Cotton and Salt: Swedish Colonial Aspirations and the Transformation of Saint Barthélemy in the Eighteenth Century

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Abstract

The environmental history of the Caribbean has been strongly associated with the consequences of sugar cane agriculture and extreme weather phenomena. Consequently, other aspects of environmental change at play in the Caribbean region have remained less known. However, islands such as Anguilla, Barbuda, and Saint Barthélemy had none or very few sugar plantations. The fact that non-sugar producing islands had to find other ways of supporting themselves shaped the environmental history in ways that differed from that of the sugar islands. These alternative environmental histories deserve to be highlighted when presenting the historiography of the Caribbean. In this article, the island of Saint Barthélemy serves as a case study of an island where sugar cane agriculture was absent and tropical storms and hurricanes were of lesser consequence. In outlining the environmental history of Saint Barthélemy during the first decades of Swedish colonial rule, in the late eighteenth and early nineteenth century, the article shows that the Swedish takeover resulted in environmental changes. Sweden's ambitions and expectations concerning the improvement of the island were initially high and much effort was put into the development of the economy. The rationale for the Swedish plans was to exploit the few and scarce resources of the island, but it was the harbour that became the most successful endeavour.

Introduction

A disheartening situation. These words summarize the first impression held by the Swedish Priest Sven Dahlman (1756–1820), one of the first Swedes to set his foot on Saint Barthélemy in 1785. Sweden had acquired the island from the French that same year, and when buying the island, the primary idea had been to develop plantation agriculture. Upon seeing the island for the first time, however, Dahlman quickly deemed it a hopeless task to transform Saint Barthélemy into a plantation island. The French settlers lived in a state of misery; the terrain was rocky and covered by shrubs; all larger trees had been cut down; the soil was dry and poor, and most of the potentially arable land was uncultivated. In Dahlman's opinion, the

prospects for agricultural development appeared to be very limited; the island was too barren for sugar cane.[1] The Swedish merchant Jacob Röhl expressed similar negative views on the agricultural potential of the island. In a memorandum to the Merchant Society in Stockholm, Röhl expressed his view that it was necessary to address previous failed attempts to introduce the cultivation of sugar cane, coffee trees and indigo plants. The plans and high hopes that had driven Sweden to acquire its first colony in the Caribbean suddenly seemed farfetched and unrealistic. On the positive side, both Röhr and Dahlman acknowledged that the salt ponds held promise. Moreover, they also recognized the potential of cotton cultivation – Dahlman even noted that the island was said to produce the best cotton in the West Indies.[2]

Earlier impressions of the island were equally discouraging. In his treatise on the West Indies in 1770, Abbé Raynal portrayed the island as a poor wasteland and neglected backwater, inhabited by French colonists and their slaves.[3] When the first Swedish governor of Saint Barthélemy, Salomon von Rajalin, arrived on the island in March 1785, it immediately became clear to him that the island had to be improved. Simon Bérard, the Swedish consul in L'Orient, informed the Swedish government that the island had little agricultural potential. He therefore urged the Swedes to make use of the island's only valuable natural asset, namely its harbour, and to develop the site into a regional free port.[4] During the first two decades of Swedish rule, Rajalin and subsequent representatives of the Swedish regime embarked on a series of improvements with view to making better use of the island's natural resources. Due to these projects, the face of the island changed. Thus, in 1790, the Swedish physician Samuel Fahlberg who served as Government Secretary on the island wrote that 'one can […] regard this change as a beginning of a new and happier time for these people, weighed down by destitution and misery'.[5] The city of Gustavia, named after King Gustav III, was founded in 1785, and was immediately declared a free port. Its population

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[1] Sven Dahlman, *Beskrifning om S. Barthelemy, Swensk Ö uti Westindien* (Stockholm: Anders Jacobsson Nordström, 1786), 4, 9-12. A short vitae on Dahlman is provided in Johan Hammarin, *Carlstads Stifts Herdaminne, 2:a delen* (Carlstad: G. Wallencrona, 1847), 167.

[2] Jacob Eliasson Röhl, Memorandum, dated Stockholm 14.1.1786, F XVI, Manuskript R, Vitterhetsakademiens handskriftssamling (manuscript collection of the Royal Swedish Academy of Letters, RSAL), Stockholm. On Röhl's memorial, see Wilson, *Commerce in Disguise. War and Trade in the Caribbean Free Port of Gustavia, 1793–1815* (PhD diss., Åbo Akademi University, 2016), 79-80.

[3] Guillaume-Thomas (Abbé) Raynal, *Histoire philosophique et politique des établissements et du commerce des Européens dans les deux Indes*, Première edition, tome cinquieme (Amsterdam, 1770), 146**.**

[4] Victor Wilson, *Commerce in Disguise*, 66–68; Holger Weiss, *Slavhandel och slaveri under svensk flagg. Koloniala drömmar och verklighet i Afrika och Karibien 1770–1847* (Helsingfors: Svenska Litteratursällskapet & Stockholm: Bokförlaget Atlantis, 2016), 56–57.

[5] Samuel Fahlberg, 'Anmärkningar öfver Bomullens planterande på Amerikanska Öarne och i synnerhet på St. Bartelemi', *Kongl. Vetenskaps Academiens Nya Handlingar för Månaderne Januarius, Februarius och Martius år 1790* (Stockholm, 1790), 19.

increased rapidly due to the immigration of merchants and traders from Saint Eustatius, Saint Martin and Saint Christopher.[6] Only two years after acquiring Saint Barthélemy, its population had more than doubled. The town listed some 750 inhabitants while about 1150 persons lived on the countryside.[7]

The objective of this article is to outline the environmental history of Saint Barthélemy in the first decades of Swedish colonial rule, from the late eighteenth to the early nineteenth century. The fact that Saint Barthélemy was Swedish is significant as it was Sweden's only colonial enterprise during this period. There was a great deal of attention and effort to raise the economic output of the island. The article examines the Swedish plans for the colony, as well the possibilities of realizing them with view to the existing natural resources. Further, it investigates the consequences of extreme weather events such as hurricanes and droughts**.** In doing so, the article illustrates how important it was for the Swedish colonial authorities to take careful stock of the resources of their colonies. It also shows that it was necessary to draft realistic plans for developing them, especially because the intention was to transform the island into a valuable asset for the mother country.

Several Swedes visited Saint Barthélemy, and thanks to the Swedish enthusiasm over its only Caribbean colony, the state of affairs on the island are documented in several reports and travelogues. In this study, the main source material comes from the early investigations and mappings by Samuel Fahlberg (1758–1834), who started as Provincial Medical Officer and Customs Inspector and Cashier on Saint Barthélemy in 1785. In addition, he acted as Government Secretary and Director of Survey of the colony.[8] Fahlberg's letters and reports focus on the flora and fauna as well as the natural resources of the island. They are an exemplary source material and therefore useful to anyone interested in Caribbean environmental history.[9] In addition, for this paper, French and Swedish travel accounts, as

[6] Dahlman, *Beskrifning om S. Barthelemy*, 17.
[7] Summary of population census data in 1787, published in Samuel Fahlberg, 'Mortalitets-Lista för Ön St. Barthelemi, upsatt af Gouvernements-Medicus Hr. Samuel Fahlberg, dat. Den 23 April 1787', *Wecko-Skrift för Läkare och Naturforskare*, Åttonde Bandet (Stockholm: Kongl. Ordens-Tryckeri, 1788) 358–361.
[8] Dennis Reinhartz, 'The Caribbean Cartography of Samuel Fahlberg', E. Liebenberg and I.J. Demhardt (eds.), *History of Cartography* (Berlin, Heidelberg: Springer Verlag, 2012), 21–34.
[9] These includes Fahlberg's observations on the island's natural resources and climatic conditions disseminated by the Royal Swedish Academy of Sciences in its series *Kongl. Svenska vetenskapsakademiens nya handlingar*, and excerpts from his letters published in *Wecko-Skrift för Läkare och Naturforskare*. Biographical data on Fahlberg is provided by Ingegerd Hildebrand, 'Samuel Fahlberg'*, urn:sbl:14963, Svenskt biografiskt lexikon,* checked 27.6.2017.

well as administrative material such as governors' reports and correspondence, have been consulted.[10]

The environmental history of the Caribbean is marked by radical changes in ecosystems, brought about by activities of the European colonial powers, many of which used their colonies to produce tobacco, cotton, ginger, indigo and, above all, sugar.[11] In most cases, the environmental problems encountered on Caribbean islands have been due to large-scale monoculture, mostly sugar cane agriculture, which has been the case on islands such as Barbados, Jamaica, Martinique, Guadeloupe and Cuba.[12] Because of the importance of sugar cane cultivation in Caribbean history, the environmental history of Caribbean islands is characterized by the consequences thereof to the extent that it is easy to forget all the other aspects of environmental change at play in the Caribbean region. However, islands such as Anguilla, Barbuda, Saint Barthélemy, the Bahamas and the Caymans had, due to their poorer soil, none or few plantations. The environmental history of these islands is to some extent different from that of the plantation islands. Like the sugar producing islands, they were colonized by Europeans, and underwent significant changes due to the introduction of Eurasian species and new agricultural practices. Still, the fact that non-sugar producing islands had to find other ways of supporting themselves, shaped the environmental history in ways that differed from that of the sugar islands. Their natural environments were shaped by other impact factors, such as building, dredging and paving.[13]

Another topic frequently discussed in the context of Caribbean Environmental History is that of extreme weather. However, not all islands were heavily impacted by tropical storms and hurricanes. On Saint Barthélemy, due to its geographical position, its size, its lack

[10] Notably Dahlman, *Beskrifning om S. Barthelemy* and Bengt Anders Euphrasén, *Beskrifning öfver svenska vestindiska ön St. Barthelemi: samt öarne St. Eustache och St. Christopher* (Stockholm: A. Zetterberg, 1795).
[11] Other plants that drove colonial settlement were jalap, cassia, sassafras, brazil wood and guaiacum, leading to a pattern of where natural resources were exhausted. See Maunder, M. et al., 'Plant Conservation in the Caribbean Island Biodiversity Hotspot', *Botanical Review* 74:1, Caribbean Biodiversity (2008), 197–207.
[12] David Watts, *The West Indies: Patterns of Development, Culture and Environmental Change since 1492* (Cambridge: Cambridge University Press, 1987); Clarissa Kimber, *Martinique Revisited: The Changing Plant Geographies of a West Indian Island* (College Station: Texas A & M University, 1988); Robert Louis Stein, *The French Sugar Business in the Eighteenth Century* (Baton Rouge: Louisiana State University Press, 1988); Reinaldo Funes Monzote, *From Rainforest to Cane Field in Cuba* (Chapel Hill: University of North Carolina Press, 2008). Lowell Woodcock, *Islands of Inequality: The Environmental History of Tobago and the Crisis of Development and Globalisation in the Caribbean 1763–2007* (Doctoral thesis (DPhil), University of Sussex, 2010).
[13] Philip D. Morgan, 'Precocious Modernity: Environmental Change in the Early Caribbean', in: *Caribbean Globalizations, 1492 to the Present Day*, eds. Eva Sansavior and Richard Scholar (Liverpool: Liverpool University Press, 215), 83–104. See also John R. McNeill, 'Envisioning an Ecological Atlantic, 1500–1850', Nova Acta Leopoldina NF 114: 390 (2013), 21–33.

of large-scale plantations, and its small population, hurricane impact was not a stressing factor.

Since David Watts' seminal *The West Indies: Patterns of Development, Culture and Environmental Change since 1492* (1987), Caribbean environmental history has been studied mainly in the context of plantation agriculture and weather conditions.[14] Among works highlighting changes in the society and environment in the Lesser Antilles are Clarissa Kimber's *Martinique Revisited: The Changing Plant Geographies of a West Indian Island* (1988) and Robert Louis Stein's, *The French Sugar Business in the Eighteenth Century* (1988).[15] Matthew Mulcahy discusses the effects of hurricanes and drought on colonial social life are presented in *Hurricanes and Society in the British Greater Caribbean*, 1624–1783 (2006), while Alexander Jorge Berland and Georgina Endfield argue that successive years of drought had a great effect on Antiguan society and economy during the American independence conflict.[16] According to Joseph and Baillard, the literature on the earlier vegetation of the Lesser Antilles is very poor.[17] This is even more the case when it comes to Saint Barthélemy. Due to its small size and modest economic significance, the island is only briefly or not all mentioned in general accounts of the environmental history of the area.[18]

[14]An example of the former in a Cuban context is Monzote's *From Rainforest to Cane Field in Cuba* while Sherry Johnson investigates hurricanes and drought in *Climate and Catastrophe in Cuba and the Atlantic World in the Age of Revolution* (Chapel Hill: University of North Carolina Press, 2011).
[15] Clarissa Kimber, *Martinique Revisited: The Changing Plant Geographies of a West Indian Island* (College Station: Texas A & M University, 1988); Robert Louis Stein, *The French Sugar Business in the Eighteenth Century* (Baton Rouge: Louisiana State University Press, 1988); See also Laura Hollsten, 'Controlling Nature and Transforming Landscapes in the Early Modern Caribbean', *Global Environment* 1 (2008), 80–113; Jennifer Anderson, *Mahogany: The Costs of Luxury in Early America* (Cambridge: Harvard University Press, 2012).
[16] Matthew Mulcahy in *Hurricanes and Society in the British Greater Caribbean*, 1624 –1783 (Baltimore: The Johns Hopkins University Press, 2006). Alexander Jorge Berland and Georgina Endfield, 'Drought and disaster in a revolutionary age: colonial Antigua during the American Independence War', http://www.whpress.co.uk/EH/papers/1166.pdf.
[17] P. Joseph and K. Baillard, 'The Lesser Antilles, True Laboratories for the Study of Forest Systems the Evolution (from the Inventory of Plant Species to the Dynamics of the Anthropized Landscapes)', *Open Access Library Journal* 3 (2016), 1–17, doi: 10.4236/oalib.1102969.
[18] See for instance Watts, *The West Indies*. For example, William F. Keegan, Corinne L. Hofman, Reniel Rodriguez Ramos (eds.), *The Oxford Handbook of Caribbean Archaeology* (Oxford and New York: Oxford University Press, 2013) does not mention Saint Barthélemy.

However, there is a growing body of research on other aspects (slavery, trade) of the history of Saint Barthélemy during the Swedish reign.[19]

The first Swedish colony

Sweden in the late eighteenth century was no longer the great North European power it had been up to 1721 when it lost many of its territories. Despite this, Sweden had long had the ambition to acquire a colony. There had been aspirations to take over Tobago, Puerto Rico or Barima, but none of these attempts had been successful. The main reason for Sweden, as for any nation, to acquire colonies had previously been the hope of establishing lucrative plantations. Great economic gain was at stake. Sweden had a yearly import of 510 tons of coffee beans, between 1,300 and 1,700 tons of sugar, around 638 tons of tobacco, approximately 38 tons of indigo, and more than 63 tons of cotton.[20] The Swedes hoped that a colony would provide some of the products that otherwise had to be imported, and that it would function as a market for Swedish products. For instance, many hoped that a colony in the West Indies could function as a bridgehead for the export of Swedish iron to North America.[21]

Sweden's new colony, Saint Barthélemy was a small volcanic island, situated among the North Eastern Leeward group of the Lesser Antilles in the Caribbean (see Figure 1). One of the Leeward islands, it belongs to the lesser islands in the Caribbean; it has an area of 22.1 square kilometres and is situated southwest of Saint Martin and northwest of Saint Christopher (Saint Kitts). Its highest peak, Morne du Vitet, lies at 286 meters.

The island has a tropical maritime climate dominated by two distinct season, the dry season (December to May) which is predominantly dry, and the rainy season (June to November), when most of the rainfall occurs. The latter also signals the hurricane season.

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[19] For historical research on Saint Barthélemy, see Ingegerd Hildebrand, *Den svenska kolonin S:t Barthélemy och Västindiska kompaniet fram till 1796* (PhD diss., Lund University, 1951; Sture M. Waller, 'S:t Barthélemy 1785-1801: yttre förhållanden; handelspolitik och statsfinansiell betydelse', *Historiskt arkiv* I (1954), 1-37; Jan Arvid Hellström, *"...åt alla christliga förvanter..." En undersökning av kolonialförvaltning, religionsvård och samfundsliv på S:t Barthélemy under den svenska perioden 1784–1878* (Uppsala: Erene, 1987); Yolande Lavoie, Carolyn Fick and Francine M. Mayer, 'A Particular Study of Slavery in the Caribbean Island of Saint Barthélemy, 1648–1846', *Caribbean Studies* 28:2 (1995), 369–403; Julianne Maher, *The Survival of People and Languages: Schooners, Goats and Cassava in S:t Barthélemy, French West Indies* (Leiden: Brill, 2013); Wilson, *Commerce in Disguise*; Weiss, *Slavhandel*.

[20] Johan Henrik Kellgren, 'Förslag, Til Nybyggens anläggande i Indien, och på Africanska kusten' (originally published in *Nya Handelsbiblioteket* 1784), in Sverker Ek and Allan Sjöding (eds.), *Samlade Skrifter av Johan Henrik Kellgren* IV (Stockholm: Bonniers, 1944), 422–423. For the Swedish negotiations in Paris and Gustav III's plans, see Sture M. Waller, 'Det svenska förvärvet av S:t Barthélemy. Huvuddragen av de svensk-franska förhandlingarna', *Historisk tidskrift* 3 (1953), 231–255.

[21] Leos Müller, *Consuls, Corsairs, and Commerce. The Swedish Consular Service and Long-distance Shipping, 1720–1815* (Uppsala: Acta Universitatis Upsaliensis, 2004), 136–137, 218.

Precipitation is limited and Saint Barthélemy ranks as one of the driest and sunniest islands in the Caribbean. However, detailed climate information about the island is sparse and mostly limited to modern travel guides. Today, as in the island's colonial past, human vulnerability to drought is amplified by Saint Barthélemy's lack of permanent freshwater features, which boosts the use of waters cisterns to collect rainwater.

As noted in the introduction, the Swedes quickly realized that the possibilities to bring a plantation economy into being were limited on Saint Barthélemy. Moreover, it was a small rocky island with few inhabitants. When Governor von Rajalin arrived in March 1785, the island inhabited 458 French settlers, 281 slaves and 10 free Blacks.[22] At the time, the only village on the island was L'Orient, which consisted of a few buildings and a church. Saint Barthélemy had been under French control, with several interruptions, between 1659 and 1784.[23] Initially, the French colonists experimented with sugar cane cultivation, but they soon realized that neither the climate nor the land was suitable for the crop. Instead, cattle rearing, accompanied by small-scale cultivation of cotton, emerged as the main occupations. However, the British attacked the island repeatedly in the 1740s and 1750s, which resulted in a regression in cattle breeding. This had the French settlers shifting to animal husbandry involving mostly goats, which was why the island was nicknamed 'Goat Island'.[24]

A barren dry rock

When the Swedes arrived, Saint Barthélemy seemed as nothing more than a barren dry rock, covered only by shrubs and thickets. However, it had not always been like this. Pockholz (Lignum vitae) or guaiac wood (palo santo, *Bulnesia sarmienti*) had once covered the island. According to Abbé Raynal, the aridity of the soil made the early colonists resort to guaiac wood (palo santo, *Bulnesia sarmienti*), which was found in abundance on the island in the late seventeenth and early eighteenth century.[25] Before the British attacks in the 1740s and 1750s, the islanders exported guaiac (gayac) as a dyewood, however, the export ended with the

[22] See population data for Saint Barthélemy presented and commented in Wilson, *Commerce in Disguise*, 86, Table 2.1.
[23] Yolande Lavoie, "Histoire sociale et démographique d'une communauté isolée: Saint-Barthélemy (Antilles françaises)." Revue d'histoire de l'Amérique française 42:3 (1989): 411–427.
Jean Baptiste du Tetre, *Histoire générale des Antilles habitées par les François*, tome 1 (Paris, 1667), 409–416, 507–5122; (Abbé) Raynal, *Histoire philosophique et politique […] dans les deux Indes*, 76–77.
[24] Lavoie, Fick and Mayer, 'A Particular Study', 371–380.
[25] Raynal, *Histoire philosophique et politique […]dans les deux Indes*, 143.

destruction of both the man-made water reservoirs and the woods.[26] These were then replaced with Tamarind trees (Tamarindus indica), which were, according to Dahlman, found in great abundance.[27]

The greatest challenge on St Barthélemy was the scarcity of fresh water. In 1786, there were four wells on the island, but none of these had fresh water fit for drinking. The paucity of drinking water was probably the main reason for the absence of a permanent indigenous population on the island when the Europeans arrived in the seventeenth century. Interestingly, water resources were scarce despite an annual rainfall of about 1,000 mm. However, run-off is high as the rock layer is too porous to store water received during the autumn storms and what remains quickly evaporates in the sun.[28]

The scarcity of fresh water caused a multitude of difficulties for the Swedes. Samuel Fahlberg noted in his letter to Professor Bergius that there was no fresh water found on the island, only a few pits filled with bad water. To his surprise, the French colonist had not built any cisterns to collect rainwater. Sven Dahlman, in turn, claimed that there existed a few cisterns on the island, as well as wells. The water was brackish but still used by the inhabitants. Nevertheless, both Fahlberg and Dahlman noted that the islanders had to import water from Saint Christopher and Saint Eustatius.[29]

Fahlberg's weather observations from May 1786 to April 1787 show that lack of water was a frequent problem, particularly during the wet season in October and November 1786 when there was no precipitation for 40 days. A 15-day period without precipitation is reported of in December (dry season), followed by 22 days without rain in January 1787. Furthermore, there were ten rain free days from the end of January to the beginning of February, and in March Fahlberg noted a 32-day period without any rain.[30] The period beginning in the wet season 1786 to the end of the dry season 1787 appears to have been particularly dry. Vice Governor Per Rosén von Rosenstein also mentions a two-year period of drought and poor harvests, and conveyed his deep distress over the state of the colony he had been summoned to govern. In a report from July 1788, Rosenstein complained that not only the vegetation, but also the inhabitants, had suffered considerably from lack of water as the

[26] Maher, *The Survival of People and Languages*, 32.
[27] Dahlman, *Beskrifning om S. Barthelemy*, 12; Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 34.
[28] Julianne Maher, 'Fishermen, farmers, traders. Language and economic history on St. Barthélemy, French West Indies', *Langue in Society* 25/3 (1996), 373–406.
[29] Fahlberg, 'Utdrag af Bref', 301; Dahlman, *Beskrifning om S. Barthelemy*, 26.
[30] Samuel Fahlberg, 'Observationer öfver värmen, vinden och väderleken på ön St. Barthelemi i Vest-Indien', Kongl. Vetenskaps Academiens Nya Handlingar för Månaderne April, Maj och juni år 1787 (Stockholm, 1787), 143–151.

water stored in the cisterns and water holes had exhausted.[31] Lack of evidence from the neighbouring islands makes it difficult to assess if this was part of a widespread drought. For example, in a study of Antigua, lack of evidence from this period suggests that rainfall during these years were "assumed normal", whereas the following years (1788–91) clearly where drier.[32] The beginning of the dry period on Antigua seems also to have affected Saint Barthélemy.

The scarcity of water led to technical solutions aimed at storing water. Also, after the Swedish take over, the influx of people to Gustavia created the need to provide sufficient fresh water for its inhabitants. The best way to collect rainwater was in cisterns, a method that was in use on the neighbouring islands. Saint Eustatius, for example, also lacked natural springs. On Saint Eustatius, however, rainwater running down from the Quill volcano, twice as high as Morne de Vitet, was collected in a huge water storage in Oranjestad. From this storage, most of the islands' inhabitants could fetch their daily fresh water. This praxis was not in use on Saint Barthélemy and it was probably not an option. In Gustavia, the inhabitants used house roofs to collect rainwater, which then was led, via gutters, into water cisterns made of stone.[33] This technical solution for storing water was slow to spread to the countryside. At the beginning of the Swedish period, there existed but a few cisterns on the larger estates, but most inhabitants simply dug holes in the ground to collect water.[34] In 1795, Fahlberg listed five cisterns, seven wells and four natural springs in use on the countryside.[35] One year later, according to Fahlberg's maps, there were 24 cisterns in Gustavia in 1796, and in 1799 there were 32 cisterns.[36] However, the improved water collection system on the island could not provide enough fresh water during prolonged periods of dry weather. Water

[31] Per Herman Rosén von Rosenstein's report, dated 5.7.1788, Saint Barthélemysamlingen I/B, Riksarkivet [Saint Barthélemy collection, Swedish National Archives; SBS, SNA], Stockholm.
[32] Alexander Jorge Berland, *Extreme weather and social vulnerability in colonial Antigua, Lesser Antilles, 1770–1890* (PhD thesis, University of Nottingham, 2015), 64.
[33] Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 18, 39–40.
[34] Samuel Fahlberg, 'Utdrag af samlingar till Natural-historien öfver Ön St. Bartelemi i Wästindien', *Kongl. Svenska vetenskapsakademiens nya handlingar*, Band 7 (Stockholm, 1786), 226.
[35] Samuel Fahlberg, Charta öfver ön St. Barthélemy dedicerad till Kongl. Wetten:Akademien, 1795 [Fahlberg's map on Saint Barthélemy, 1795], Kungliga Vetenskapsakademien [Royal Swedish Academy of Sciences, RSAS], Stockholm.
[36] Samuel Fahlberg, Charta öfver Gustavia på saint Barthelemi som det förhöll sig den 30 April 1796 [Fahlberg's map of Gustavia, 1796] and Samuel Fahlberg, Charta öfver Staden Gustavia 18.10.1799 [Fahlberg's map of Gustavia, 1799], both archived in Utländska Stads- och Fästningsplaner, Krigsarkivet [Maps on foreign towns and fortresses, Swedish Military Archives, SMA], Stockholm.

shortage continued therefore to be a problem and the inhabitants had, during extreme dry years, to import fresh water from Saint Christopher.[37]

Fahlberg's vision for Saint Barthélemy

Many were pessimistic about the island, as shown in the introduction, but not all. Samuel Fahlberg had great visions for how to exploit the island and he decided not to dismiss Saint Barthélemy's value simply because of its size. He argued that even though Saint Eustatius, Saba, Nevis and Montserrat were smaller that Saint Barthélemy, nobody raised any doubts about their value.[38]

Fahlberg – whose teacher at the University of Uppsala had been Carl von Linné's student Carl-Peter Thunberg – was a natural historian trained in the Linnaean tradition. According to this view, knowledge about nature offered a foundation for improving and using it. Fahlberg therefore believed that the island could and should be improved. In his letters to the Swedish medical doctor, natural scientist and member of the Swedish Academy of Sciences, Peter Jonas Bergius (1730–1790), Fahlberg noted both the pros and cons of Saint Barthélemy. He considered it to be dry and rocky, but that it had an agreeable climate. He also explained that the island was covered with several species of cactuses and opuntia as well as 'uncountable' sticky trees, among others the manchineel tree (*Hippomane Mancinella*). The fruits of latter one, Fahlberg explained, were very beautiful but highly toxic and thus the Swedish governor had therefore called for the eradication of this tree on the island.[39]

Regarding the agricultural potential of Saint Barthélemy, Fahlberg agreed with Dahlman and Röhl in that there was no great commercial potential in the cultivation of indigo, tobacco, sweet potato, manioc, maize and sorghum. An integral part of the initial Swedish colonial project had been to promote the cultivation of cotton, sugar and coffee on Saint Barthélemy.[40] In his first account, Fahlberg still writes favourably about sugar cultivation. It appeared that sugar cane was grown on the island and made into syrup while the leaves of the plant were used for roofing. One inhabitant even established a sugar plantation, and Fahlberg

[37] Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 11; Letter from Johan Eric Forsström to Jacob Axelsson Lindblom, dated Gustavia 25.5.1814, Lindblomska brevsamlingen (BR 29), Stiftsbiblioteket [Diocesan library], Linköping; Olof Erik Bergius, *Om Vestindien* (Stockholm: A. Gadelius, 1819); C.A. Carlsson's remarks in Henry Nelson Coleridge, *Sex månader i Westindien år 1825. Öfversättning från Engelskan med anmärkningar af C.A. Carlsson, Phil. Mag:r och Gouvernementspastor* (Linköping: Axel Petre, 1835), 173.
[38] Fahlberg, 'Utdrag af samlingar till Natural-historien', 215–221.
[39] 'Utdrag af Bref från Hr. Samuel Fahlborg [Fahlberg], dat. St. Barthelemi d. 14 Maji 1785, til Prof. Bergius', *Wecko-Skrift för Läkare och Naturforskare*, Sjette Bandet, Stockholm: Kongl. Ordens-Tryckeri 1786, 300–301.
[40] Dahlman, *Beskrifning om S. Barthelemy*, 1786, 10–11.

had high hopes, anticipating the building of mills and other infrastructure needed in sugar production.[41] But although one could, here and there, find pockets of suitable land to grow sugar cane, these patches were too small for large-scale cultivation.[42] In the end, cotton was the only crop that could thrive on Saint Barthélemy. Fahlberg therefore proposed that cotton cultivation should be practiced more efficiently, recommending a system of intercropping where cotton plants should be planted together with maize, sorghum, 'Angolan peas' (also known as pigeon or Congo peas, *Cytisus cajan*). These were agricultural staples that fed both planters and slaves, as well as providing shelter for the cotton plants.[43]

Fahlberg's first vision: cotton

Cotton had been cultivated in the West Indies on almost every island in the Caribbean. While it was regarded as a minor crop on the larger islands such as Jamaica,[44] it became a major staple on the lesser islands such as Barbados where its cultivation had been increasing since 1775,[45] or on the Bahamas, where its cultivation expanded in 1784.[46]

The cotton plantations were not very well developed on Saint Barthélemy in the beginning of the Swedish rule. They covered about one-eighth of the potentially arable land and only between 300 and 400 cotton bales were exported from Saint Barthélemy to the neighboring islands. However, Dahlman and Fahlberg assured that cotton cultivation could be substantially increased if only the Swedish government encouraged the colonists to clear more land.[47] Cotton was considered well suited to those parts of the island not entirely exposed to the almost constantly blowing easterly winds. On the exposed parts of the island, in order to protect the cotton plants from the winds, it could be cultivated together with maize, sorghum and pigeon peas, which would also serve as staple food for both the white and black population. One cotton plant would give two harvests after which the plant was pulled from

[41] Fahlberg, 'Utdrag af samlingar till Natural-historien', 227.
[42] Fahlberg, Anmärkningar öfver Bomullens planterande på de Americanska Öarne och i synnerhet på St. Barthelemi', *Kongl. Vetenskaps Academiens Nya Handlingar för Månaderne Januarius, Februarius och Martius 1790* (Stockholm, 1790), 3–4.
[43] Fahlberg, 'Anmärkningar öfver Bomullens planterande', 4–8.
[44] B.W. Higman, *Jamaica Surveyed: Plantation Maps and Plans of the Eighteenth and Nineteenth* Centuries (Kingston, Jamaica: University of the West Indies Press, 2001), 14, 192.
[45] Otis Paul Starkey, *Economic History of Barbados: A Study of the Relationship between Environmental Variations and Economic Development* (New York: Columbia University Press, 1939), 103–107. For a detailed account, see Justin Roberts, 'Working between the Lines: Labor and Agriculture on Two Barbadian Sugar Plantations, 1796–97', *The William and Mary Quarterly*, Third Series, 63:3 (2006), 551–586.
[46] Michael Craton, 'Hobbesian or Panglossian? The Two Extremes of Slave Conditions in the British Caribbean, 1783–1834', *The William and Mary Quarterly* 35:2 (1978), 324–356 (p. 325).
[47] 'Utdrag af Bref från Hr. Samuel Fahlborg [Fahlberg], dat. St. Barthelemi d. 14 Maji 1785', 300; Dahlman, *Beskrifning om S. Barthelemy*, 10–11; Fahlberg, 'Utdrag af samlingar till Natural-historien', 227.

the ground and new seeds were sown in either February/March or August/September. This meant five harvests in two years. According to Fahlberg's calculations, one farm needed two slaves to cultivate one Quarré (quarter, 36 French feet), which could produce 170 kilograms of cotton. However, a more realistic output, when taking natural hazards and parasites into account, was probably closer to 68 to 85 kilograms.[48]

The cotton farmed on Saint Barthélemy was of good quality and Fahlberg asserted that the English were willing to pay a good price for it. The revenue was also high. The costs for establishing and maintaining a cotton farm was between 8 and 10 Riksdaler,[49] and one Quarré producing 85 kilograms of cotton, which was sold for 100 Riksdaler, would make 80 to 90 Riksdaler in net profit. This meant that a person growing anything between 6 to 15 Quarré could earn up to 600 or 1,355 Riksdaler in one year. The authorities, therefore, encouraged cotton cultivation. Consequently, in 1787, there were already 127 estates producing 29 tons of cotton, worth, in Fahlberg's estimation, 10,000 Riksdaler.[50]

The Swedish colonial sources provide little information regarding the attempts by the Swedish West India Company or the Swedish government to promote the cultivation of cotton. Nevertheless, in 1788, the cultivation of cotton had taken over hitherto unused land and cotton was grown all over the island. During this expansion, free-roaming goats had become a nuisance. In consequence, most of the goats were killed and the only remaining goats were found on the small islet of La Fourche north of Saint Barthélemy. The expansion of cotton cultivation also meant that trees and shrubs were cleared to free more land.[51]

Another indication of the expansion of cotton plantation was the increase of slaves on the countryside. Dahlman suggested that more slaves should be obtained[52], and the countryside slave population increased substantially during the early decades of Swedish period. In 1784, at the end of the French era, there were 282 slaves on the island, and twelve years later, there were 528.[53] Cotton plantation owners were the biggest slave owners and the wealthiest families could own anything from 50 up to 150 slaves.[54] Whether the Swedish

[48] Fahlberg, 'Anmärkningar öfver Bomullens planterande', 7–11, 18.
[49] Riksdaler (daler until 1604) was the Swedish main currency, originally introduced in 1534, and the sole currency after 1776. Its weight in silver was 25.5 gram and therefore the exchange rate between the Riksdaler and other currencies has been different during different times. Banknotes were in circulation. For the Swedish currency in the eighteenth and nineteenth centuries, see Rodney Edvinsson, Rodney and Johan Söderberg, 2011, A Consumer Price Index for Sweden 1290–2008, Review of Income and Wealth, vol. 57 (2/2011), 270–292; Markus A. Denzel, Handbook of World Exchange Rates, 1590–1914 (Farnham: Ashgate 2010), 339.
[50] Fahlberg, 'Anmärkningar öfver Bomullens planterande', 18–20.
[51] Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 41–42, 60.
[52] Dahlman, *Beskrifning om S. Barthelemy*, 11.
[53] See population data in Wilson, *Commerce in Disguise*, 86, Table 2.1
[54] Weiss, *Slavhandel*, 152–158.

government actively participated in the acquisition of new slaves is not known, and there are few traces of the role of the government in the slave trade in the sources.

The expansion of cotton cultivation on Saint Barthélemy resembles the development on the Danish island of Saint John at the end of the eighteenth century. Local environmental conditions and microclimate naturally mattered. However, in contrast to the Swedish island, where the French colonists who later became the subjects of the Swedish king cultivated cotton, the expansion of cotton cultivation on St. John was the result of the free coloured population acquiring both land and slaves.[55] This was different from the development on the Danish 'sugar island' of Saint Croix, where almost all plantations were owned by white owners and cotton was planted on well-drained lee slopes away from northerly winds.[56] Nonetheless, cotton cultivation was not lucrative in the long-term. Environmental constraints and economic competition brought an end to the cotton boom in the Caribbean by 1800. Soil exhaustion, insects and periodic droughts, in addition to the expansion of American cotton production, resulting in a steady decline in prices, made cotton growing increasingly problematic. For example, sugar had expanded into areas previously dominated by cotton on Saint Croix,[57] whereas the cultivation of cotton peaked in the early 1790s and declined thereafter in the Bahamas.[58]

On Saint Barthélemy, the cotton boom continued for about two decades. However, in 1812, the Swedish governor Bernd Robert Stackelberg had to admit that cotton had become non-profitable.[59] The scarcity of water and the meagre soil made it impossible to practice sustainable large-scale agriculture. Hence, it is a matter of discussion if there were 'plantations' on Saint Barthélemy. If a plantation is defined as an estate on which crops such as coffee, sugar, and tobacco are cultivated by resident labour, the estates growing cotton were indeed plantations. Still, the plantations were not the backbone of the economy, and furthermore, the number of white people exceeded the black inhabitants in the countryside during the Swedish period.

[55] Douglas V. Armstrong, Mark Hauser, David W. Knight and Stephen Lenik, 'Variation in Venues of Slavery and Freedom: Interpreting the Late Eighteenth-Century Cultural Landscape of St. John, Danish West Indies Using an Archeological GIS', *International Journal of Historical Archaeology* 13:1 (2009), 94–111.
[56] Daniel Hopkins, Philip Morgan, and Justin Roberts, 'The Application of GIS to the Reconstruction of the Slave-Plantation Economy of St. Croix, Danish West Indies', *Historical Geography* 93 (2011), 85–104 (p. 90).
[57] Hopkins, Morgan and Roberts, 'The Application of GIS', 96.
[58] Craton, 'Hobbesian or Panglossian?', 352.
[59] Bernt Robert Stackelberg, report dated 5.10.1812, Handlingar från och med 1812, SBS, SNA.

Fahlberg's second vision: Limestone and salt

The exploitation of Saint Barthélemy did not solely focus on what could be grown, the Swedes also saw potential in what laid beneath the surface. In 1786, Fahlberg asserted that the earth contained enough limestone in order for lime burning to be profitable, particularly in areas not suitable for plantations. The local limestone, in his opinion, was better than that the limestone imported to Saint Barthélemy from Bristol. Fahlberg's views on improvement become apparent when he expresses his disappointment after trying to convince the colonists of the usefulness of such an undertaking. Fahlberg bemoaned that the colonists were used to being poor and not habituated to being ruled by anyone with an interest in their well-being.[60] Although these plans never resulted in any largescale activity, the idea of burning and exporting lime was not a farfetched one as this was one of the goods produced on the nearby island of Barbuda.[61]

In addition to lime burning, Fahlberg recommended a better management of the existing salt ponds. The history of salt production in the Caribbean is less known than that of sugar and cotton. However, salt was a basic commodity needed for food conservation, notably by the cod fisheries along the north-eastern coast of North America which, in turn, produced salt fish consumed by slaves in the Caribbean. All European powers tried to obtain a 'salt island' – these were low sandy formations with low average annual rainfall, such as Salt Tortuga off the coast of Venezuela, Bonaire in the Dutch Antilles, Anguilla as well as the Turks and Caicos Islands in the Bahamas where it was the dominating industry.[62]

Already in 1786, Dahlman and Röhl commented upon the potentials of salt making on Saint Barthélemy. The Swedish botanist Bengt Andersson Euphrasén (1755–1796),[63] who visited Saint Barthélemy in 1788, also suggested that the salt ponds on the island should be exploited more efficiently. Following the classification of Jarecki and Walkey, the salt ponds on the island were either hypersaline permanent ponds with seawater

[60] Fahlberg, 'Utdrag af samlingar till Natural-historien', 225.
[61] Allison Bain, Anne-Marie Faucher, Lisa M. Kennedy, Allison R. LeBlanc, Michael J. Burn, Rebecca Boger and Sophia Perdikaris, 'Landscape Transforamtion During Ceramic Age and Colonial Occupations of Barbuda, West Indies', *Environmental Archaeology: The Journal of Human Palaeoecology*, published online 07 July 2017, http://dx.doi.org/10.1080/14614103.2017.1345115.
[62] Cynthia M. Kennedy, 'The Other White Gold: Salt, Slaves, the Turks and Caicos Islands, and British Colonialism', The Historian (2007), 215.
[63] A bibliographical outline on Euphrasén is provided by Gudrun Nyberg, 'Ögontröst: en biografi över naturforskaren Bengt Andersson Euphrasén: 1755–1795', *Svenska Linnésällskapets årsskrift* 2010, 69–89.

seep or mesosaline permanent ponds with underground sea connection.[64] All of them had been owned by the French crown and they had at times yielded a good quality salt that had been exported to the neighboring islands. Unfortunately, most of the salt ponds had fallen in decay due to the neglect of the French colonial government and there were only two larger and two smaller ponds in function when the Swedes arrived.[65] Euphrasén was critical about the state of the salt ponds. Initially, they had been taken over by the Swedish crown but their restoration had been made a duty of Swedish West India Company, which was established in 1786 and made in charge of the administrative and economic development of the island.[66] Two years later, when Euphrasén visited the island, nothing had happened. The salt ponds were still in a bad condition They were filled with filth and cattle and pigs trampled in them.[67]

Fahlberg on his part estimated that the salt ponds would have the capacity to produce more salt than was needed on the island.[68]. He noted that the salt ponds – Euphrasén termed them swamps (Swedish: *träsk*) – were situated in low lying areas close to the sea, and were therefore filled with sea water during the storm season. The sea-water then evaporated during the dry season, leaving behind fine white salt. The only dilemma was the weather conditions. A dry year, not favourable for the island in general, resulted in high output, while the output was nil during a wet year.[69]

Explicit plans to make better use of the salt ponds were finally made by Governor Carl Fredrik Bagge (governor between 1790 and 1795) in 1795. Bagge's plans involved cost estimations of 80 'Negro slaves', including their provisions and clothing plus the eventual loss due to mortality during the first year.[70] Fahlberg's map from 1795 suggests that the salt ponds were indeed more efficiently exploited at that time. The map lists all buildings on the island, indicating whether they were inhabited by free people or slaves, and the map details eight and respectively twelve slave houses in close vicinity to the two largest salt ponds.[71] It is presumable that at least some of these slaves worked in the salt ponds. However, compared to the Turks and Caicos Islands where the salt industry engaged some 1,900 slaves in 1822, fewer than 1,500 slaves lived on Saint Barthélemy at that time (even at

[64] Lianna Jarecki and Mike Walkey, 'Variable hydrology and salinity of salt ponds in the British Virgin Islands', Saline Systems 2:2 (2006), https://doi.org/10.1186/1746-1448-2-2.
[65] Dahlman, *Beskrifning om S. Barthelemy*, 14. Röhl, Memorial, RSAL.
[66] Wilson, *Commerce in Disguise*, 81.
[67] Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 12.
[68] Fahlberg, 'Utdrag af samlingar till Natural-historien', 226.
[69] Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 11–12.
[70] Carl Fredrik Bagge, report dated 15.8.1785, SBS I/B, SNA.
[71] Fahlberg's map on Saint Barthelemy, 1795, RSAS.

the most, there were about 2,000 slaves on the island).[72] In total, Fahlberg's map indicates that there were at least eight salt ponds on the island. Figure 2 details one of Fahlberg's maps, which shows the salt ponds, the island's buildings including the number of water cisterns.

The improvement of the salt ponds remained a neglected duty of the West India Company. When the company was dissolved in 1805, the Swedish Crown took over the administration of the island. Even after this, it took a decade before salt production became important. At this point, the Crown was not anymore in charge of the salt ponds. Instead, a private company had started the extraction of salt, producing up to 8,000 barrels of salt during the good years in the 1830s.[73] The success of the ponds relied on the weather conditions. The good years in the1830s coincide with major droughts recorded on Antigua between 1834 and 1837.[74] Whether or not the climate of Saint Barthélemy is determined by the same factors as Antigua, is somewhat unclear. However, on Antigua the only dry period before the droughts in the 1830s was between 1788 and 1791 (when Euphrasén visited the island), and again 1820 and 1822, which could explain why the salt ponds on Saint Barthélemy were not as successful as they could have been.

The harbour and the free port of Gustavia

In retrospect, it becomes evident that the ventures to increase agricultural, limestone and salt production were futile. Hence, Sweden's best strategy was to invest in international commerce and act as an economic hub, which meant developing the harbour. It appears that the Swedish crown had plans to develop the island more as a trade venture than as a plantation island already in 1784. When Gustavia was founded in 1785, the new capital was immediately proclaimed a free international port. This solution had proved to be a good strategy on the Danish island of Saint Thomas and the Dutch owned Saint Eustatius as ships from various nations could trade there and pay a very small duty.[75] Accordingly, the governor Salomon von Rajalin, was mainly interested in the transit trade as a way for the colony to profit Sweden. This involved sending coffee, sugar and rum to North America in exchange for Swedish iron, rope and burlap.[76]

[72] See further Weiss, *Slavhandel*.
[73] Bergius, *Om Vestindien*, 202.
[74] Berland, 64
[75] See further Wilson, *Commerce in Disguise*.
[76] Salomon Mauritz von Rajalin, report, dated 19.12.1785, SBS I/A, SNA.

The harbour of Gustavia, called Le Carénage, was sheltered from winds. It was also large enough to harbour several ships at a time. However, while it could give shelter to 40 to 50 smaller vessels, bigger ones had to anchor in the road outside Le Carénage.[77] Therefore, the top priority of the Swedes was to develop the harbour. It is interesting to note that Samuel Fahlberg even envisioned the establishment of a second harbour and town at Ance du Colombier on the northern side of the island; this plan, he argued, could be realized when trade was booming and the island had witnessed an extraordinary influx of immigrants from the surrounding island. Not surprisingly, the plan remained fictitious.[78]

Of all environmental manipulations during the Swedish period, the dredging of the harbour probably impacted the ecosystems most of all. This project begun in 1785 and involved the building of the city of Gustavia around the bay in a U-shape (See Figure 3). A project of this size required a large work force. The actual work was done by slaves, but because the number of slaves on the island was fairly small, every inhabitant was asked to contribute to the undertaking by sending a few slaves to work with the dredging. When the harbour was finished, it had a depth of 3–4 fathoms (1 fathom = 6 feet) with a good ground for anchoring. It now provided shelter for as much as 100 smaller vessels during the hurricane season, which, for example, the harbours of Saint Eustatius and Saint Christopher could not provide.

Simply dredging the harbour was not enough to secure Le Carénage as a safe haven for ships. In the early days, the primary dilemma was that dirt and stone flowed into the harbour during torrential rains, thus threatening to fill up the harbour. In order to prevent this, it was necessary to pave the streets of Gustavia with local stone. The inhabitants were requested to contribute, and every house owner was responsible for paving the street in front of their house.[79] In addition, there was a continuous demand of slave labour to repair the harbour and the streets.[80] Therefore, in 1789, governor von Rosenstein issued a declaration, proclaiming that the Swedish government could call for slaves for the building projects. During the first decade, there was a plan to rebuild the harbour and dock, resulting in a new outline for the harbour by 1807.[81] It is not surprising that there were plans for such undertakings at this particular time. During the Revolutionary and Napoleonic wars, several

[77] Dahlman, *Beskrifning om S. Barthelemy*, 15; Fahlberg, 'Utdrag af samlingar till Natural-historien', 215.
[78] Fahlberg, 'Utdrag af samlingar till Natural-historien', 220.
[79] Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 14–15.
[80] Anders Bergstedt, Underdånigaste Pro Memoria Rörande Ön St. Barthelemys tillstånd, dated Stockholm 31.8.1803, 157 Protokoll vid Direktionssammanträden, Västindiska kompaniets arkiv (Archives of the Swedish West India Company), Handel och Sjöfart, SNA, Stockholm.
[81] Samuel Fahlberg's map on Gustavia, 1807, Uppsala University Library, Uppsala.

other islands closed their ports to ships of certain nations. Business in Saint Barthélemy, on the other hand, thrived during this period and one of the traded commodities was slaves. The trading was conducted by private merchants, not by the Swedish government. However, the Swedish crown benefited from the slave trade by receiving a quarter of the revenues of the customs duty.[82]

On Saint Barthélemy, the Revolutionary War period coincides with fervent building activity in Gustavia. The city emerged as one of the few remaining open free ports in the region, which resulted in an influx of inhabitants from neighbouring French and Dutch islands. By 1812, the island's population stood at almost 5,500 people whereof some 3,900 lived in Gustavia, making it the tenth largest city in the Swedish kingdom. However, the number of native Swedes never exceeded 60.[83]

The main planner and architect of a new urban space surrounding the harbour was Fahlberg, and he drew several maps that give indications of both the rural and the urban environment on the island. For instance, according to a map dated in April 1796, the town's 64 blocks consisted of 269 plots upon which, in addition to the 24 water cisterns, 300 houses had been built. Three years later, he noted that 'at present the same 64 blocks contains 345 plots built with 224 larger and smaller houses and 32 cisterns. When now the loss to the fire 4 July1798 in all took 37 houses and buildings, the town has increased by 561 houses and 8 cisterns, in addition to 76 plots measured by me, over a period of the last 3 years and 6 months'.[84]

When the Swedes took over Saint Barthélemy, there had been a small village with few buildings. The village was now transformed into a town with a strict orthogonal network and a large harbour. The dry and barren landscape was transformed into an ordered and regulated space. There were street façades of town houses in pale colours and streets and blocks were given Swedish names. The first floors of the better houses were built of stone with wooden top floors while the houses of the poor were built of wood, often imported from North America.[85]

[82] See further Wilson, *Commerce in Disguise*, and Weiss, *Slavhandel*.
[83] Wilson, *Commerce in Disguise*, 86.
[84] Fahlberg's map of Gustavia, 1796, SMA.
[85] Weiss, *Slavhandel och slaveri*, 75.

The dangerous season

According to late eighteenth-century Swedish observers, Saint Barthélemy was the most wholesome of all Caribbean islands, and the island mostly enjoyed pleasant weather throughout the year. However, during August, September and October, in the midst of the hurricane season, which lasts from July to November, there was always the fear of being hit by a severe tropical storm.[86] Governor von Rosenstein termed the hurricane season the 'dangerous season´.[87]

Hurricanes and tropical cyclones were, as in the entire Caribbean region, a nuisance for the inhabitants. This is especially true in the eighteenth and nineteenth centuries, when several islands struggled with the socioeconomic impact of hurricanes.[88] The Swedes, not least Fahlberg, were upon arrival on Saint Barthélemy fully aware of the devastating effect of the hurricanes. However, they also believed that Saint Barthélemy was located on the outskirts of the major hurricane routes. Fahlberg's initially positive assessment of the island's climate was undoubtedly influenced by the fact that the island had not been struck by any hurricanes during the first years of Swedish presence.[89] Subsequently, it appears as if hurricanes and tropical storms were not regarded as threats to the island's economic welfare. On the contrary, news of destruction on nearby islands actually generated positive expectations regarding the import and export via Gustavia to the islands in need of provisions.

Hurricanes and tropical storms had been especially devastating in the early 1780s just before Sweden acquired its colony. The 1780s was the most hurricane intense period of the eighteenth century. With regard to hurricane frequency, the 1780s is only matched by the hurricane period in the 1810s. However, while the latter decade lists more

[86] Dahlman, *Beskrifning om S. Barthelemy*, 5–6, 16–17; Fahlberg, 'Utdrag af samlingar till Natural-historien', 218–219, 221; Euphrasén, *Beskrifning öfver svenska vestindiska ön*, 18–20.
[87] Per Herman Rosén von Rosenstein's report, dated 22.9.1787, SBS I/A, SNA.
[88] Sherry Johnson, 'El Niño, Environmental Crisis, and the Emergence of Alternative Markets in the Hispanic Caribbean, 1760–70s', *The William and Mary Quarterly* LXII:3 (2005), 365–410. See further Michael Chenoweth, 'A Reassessment of Historical Atlantic Basin Tropical Cyclone Activity, 1700-1855,' *Climatic Change* 76:1 (2006), 169–240, and Edward N. Rappaport and Jose Fernandez-Partagas, 'The Deadliest Atlantic Tropical Cyclones, 1492-1996,' NOAA/National Weather Service, National Centers for Environmental Prediction, National Hurricane Center, available at http://www.nhc.noaa.gov/pastdeadly.shtml [accessed 30 December 2013]; Climatology of Caribbean Hurricanes, available at http://stormcarib.com/climatology/ [accessed 30 December 2013].
[89] Dahlman, *Beskrifning om S. Barthelemy*, 16; Johan Norderling's report, dated 28.9.1788, SBS I/A, SNA; Samuel Fahlberg, 'Anmärkningar rörande Orcanen 1792 på Ön S:t Barthelemi, samt Barometerns och Electricitetens förhållande vid detta tillfälle', *Kongl. Vetenskaps Academiens Nya Handlingar för Månaderne October, November, December år 1794* (Stockholm, 1794), 277.

hurricanes than the 1780s, the number of severe tropical storms was only half of those identified in the 1780s.[90]

One of the most devastating hurricane seasons in the Caribbean was in 1780. In early October, a hurricane and an earthquake laid waste the town of Savannah-la-mar as well as destroying large parts of the county of Cornwall on Jamaica.[91] A few days later, the 'Great Hurricane' of 1780 hit Barbados, Saint Lucia, Saint Vincent, Grenada, and Martinique.[92] The British admiral George Rodney reported that all but one house was levelled to the ground on the island of Saint Lucia, that more than 6,000 persons perished, and that the island was totally ruined.[93] On Martinique, where an earthquake accompanied the hurricane, reports stated that around 9,000 persons perished.[94]

The 'Great Hurricane' of 1780 was never reflected upon by governor von Rajalin or Fahlberg, neither from a comparative perspective nor when reflecting on the island's climate history. This suggests that the hurricane did not cause great havoc in Saint Barthélemy. Neither did any other hurricanes or tropical storms in the first half of the 1780s. It would seem that St Barthélemy enjoyed the advantage of being located just outside the fringe of the most common hurricane routes. For example, the hurricane that hit Jamaica in August 1781 and the hurricane that swept across Dominica to Jamaica and Florida in August 1784 appear not to have crossed St Barthélemy.[95] Fahlberg's first reference to the nature of hurricane winds, and how this was the only time the island was hit by westerly winds, was in 1786.[96] Fahlberg's text implies that the island felt the effect of hurricane-like winds more often than the records show. The lacuna of references to impact, on the other hand, suggests that the effect, most of the times, was insignificant. Fahlberg's first mention of hurricanes that did not visit Saint Barthélemy is a reference to the hurricane that hit Jamaica in 1785, placed

[90] See further Michael Chenoweth and Dimitry Divine, 'A document-based 318-year record of tropical cyclones in the Lesser Antilles, 1690–2007', *Geochemistry, Geophysics, Geosystems* 9:8 (2008), 1-21, doi:10.1029/2008GC002066.
[91] Chenoweth, 'A Reassessment', Table IV, 216, Final Storm Number (FSN) 139.
[92] Chenoweth, 'A Reassessment', Table IV, 216 (FSN 140).
[93] Georg Rodney to Philip Stephen 10 Dec 1780; Georg Rodney to Lady Rodney 10 Dec 1780; Georg Rodney to Peter Parker 10 Dec 1780, in Godfrey Basil Mundy, *The Life and Correspondence of the Late Admiral Lord Rodney* (London: J. Murray, 1830), 447–451, 455–457, 459–460.
[94] Robert H. Schomburgk, *The History of Barbados* (London: Longman, Brown, Green and Longmans, 1848), 691.
[95] Chenoweth, 'A Reassessment,' Table IV,216–217, FSN 142, 153
[96] Fahlberg, 'Utdrag af samlingar till Natural-historien', 219.

in a footnote in his article from 1794.[97] In this case, Fahlberg compared his own barometric readings during the hurricane in 1792 to those from Jamaica in 1785.

Because Fahlberg published his meteorological observations, we know that he carefully observed the weather conditions. For example, in the midst of June and in the latter half of September in 1786, Fahlberg noted storm-like conditions that caused minor damages.[98] According to an assessment written by governor Bagge in 1792, a strong gale wind also destroyed the cotton harvest and damaged the newly built city on 25 August 1786.[99] Bagge's memory may have failed him on this occasion, as Fahlberg has no mention of this in his otherwise meticulous records. Fahlberg's records suggests that 25 August was warm with some clouds, which probably provided some relief after almost a week of sunny weather with clear skies and no wind. Nonetheless, a comparison with Chenoweth's hurricane chronology suggests that Saint Barthélemy, once again, benefited from its geographical location. The storm in June occurred a week after Western Jamaica was hit by a tropical storm and the gale winds in August and the September storm hit Saint Barthélemy almost two weeks after a hurricane had travelled from Barbados to Nassau.[100]

The remainder of the 1780s show no changes in Saint Barthélemy's hurricane-free records. Two destructive hurricanes swept over the Leeward Islands in 1787. The first hurricane traversed north of Saint Barthélemy from Dominica to the Grand Caicos Islands in early August. The second hurricane passed even further north, as it swept from the Bahamas to South Carolina in late August.[101] A third hurricane landed far west of Saint Barthélemy in the Caribbean Sea in September, and in 1788 a severe hurricane struck Martinique, south of Saint Barthélemy. This damaged buildings and plantations, and took several human lives, mostly those of slaves, before it turned northwards towards Puerto Rico and Santo Domingo.[102]

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[97] Samuel Fahlberg, 'Anmärkningar rörande Orkanen 179, 277. Chenoweth, 'A Reassessment,' Table IV,216–217, FSN 154. See also Michael Chenoweth, *The 18th Century Climate of Jamaica Derived from the Journals of Thomas Thistlewood, 1750–1786* (Philadelphia: American Philosophical Society 2003).

[98] Samuel Fahlberg, 'Observationer öfver Värmen, Vinden och Väderleken på Ön St. Barthelemi', *Kongl. Vetenskaps Academiens Nya Handlingar för Måanderne April, Maj och Juni år 1787* (Stockholm 1787), 143–151. Fahlberg's data was also used by Michael Chenoweth is his reassessment of historical hurricanes in the Caribbean although he claims that Fahlberg's observations concerned Saint Eustatius (not Saint Barthélemy), see Chenoweth, 'A Reassessment', 6.

[99] Carl Fredrik Bagge's report, dated 11.8.1792, SBS I/B, SNA.

[100] Chenoweth, 'A Reassessment', Table IV, 217 (FSN 159) See also Schomburgk, *The History,* 692.

[101] Chenoweth, 'A Reassessment', Table IV, 218 (FSN 162 and 165). The destruction is mentioned in Per Herman Rosén von Rosenstein's report, dated 22.9.1787, SBS I/A, SNA.

[102] Chenoweth, 'A Reassessment', Table IV, p. 218 (FSN 168 and 171). The destruction on Martinique is mentioned in Johan Norderling's report, dated 28.9.1788, SBS I/A, SNA.

Severe hurricanes seems to have been somewhat less frequent in the 1790s. The two first hurricane season in the 1790s did not affect the Swedes. Cuba was hit by hurricanes in June and Jamaica in September/October 1791.[103] Governor Bagge reported that severe gales had caused much destruction on the neighboring islands of Saint Eustatius, Saint Christopher, Nevis and Saint Martin, early in November 1791. The winds had been powerful enough to destroy some of the sugar plantations and 21 vessels of various sizes had sunk.[104] It is somewhat unclear when the islands were effected, and it appears that St Barthélemy had a narrow escape, but the Swedes were running out of luck.

In 1792, a hurricane swept over the Leeward Islands and continued to the Caicos Islands between 1 and 12 August.[105] Saint Barthélemy was hit in the early developing stages of the hurricane, and only for a couple of hours, in the night between 1 and 2 August. The winds were northerly to north-easterly, which suggest that Gustavia was the last part of the island directly hit by the winds as they came down the mountain. Albeit short in duration, the winds hit the town with great force. Of 133 buildings as many as 48 were destroyed and 26 persons lost their lives. About two-thirds of the buildings in the countryside were damaged, while the entire cotton crop was destroyed. Circa 20 families were regarded so destitute that the governor applied to the king for material relief. Governor Bagge estimated that the losses amounted to 100,000 Riksdaler. The destruction on the nearby islands of Saint Martin and Anguilla was similar to that on the Swedish island, but according to the Governor, the Danish West Indian islands had suffered even more. [106]

The hurricane in August 1792 appears to be the only hurricane that affected Saint Barthélemy in the 1790s. None of the subsequent hurricanes that hit the Leeward Islands were commented upon by the Swedish governor in his dispatches to Stockholm. The governor never mentioned the hurricane that swept just south of the island and across Saint Christopher and Saint Eustatius before turning north towards Saint Thomas in August 1793. Westerns Cuba was hit by a hurricane the following year, and even though hurricanes crossed both the Central and Northern Leeward Islands in 1795, none of them had any impact on St Barthélemy.[107]

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[103] Chenoweth, 'A Reassessment', Table IV, 219 (FSN 179 and 180).
[104] Carl Fredrik Bagge's report, dated 1.11.1791, SBS I/B, SNA.
[105], Chenoweth, 'A Reassessment', Table IV, 219 (FSN 182).
[106] Fahlberg, 'Anmärkningar rörande Orkanen 1792'; Carl Fredrik Bagge's report, dated 11.8.1792, SBS I/B, SNA.
[107] Chenoweth, 'A Reassessment', Table IV, 220 (FSN 184, 188, 190 and 192).

It was not until 1804 that Saint Barthélemy was badly hit by a hurricane. Sweeping across Barbados to New England between 3 and 12 September, this hurricane belongs to one of the most devastating hurricanes recorded, and it has even been compared to the 'Great Hurricane' in 1780.[108] As in 1792, the hurricane landed on Saint Barthélemy on 3 September, i.e. in its developing stages. Several vessels were anchored in the harbour of Gustavia as it most of the times provided shelter from the winds. This time, however, the wind blew from West and Northwest, which was the only unprotected side of the harbour. At eleven o'clock in the evening, vessels anchored in the harbour and on the road outside the harbour, broke loose and crushed against rocks and quays, and even buildings. Next morning, Governor Hans Henrik Ankarheim reports a pitiful sight: all of the quays, several warehouses and most of the buildings in the immediate vicinity of the harbour were badly damaged.[109] Moreover, 53 vessels, several of them with cargo, were destroyed. Of the vessels, 39 belonged to local ship owners and merchants of Gustavia; nine were American vessels from New York, Philadelphia, and Virginia (Portsmouth and Alexandria); four vessels were European, including the *Victoria* from Malta, the *Lily* from Guernsey, the *Anna Catharina* from Hamburg and the *Courier* from Emden. One vessel originated from Saint Croix.[110] According to Ankarheim, the destruction of the island's merchant fleet was devastating and would result in a slump in the trade in the next months.[111] Fortunately, most of the town's buildings were intact and it appears as if the countryside had not suffered. It is possible that the governor was so concerned about the situation in the harbour, as it effected the island and its trading network, that he forgot to report damages or deaths from the countryside.

After the events in 1804, there is a gap in the records, suggesting that there were no major impact until subsequent hurricanes hit the islands during the second decade in the 1800s. On 1 October 1812, a severe tropical storm ravaged the island and Governor Stackelberg compared the havoc to the destruction cause by the hurricane in 1792.[112] In September 1815, and again in September 1819, the island was hit by a hurricane, the latter

[108] Chenoweth, 'A Reassessment', Table IV, 222 (FSN 209).
[109] Hans Henrik Ankarheim's report, dated 7.9.1804, SBS I/C, SNA.
[110] For a list over vessels that drifted ashore in the harbour of Gustavia during the night of 3 and 4 September 1804 see SBS I/C, SNA.
[111] Hans Henrik Ankarheim's report, dated 7.9.1804, SBS I/C, SNA.
[112] Berndt Robert Stackelberg's report, dated 7.10.1812, SBS II/Handlingar från och med 1812, SNA. The hurricane is not included in Chenoweth's list.

one caused heavy destruction on the Virgin Islands, Puerto Rico, Saint Martin, Saint Christopher, Antigua and Saint Lucia.[113]

In conclusion, the records show that hurricanes hit Saint Barthélemy six times, i.e. 1786, 1792, 1804, 1812, 1815, and 1819. However, only one of the events caused severe economic loss, while none of them resulted in a long-lasting economic decline for the island. It is therefore suggested, when it comes to hurricanes, that the Swedes benefited from Saint Barthélemy's location on the outer fringes of the northern Leeward Islands. Even though Sweden was struggling to attract transit traders to Gustavia during the 1780s and 1790s, the transit trade activity benefited from the absence of destructive hurricanes. It enabled the Swedes to focus on developing the trade, not rebuilding, refinancing and repairing. Conversely, when Gustavia was hit by a hurricane in 1804, the city had already emerged as one of the central regional transit harbours. Trading traffic was booming, and the economic gain meant that the destruction of the merchant fleet was quickly overcome. The situation was similar in 1812. Despite the intensity of the hurricane in 1812 – which was compared to the hurricane in 1792 – the transit trade remained largely unaffected by the hurricane. Yet, it is worth noting that the Gustavia trade largely depended on the transatlantic politics; like in other free ports in the area, the economy did well during the Napoleonic wars and declined in times of peace.

Changes in the island environment

By the turn of the eighteenth century, Saint Barthélemy differed from most other Caribbean islands in two respects. First, the economy was not based on plantation agriculture, and second, the number of free inhabitants was higher than that of slaves. Because of the island's arid conditions, free trade became the economic rationale for the colony, modelled after the Danish island of Saint Thomas and the Dutch island of Saint Eustatius. On the two latter, however, there were several smaller and larger plantations. The plantations on Saint Barthélemy in contrast, were few in numbers and profitable during a very short period.

The available sources indicate that the ecosystems on Saint Barthélemy had been affected by the French presence. The guaiac woods that covered the island in the early eighteenth century had notably diminished by the end of the century (guaiac wood has later

[113] Berndt Robert Stackelberg's report, dated 21.10.1815, SBS IIIB/Handlingar från och med 1812, SNA; Chenoweth, 'A Reassessment', Table IV, 224 (FSN 244) and Table IV, 226 (FSN 257); Schomburgk, *The history*, 694.

become an endangered species). In addition, the small-scale cotton agriculture is likely to have depleted the soil of some of its nutrient. However, the French presence, small in scale, appears not to have induced other significant ecological changes. The Swedish takeover, however, meant more significant and deeper going changes in the environment.

Swedish colonial agents and government, obviously inspired by utilitarian ideals and colonial aspirations, strived to make the most of its small island colony. The ambitions and expectations concerning the improvement of the island were initially high. Much effort was put into the development of the economy, based on the extremely scarce resources of the island. However, the small arid island could not sustain a large population. The main strategy of Sweden was therefore to establish a free port and focus on commerce, which involved developing the harbour. Although the cotton agriculture affected the island ecosystems to some extent, the greatest impact on the environment was the dredging of the harbour and the building of Gustavia around the harbour. Erecting Gustavia was a laborious undertaking that demanded that most inhabitants participated in the work, either themselves or by sending their servants and slaves to do various tasks, such as paving the street in from of their houses. With the end of the Napoleonic Wars, Gustavia lost its position as one of the region's leading transit harbours, and the island was facing economic decline. This resulted in a large emigration of inhabitants from Gustavia to other islands. Sweden abolished slavery on the island in 1847. The island's economy went downhill and eventually the Swedish state had to support it. After a referendum on integrating the island into France was held on Saint Barthélemy in 1877, Sweden sold the island back to France in 1878.