Water quality	Public water supply	m ³ /capita	0	+	—
Institutional environment					
Trust	Generalised trust	% population with adequate trust	?	—	—
Political Institutions	Democracy	Democracy-index 0–100	0.3	—	—

(continued)

Table 6.1 (continued)

Dashboard well-being 'later'					
Theme	Indicator	Unit	1850	Perspective 1850	Present day perspective
Natural Capital					
Energy	Energy consumption	TJ /capita	0.03	+	+
Non-fossil fuels	Gross domestic consumption	ton/capita	2.1	+	+
Biodiversity	MSA	% original biodiversity	73	+	+
Air quality	SO ₂ emissions	kg SO ₂ /capita	1.3	+	+
	Greenhouse gas emissions	ton CO ₂ /capita	1.2	+	+
Water	Public water supply	m ³ /capita	0	+	–
Economic Capital:					
Physical capital	Economic capital stock/capita	index (1850=100)	100	O	–
Financial capital	Gross national debt	% gdp	194	–	–
Knowledge	Stock knowledge capital	Index (2010=100)	–	+	–
Human Capital:					
Health	Life expectancy	years	37	+	–
Labour	Unemployment	% workforce	6.4	–	–
Educational level	Schooling	years	3	O	–
Social Capital:					
Trust	Generalised trust	% population with adequate trust	?	–	–
Political institutions	Democracy	democracy index 0–100	0.31	–	–

Dashboard well-being 'elsewhere'					
Theme	Indicator	Unit	1850	Perspective 1850	Present day perspective
Welfare					
Consumption, income	Development aid	% GDP	–	+	–
Natural capital					
Natural capital	Import of raw materials	ton/capita	0.4	+	?

Legend

+	Not problematic or not problematized
–	Generally acknowledged as problematic
O	Under discussion: different opinions about the scale and nature of the problems
?	Unknown

Note: The signs – and O in the column of 1850 are the then important themes. The column of the contemporary perspective indicates with the sign – which current themes would now be regarded as problematic. For the justification of the evaluation in the table, see the main text

poverty line. The poor found it immensely difficult to provide themselves with the basic necessities of life. They were poorly housed or forced into vagrancy. They were ill-clothed and could barely protect themselves against rain and dampness. Their food was meagre and lacked variation. They were able to consume just sufficient calories to maintain their physical bodies and to supply a bit of labour. The poor and their children were susceptible to all kinds of diseases due to the poor hygienic circumstances in which they lived. They were extremely vulnerable. They frequently suffered hunger and cold. Many could not survive without aid. Their life expectancy was low. These general characteristics hide the fact that there were large differences in poverty between town and country, between the low and high Netherlands and among different regions. Such differences have been described in this section of the book.

Contemporaries saw poverty as one of the most important issues, but they set their norms for poverty considerably lower than we would nowadays. They made few demands in regard to the quality of housing for the poor, the quality of their food or their hygienic circumstances. These themes were barely problematized by contemporaries and certainly not in terms that we would recognize. This is hardly surprising considering the available knowledge, the changed context and the changed attitudes with respect to housing, nutrition, hygiene and health. For contemporaries, the struggle against poverty aimed at survival for the poor and not at improving their quality of life. It was sufficient to provide for a minimum of basic necessities. The shifting norms in regard to poverty after 1850 appear to have had a great impact on the sustainable development of the Netherlands.

Another aspect of quality of life is the natural environment of the Dutch (and not just of the poor). From a present-day perspective, one aspect of the situation around 1850 was extremely problematic: the pollution of the human environment with organic waste, especially organic pollution of surface water and the lack of good drinking water. This extensive environmental (or hygienic) problem was understood only by a small and little-influential vanguard of professionals (especially physicians and engineers: the hygienists) as a social problem that required political action.

From a present-day perspective, the situation in other respects (biodiversity, greenhouse gas emissions, air quality) was at worst only mildly problematic. For example the CO₂ level at that time was far below the norm that we now try to achieve (Fig. 22.3). It will come as no surprise that at the time such issues were neither problematized nor on the political agenda.

An aspect that was problematic both from a present-day and contemporary perspective was the institutional context. It is true that this aspect has not been elaborated on in the preceding text and was only mentioned in relation to poverty, nonetheless the thesis seems defensible. After the departure of William I, who ruled as an enlightened despot, the constitutional order had to be established anew. That process engendered much disquiet and was still not brought to closure around 1850. Also under William I there were few social movements in 'civil society' that engaged with important social issues. An active and powerful 'societal midfield' able to provide a political counterweight to the king on important issues like housing, nutrition and health, was lacking.

An important theme for which indicators are lacking in the sustainability monitor is hydraulic safety. The Dutch delta was perennially threatened by the ‘water wolf.’ The problematic rivers were high on the agenda. From a present-day perspective that was certainly justified. The rivers of those days were not designed for a safe discharge of floodwaters and large quantities of ice. Life in the region of the big rivers was full of risks.

6.3.2 *Well-being ‘Later’*

The resources for future generations – the dashboard for ‘later’ – is split into natural, economic, human and social capital. To what extent does the present-day perspective on these resources differ from that of the mid-nineteenth century?

In our eyes, natural capital around 1850 – in terms of depletion and environment – is a nuanced story. Various indicators like greenhouse gas emissions and energy consumption are (far) under the present-day norm. Moreover, 50% of the energy was provided by a variety of renewable resources like wind, water, muscle power and wood. The degree of biodiversity is hard to ascertain but as far as we can tell, it must have been high. These were in any case concerns that did not arise in those days.

At the same time, it is true that turf and to a lesser extent coal, were used in great quantities. Both belong to the class of finite and exhaustible resources. Nowadays this would give us pause. There were some in those days who were likewise concerned. They were worried about the rate at which turf was extracted and warned of the ‘ultimate disappearance of our fens.’ Some toyed with schemes for growing timber to head off a possible future fuel shortage. Others were less worried and pointed to the immense reserves of coal, especially in England.²¹

Natural capital was vulnerable, among other things for flooding, sand drifts and exhaustion of the soil. Contemporaries acknowledged this vulnerability. Another big problem was the widespread water and air pollution due to organic wastes. Contemporaries barely or only incidentally saw this as a problem. The bourgeoisie often complained of garbage and stench, but framed this above all in terms of a nuisance. Only a small and as yet uninfluential group of hygienists framed the issue as a social problem that demanded political action.

For contemporaries, economic capital that provided the wherewithal to exploit natural capital was an extremely important theme, though any kind of consensus about the nature of the issue was lacking. From a present-day perspective it is clear that modernisation of the economy and transport was a bitter necessity for popular well-being and the fight against poverty. In other countries major transformations were underway. The future of the country was at stake. But differences of opinion and contradictory interests dominated the debate. Contemporaries debated on the improvement of the rivers, the construction of railways, the introduction of the

²¹ Zie Hölsgens (2016), forthcoming in *Tijdschrift voor Sociale en Economische Geschiedenis*.

steam engine and the use of new kinds of fertilizer. Initiatives to improve industry and infrastructure regularly met with opposition. In addition a solution had to be found for the enormous national debt. Well-being for future generations was on the public and political agenda, but there were serious differences of opinion on the way this might be achieved.

Human capital was not a big issue in those days. The condition of the paupers and poor workers was worrisome, but the concerns did not go beyond maintaining the poor as available labour power. Upgrading human capital by investing in housing, hygiene, better nutrition and health care was – barring scattered initiatives – not an option often considered. Upgrading schooling was in discussion. With the wisdom of hindsight such investments should have had a high priority. Moreover it would have been wise to invest in new forms of knowledge like mechanical engineering and the professionalization of existing domains of knowledgeable expertise like hydraulic engineering.

To conclude with social capital. This was problematic both from a contemporary mid-nineteenth century perspective as well as from a present-day perspective. Trust in political institutions had to be regained and ‘civil society’ to be empowered. The sustainability monitor neglects one theme that is an important component of social capital: namely social inequality. We have shown that social inequality has a major impact on popular welfare and the prevalence of poverty. Around 1850 contemporaries did next to nothing about inequality in terms of consumptive expenditures. From a present-day perspective it was imperative to renew social relationships in addition to relationships concerned with economic and human capital.

6.3.3 *Well-being ‘Elsewhere’*

This important dimension – the transboundary effect – is underrepresented both in the sustainability monitor and in historical research. The monitor for 1850 provides just one indicator: the import of goods from abroad. Subsequent investigation should have systematically inventoried the effects on popular welfare in the affected countries. Alas, we shall have to content ourselves with an impression.

Imports consisted chiefly of four types of goods: grain from the Baltic, wood from the Baltic and the Rhinelands, coal from England and colonial goods from the Dutch East Indies. It is not known what effects the grain trade with the Netherlands had on the exporting countries. It is possible that for countries like Finland and Estonia the trade may in some periods have contributed to serious shortages and famine. This has not yet been looked into. It is known that the wood trade with the Netherlands contributed to the decline of tree populations in the Black Forest. The situation in other countries is unknown. It is unclear whether the ‘scientific forestry’ that was then emerging had achieved new equilibria in the ecosystems. Of the English coal mines it is known that by present-day standards they were notoriously unsafe and that every year they claimed hundreds of victims. The cultivation system in the Dutch East Indies was unacceptable by today’s standards because of forced

labour, the impositions on the population and the monopoly of the Netherlands Trading Company (NHM). But from today's perspective this can also be relativised. Pressure on foreign natural capital in terms of quantities of imported raw materials by weight was in fact quite modest by today's standards. Moreover the cultivation system initially bestowed various benefits on Java like a money economy, a kind of property register and a certain increase in welfare.²²

But from the perspective of those days all these concerns were not at issue. Foreign trade was not problematised in the Netherlands in terms of popular welfare elsewhere or excessive demands made on foreign natural capital.

The evaluation of transboundary effects should also be approached from another angle. As we have seen, exports abroad had negative effects on the situation in the Netherlands. Exports of butter and cheese were an example. They were responsible for an impoverishment of the Dutch diet, particularly among the poor.

To summarize, on the basis of the monitor we can distinguish three important sustainability issues from both contemporary and present-day perspectives: material welfare (poverty), the institutional environment (political instability) and social capital (marginal trust in political institutions). There is, however, the caveat that the two temporal perspectives exhibit big differences in how the issues are interpreted. In addition, from a present-day perspective the situation in 1850 is problematic in yet other ways: the personal characteristics (among other things the poor health, diets and housing of a significant part of the population), economic capital (a dearth of innovations), human capital (a lack of high-quality labour power) and the transboundary effects (among others the unethical cultivation system in the colonies). The monitor ignores an important sustainability problem, namely the water management situation. Both from a contemporary and present-day perspective the Dutch delta was vulnerable.

What shifts does the sustainability monitor show for the second half of the nineteenth century?

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²² L. Blussé, 'Koning Willem I en de schepping van de koloniale staat', in: I. de Haan, P. den Hoed and H. te Velde, *Een nieuwe staat: Het begin van het Koninkrijk der Nederlanden* (Amsterdam 2013), 167–170; L. Blussé, 'Labour takes root: Mobilization and immobilization of Javanese rural society under the cultivation system', *Itinerario* 8–1(1984), 77–117.

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